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# **Scientific Staff and Expertise of Agriculture and Agri-Food Canada**

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**Canada**

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## Research Publications:

2015

Mapiye, C., Vahmani, P., Aalhus, J.L., Rolland, D.C., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R (2015). "Fatty acid composition of beef steers as affected by diet and fat depot.", *South African Journal of Animal Sciences*, 45(4), pp. 386-394.

Prieto, N., Juárez, M., Zijlstra, R.T., López-Campos, Ó., and Aalhus, J.L. (2015). "Rapid discrimination of enhanced quality pork by visible and near infrared spectroscopy.", *Meat Science*, 110, pp. 76-84. doi: 10.1016/j.meatsci.2015.07.006

Soladoye, P.O., Juárez, M., Aalhus, J.L., Shand, P.J., and Estévez, M. (2015). "Protein oxidation in processed meat: Mechanisms and potential implications on human health.", *Comprehensive Reviews in Food Science and Food Safety*, 14(2), pp. 106-122. doi: 10.1111/1541-4337.12127

Turner, T.D., Aalhus, J.L., Mapiye, C., Rolland, D.C., Larsen, I.L., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R (2015). "Effects of diets supplemented with sunflower or flax seeds on quality and fatty acid profile of hamburgers made with perirenal or subcutaneous fat.", *Meat Science*, 99, pp. 123-131. doi: 10.1016/j.meatsci.2014.08.006

Rodas-González, A.R., Larsen, I.L., Uttaro, B., Juárez, M., Parslow, J., and Aalhus, J.L. (2015). "Determination of optimum oven cooking procedures for lean beef products.", *Food Science and Nutrition*, 3, pp. 3-15.

Ruan, E.D., Aalhus, J.L., Juárez, M., and Sabik, H. (2015). "Analysis of Volatile and Flavor Compounds in Grilled Lean Beef by Stir Bar Sorptive Extraction and Thermal Desorption-Gas Chromatography Mass Spectrometry.", *Food and Analytical Methods*, 8(2), pp. 363-370. doi: 10.1007/s12161-014-9881-z

Soladoye, P.O., Shand, P.J., Aalhus, J.L., Gariépy, C., and Juárez, M. (2015). "Review: Pork belly quality, bacon properties and recent consumer trends.", *Canadian Journal of Animal Science*, 95(3), pp. 325-340. doi: 10.4141/CJAS-2014-121

Vahmani, P., Mapiye, C., Prieto, N., Rolland, D.C., McAllister, T.A., Aalhus, J.L., and Dugan, M.E.R (2015). "The scope for manipulating the polyunsaturated fatty acid content of beef: A review.", *Journal of Animal Science and Biotechnology*, 6(1: Article number 29), pp. 1-13. doi: 10.1186/s40104-015-0026-z

Roy, B.C., Sedgewick, G., Aalhus, J.L., Basarab, J.A., and Bruce, H.L. (2015). "Modification of mature non-reducible collagen cross-link concentrations in bovine m. gluteus medius and semitendinosus with steer age at slaughter, breed cross and growth promotants.", *Meat Science*, 110, pp. 109-117. doi: 10.1016/j.meatsci.2015.07.008

Prieto, N., Swift, M.-L., Summerfelt, S.T., Juárez, M., Zijlstra, R.T., and Aalhus, J.L. (2015). "A Feasibility Study on the Use of Near Infrared Spectroscopy for the Authentication of Depurated Salmon Fillets.", *Food and Analytical Methods*. doi: 10.1007/s12161-015-0168-9

Chen, L., Ekine-Dzivenu, C., Vinsky, M.D., Basarab, J.A., Aalhus, J.L., Dugan, M.E.R, Fitzsimmons, C.J., Stothard, P., and Li, C. (2015). "Genome-wide association and genomic prediction of breeding values for fatty acid composition in subcutaneous adipose and longissimus lumborum muscle of beef cattle.", *BMC Genetics*, 16(1: Article number 135), pp. 1-15. doi: 10.1186/s12863-015-0290-0

2014

Galbraith, J., Rodas-Gonzalez, A., Lopez-Campos, O., López-Campos, Ó., Juárez, M., and Aalhus, J.L. (2014). "Bison meat: Characteristics, challenges, and opportunities (Review).", *Animal Frontiers*, 4(4: Art.No.:41913), pp. 68-73. doi: 10.2527/af.2014-0036

Avilés, C., Juárez, M., Larsen, I.L., Rodas-González, A.R., and Aalhus, J.L. (2014). "Effect of multiple vacuum packs on colour development and stability in beef steaks.", *Canadian Journal of Animal Science*, 94(1), pp. 63-69. doi: 10.4141/cjas2013-037

López-Campos, Ó., Aalhus, J.L., Galbraith, J., Larsen, I.L., Juárez, M., Uttaro, B., and Robertson, W.M. (2014). "The relation of carcass physiological maturity to meat quality in the Canadian Bison Grading System.", *Canadian Journal of Animal Science*, 94(1), pp. 55-62. doi: 10.4141/cjas2013-047

Ruan, E.D., Aalhus, J.L., and Juárez, M. (2014). "Sensitive Analysis of Off-flavor Compounds, Geosmin and 2-Methylisoborneol, in Water and Farmed Sturgeon by using Stir Bar Sorptive Extraction Coupled with Thermal Desorption and Gas Chromatography-Mass Spectrometry.", *Journal of Chromatography & Separation Techniques*, 5(3), pp. 1-4. doi : 10.4172/2169-0316.1000228

Mapiye, C., Aalhus, J.L., Vahmani, P., Rolland, D.C., McAllister, T.A., Block, H.C., Uttaro, B., Proctor, S.D., and Dugan, M.E.R (2014). "Improving beef hamburger quality and fatty acid profiles through dietary manipulation and exploitation of fat depot heterogeneity.", *Journal of Animal Science and Biotechnology*, 5(54). doi : 10.1186/2049-1891-5-54

Durunna, O.N., Block, H.C., Iwaasa, A.D., Scott, S.L., Robins, C.D., Khakbazan, M., Dugan, M.E.R, Aalhus, J.L., Aliani, M., and Lardner, H.A. (2014). "Impact of calving seasons and feeding systems in western Canada. II. Meat composition and organoleptic quality of steaks.", *Canadian Journal of Animal Science*, 94(4), pp. 583-593. doi : 10.4141/CJAS-2014-034

Whitesell, T., Aalhus, J.L., Larsen, I.L., and Juárez, M. (2014). "Evaluation of a rapid protein analyzer as a research tool for lean beef composition: Effects of storage time and freezing.", *Journal of Food Composition and Analysis*, 33(1), pp. 67-70. doi : 10.1016/j.jfca.2013.11.008

Zhang, Y.-F., Ruan, E.D., Wang, H., Wang, H., Ruan, Y.Y., Shao, G.J., Aalhus, J.L., and Juárez, M. (2014). "A fundamental study of amadori rearrangement products in reducing sugar-amino acid model system by electrospray ionization mass spectrometry and computation.", *Asian Journal of Chemistry*, 26(10), pp. 2941-2944.

Mapiye, C., Aalhus, J.L., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, G.S., Proctor, S.D., and Dugan, M.E.R (2014). "Types of oilseed and adipose tissue influence the composition and relationships of polyunsaturated fatty acid biohydrogenation products in steers fed a grass hay diet.", *Lipids*, 49(3), pp. 275-286. doi : 10.1007/s11745-013-3876-1

López-Campos, Ó., Aalhus, J.L., Prieto, N., Larsen, I.L., Juárez, M., and Basarab, J.A. (2014). "Effects of production system and growth promotants on the physiological maturity scores in steers.", *Canadian Journal of Animal Science*, 94(4), pp. 607-617. doi : 10.4141/CJAS-2014-022

Prieto, N., López-Campos, Ó., Aalhus, J.L., Dugan, M.E.R, Juárez, M., and Uttaro, B. (2014). "Use of near infrared spectroscopy for estimating meat chemical composition, quality traits and fatty acid content from cattle fed sunflower or flaxseed.", *Meat Science*, 98(2), pp. 279-288. doi : 10.1016/j.meatsci.2014.06.005

Mapiye, C., Aalhus, J.L., Turner, T.D., Vahmani, P., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R (2014). "Inclusion of sunflower seed and wheat dried distillers' grains with solubles in a red clover silage-based diet enhances steers performance, meat quality and fatty acid profiles.", *Animal*, 8(12), pp. 1999-2010. doi : 10.1017/S1751731114001955

Holdstock, J., Aalhus, J.L., Uttaro, B., López-Campos, Ó., Larsen, I.L., and Bruce, H.L. (2014). "The impact of ultimate pH on muscle characteristics and sensory attributes of the longissimus thoracis within the dark cutting (Canada B4) beef carcass grade.", *Meat Science*, 98(4), pp. 842-849. doi : 10.1016/j.meatsci.2014.07.029

Akanno, E.C., Plastow, G., Woodward, B.W., Bauck, S., Okut, H., Wu, X.-L., Sun, C., Aalhus, J.L., Moore, S.S., Miller, S.P., Wang, Z., and Basarab, J.A. (2014). "Reliability of molecular breeding values for Warner-Bratzler shear force and carcass traits of beef cattle - An independent validation study.", *Journal of Animal Science*, 92(7), pp. 2896-2904. doi : 10.2527/jas.2013-7374

Prieto, N., López-Campos, Ó., Zijlstra, R.T., Uttaro, B., and Aalhus, J.L. (2014). "Discrimination of beef dark cutters using visible and near infrared reflectance spectroscopy.", *Canadian Journal of Animal Science*, 94(3), pp. 445-454. doi : 10.4141/CJAS-2014-024

Túllio, R.R., Juárez, M., Larsen, I.L., Basarab, J.A., and Aalhus, J.L. (2014). "Short Communication: Influence of some meat quality parameters on beef tenderness.", *Canadian Journal of Animal Science*, 94(3), pp. 455-458. doi : 10.4141/CJAS2013-157

He, M.L., McAllister, T.A., Hernandez-Calva, L.M., Aalhus, J.L., Dugan, M.E.R, and McKinnon, J.J. (2014). "Effect of dietary inclusion of triticale dried distillers' grain and oilseeds on quality and fatty acid profile of meat from feedlot steers.", *Meat Science*, 97(1), pp. 76-82. doi : 10.1016/j.meatsci.2014.01.008

Ruan, E.D., Juárez, M., Thacker, R., Yang, X.Q., Dugan, M.E.R, and Aalhus, J.L. (2014). "Dietary vitamin E effects on the formation of heterocyclic amines in grilled lean beef.", *Meat Science*, 96(2, Part A), pp. 849-853. doi : 10.1016/j.meatsci.2013.09.016

Mapiye, C., Turner, T.D., Basarab, J.A., Baron, V.S., Aalhus, J.L., and Dugan, M.E.R (2014). "Subcutaneous fatty acid composition of steers finished as weanlings or yearlings with and without growth promotants.", *Journal of Animal Science and Biotechnology*, 4(41: Article 41). doi : 10.1186/2049-1891-4-41

Turner, T.D., Mapiye, C., Aalhus, J.L., Beaulieu, A.D., Patience, J.F., Zijlstra, R.T., and Dugan, M.E.R (2014). "Flaxseed fed pork N-3 Fatty acid enrichment and contribution to dietary recommendations.", *Meat Science*, 96(1), pp. 541-547. doi : 10.1016/j.meatsci.2013.08.021

Aalhus, J.L., López-Campos, Ó., Prieto, N., Rodas-Gonzalez, A., Dugan, M.E.R, Uttaro, B., and Juárez, M. (2014). "Review: Canadian beef grading – opportunities to identify carcass and meat quality traits valued by consumers.", *Canadian Journal of Animal Science*, 94(4), pp. 545-556.

Davidson, J., Schrader, K., Ruan, E.D., Swift, B., Aalhus, J.L., Juárez, M., Wolters, V., Burr, G., Good, C., and Summerfelt, S.T. (2014). "Evaluation of depuration procedures to mitigate the off-flavor compounds geosmin and 2-methylisoborneol from Atlantic salmon *Salmo salar* raised to market-size in recirculating aquaculture systems.", *Aquacultural Engineering*, 61, pp. 27-34. doi : 10.1016/j.aquaeng.2014.05.006

Ruan, E.D., Aalhus, J.L., and Juárez, M. (2014). "A rapid, sensitive and solvent-less method for determination of malonaldehyde in meat by stir bar sorptive extraction coupled thermal desorption and gas chromatography/mass spectrometry with in situ derivatization.", *Rapid Communications in Mass Spectrometry (RCM)*, 28(24), pp. 2723-2728. doi : 10.1002/rcm.7058

## 2013

Prieto, N., Dugan, M.E.R, López-Campos, Ó., Aalhus, J.L., and Uttaro, B. (2013). "At line prediction of PUFA and biohydrogenation intermediates in perirenal and subcutaneous fat from cattle fed sunflower or flaxseed by near infrared spectroscopy.", *Meat Science*, 94(1), pp. 27-33. doi : 10.1016/j.meatsci.2012.12.014

Meadus, W.J., Turner, T.D., Dugan, M.E.R, Aalhus, J.L., Duff, P., Rolland, D.C., Uttaro, B., and Gibson, L. (2013). "Fortification of pork loins with docosahexaenoic acid (DHA) and its effect on flavour.", *Journal of Animal Science and Biotechnology*, 4(1: Article number 46), pp. 1-9. doi : 10.1186/2049-1891-4-46

Ruan, E.D., Aalhus, J.L., Summerfelt, S.T., Davidson, J., Swift, B., and Juárez, M. (2013). "Determination of off-flavor compounds, 2-methylisoborneol and geosmin, in salmon fillets using stir bar sorptive extraction-thermal desorption coupled with gas chromatography-mass spectrometry.", *Journal of Chromatography A*, 1321, pp. 133-136. doi : 10.1016/j.chroma.2013.10.038

Juárez, M., Larsen, I.L., Klassen, M.D., and Aalhus, J.L. (2013). "Evolution de la tendreté du bœuf canadien entre 2001 et 2011.", *Viandes & Produits Camés*, 1459, pp. 1-4.

Rodas-González, A.R., Juárez, M., Robertson, W.M., Larsen, I.L., and Aalhus, J.L. (2013). "Characterization of Canadian grade standards and lean yield prediction for cows.", *Canadian Journal of Animal Science*, 93(1), pp. 99-107. doi : 10.4141/cjas2012-091

Mapiye, C., Turner, T.D., Rolland, D., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Adipose tissue and muscle fatty acid profiles of steers fed red clover silage with and without flaxseed.", *Livestock Science*, 151(1), pp. 11-20. doi : 10.1016/j.livsci.2012.10.021

Juárez, M., Larsen, I.L., Klassen, M.D., and Aalhus, J.L. (2013). "Canadian Beef Tenderness Survey 2001-2011.", *Canadian Journal of Animal Science*, 93(1), pp. 89-97. doi : 10.4141/CJAS2012-112

Mapiye, C., Dugan, M.E.R, Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Aalhus, J.L. (2013). "Erythrocytes assayed early ante mortem can predict adipose tissue and muscle trans-18:1 isomeric profiles of steers fed red clover silage supplemented with flaxseed.", *Canadian Journal of Animal Science*, 93(1), pp. 149-153. doi : 10.4141/CJAS2012-054

Aalhus, J.L. and Dugan, M.E.R (2013). "Spoilage, factors affecting (b) Oxidative and enzymatic.", in Jensen, W. K., Devine, C. and Dikeman, M. (eds.) - *Encyclopedia of Meat Sciences*, 2nd Edition, Elsevier, pp. 394-400.

Whitesell, T., Avilés, C., Aalhus, J.L., Calkins, C.R., Larsen, I.L., and Juárez, M. (2013). "Introducing an angle adjustable cutting box for analyzing slice shear force in meat.", *Journal of Visualized Experiments (JoVE)*, 26(Article No. e50255). doi : 10.3791/50255

López-Campos, Ó., Aalhus, J.L., Okine, E.K., Baron, V.S., and Basarab, J.A. (2013). "Effects of calf and yearling production systems and growth promotants on production and profitability.", *Canadian Journal of Animal Science*, 93(1), pp. 171-184. doi : 10.4141/CJAS2012-035

Mapiye, C., Aalhus, J.L., Turner, T.D., Rolland, D.C., Basarab, J.A., McAllister, T.A., Block, H.C., Uttaro, B., López-Campos, Ó., Proctor, S.D., and Dugan, M.E.R (2013). "Effects of feeding flaxseed or sunflower-seed in high-forage diets on beef production, quality and fatty acid composition.", *Meat Science*, 95(1), pp. 98-109. doi : 10.1016/j.meatsci.2013.03.033

## 2012

Nassu, R.T., Uttaro, B., Aalhus, J.L., Zawadski, S.M., Juárez, M., and Dugan, M.E.R (2012). "Type of packaging affects the color stability of vitamin E enriched beef.", *Food Chemistry*, 135(3), pp. 1868-1872. doi : 10.1016/j.foodchem.2012.06.055

Juárez, M., Dugan, M.E.R, Aldai, N., Basarab, J.A., Baron, V.S., McAllister, T.A., and Aalhus, J.L. (2012). "Beef quality attributes as affected by increasing the intramuscular levels of vitamin E and omega-3 fatty acids.", *Meat Science*, 90(3), pp. 764-769. doi : 10.1016/j.meatsci.2011.11.010

Aldai, N., Klieve, A.V., Dugan, M.E.R, Kramer, J.K.G., Ouwkerk, D., Aalhus, J.L., McKinnon, J.J., and McAllister, T.A. (2012). "Evaluation of rumen fatty acid hydrogenation intermediates and differences in bacterial communities after feeding wheat- or corn-based dried distillers grains to feedlot cattle.", *Journal of Animal Science*, 90(8), pp. 2699-2709. doi : 10.2527/jas.2010-3671

Juárez, M., Aldai, N., López-Campos, Ó., Dugan, M.E.R, Uttaro, B., and Aalhus, J.L. (2012). "Beef Texture and Juiciness.", in Hui, Y.H. (ed.) - Handbook of Meat and Meat Processing. 2nd Edition, CRC Press Taylor & Francis, Boca Raton, FL, USA, Chapter 9, pp. 177-206.

Aldai, N., Dugan, M.E.R, Rolland, D.C., and Aalhus, J.L. (2012). "Red blood cell trans-18:1 isomeric profile correlates with subcutaneous fat and muscle profiles in beef cattle.", *Meat Science*, 91(2), pp. 203-206. doi : 10.1016/j.meatsci.2012.01.011

Mapiye, C., Aldai, N., Turner, T.D., Aalhus, J.L., Rolland, D.C., Kramer, J.K.G., and Dugan, M.E.R (2012). "The labile lipid fraction of meat: From perceived disease and waste to health and opportunity. (Review).", *Meat Science*, 92(3), pp. 210-220. doi : 10.1016/j.meatsci.2012.03.016

Girard, I., Aalhus, J.L., Basarab, J.A., Larsen, I.L., and Bruce, H.L. (2012). "Modification of beef quality through steer age at slaughter, breed cross and growth promotants.", *Canadian Journal of Animal Science*, 92(2), pp. 175-188. doi : 10.4141/CJAS2012-001

Mapiye, C., Dugan, M.E.R, Juárez, M., Basarab, J.A., Baron, V.S., Turner, T.D., Yang, X.Q., Aldai, N., and Aalhus, J.L. (2012). "Influence of  $\alpha$ -tocopherol supplementation on trans-18:1 and conjugated linoleic acid profiles in beef from steers fed a barley-based diet.", *Animal*, 6(11), pp. 1888-1896. doi: 10.1017/S1751731112000730

Prieto, N., Dugan, M.E.R, López-Campos, Ó., McAllister, T.A., Aalhus, J.L., and Uttaro, B. (2012). "Near infrared reflectance spectroscopy predicts the content of polyunsaturated fatty acids and biohydrogenation products in the subcutaneous fat of beef cows fed flaxseed.", *Meat Science*, 90(1), pp. 43-51. doi: 10.1016/j.meatsci.2011.05.025

He, M.L., McAllister, T.A., Kastelic, J.P., Mir, P.S., Aalhus, J.L., Dugan, M.E.R, Aldai, N., and McKinnon, J.J. (2012). "Feeding flaxseed in grass hay and barley silage diets to beef cows increases alpha-linolenic acid and its biohydrogenation intermediates in subcutaneous fat.", *Journal of Animal Science*, 90(2), pp. 592-604. doi: 10.2527/jas.2011-4281

Juárez, M., Basarab, J.A., Baron, V.S., Valera, M., Larsen, I.L., and Aalhus, J.L. (2012). "Quantifying the relative contribution of ante- and post-mortem factors to the variability in beef texture.", *Animal*, 6(11), pp. 1878-1887. doi : 10.1017/s1751731112000572

Goonewardene, L.A., Basarab, J.A., Wang, Z., Price, M.A., Ramsey, P., Marx, T.H., Aalhus, J.L., Seneviratne, R.W., Yalingasinghe, W.G.N.P., and Okine, E.K. (2012). "Tissue distribution in primal cuts of Canadian beef composites and opportunities for harvesting younger and leaner cattle.", *International Journal of Animal and Veterinary Advances*, 4(1), pp. 1-15.

Badoni, M., Rajagopal, S., Aalhus, J.L., Klassen, M.D., and Gill, C.O. (2012). "The Microbiological Condition of Canadian Beef Steaks Offered for Retail Sale in Canada.", *Journal of Food Research*, 1(4), pp. 124-133. doi: 10.5539/jfr.v1n4p124

Girard, I., Bruce, H.L., Basarab, J.A., Larsen, I.L., and Aalhus, J.L. (2012). "Contribution of myofibrillar and connective tissue components to the Warner-Bratzler shear force of cooked beef.", *Meat Science*, 92(4), pp. 775-782. doi : 10.1016/j.meatsci.2012.06.037

López-Campos, Ó., Basarab, J.A., Baron, V.S., Aalhus, J.L., and Juárez, M. (2012). "Reduced age at slaughter in youthful beef cattle: effects on carcass merit traits.", *Canadian Journal of Animal Science*, 92(4), pp. 449-463. doi : 10.4141/CJAS2012-014

Basarab, J.A., Baron, V.S., López-Campos, Ó., Aalhus, J.L., Haugen-Kozyra, K., and Okine, E.K. (2012). "Greenhouse gas emissions from calf- and yearling-fed beef production systems, with and without the use of growth promotants.", *Animals*, 2(2), pp. 195-220. doi : 10.3390/ani2020195

## 2011

Meadus, W.J., Duff, P., Rolland, D.C., Aalhus, J.L., Uttaro, B., and Dugan, M.E.R (2011). "Feeding docosahexaenoic acid to pigs reduces blood triglycerides and induces gene expression for fat oxidation.", *Canadian Journal of Animal Science*, 91(4), pp. 601-612. doi : 10.4141/cjas2011-055

Markus, S.B., Aalhus, J.L., Janz, J.A.M., and Larsen, I.L. (2011). "A survey comparing meat quality attributes of beef from credence attribute-based production systems.", *Canadian Journal of Animal Science*, 91(2), pp. 283-294. doi : 10.4141/cjas10082

Juárez, M., Dugan, M.E.R, Larsen, I.L., Thacker, R., Rolland, D.C., and Aalhus, J.L. (2011). "Oxidative stability in grinds from omega-3 enhanced pork", *Canadian Journal of Animal Science*, 91(4), pp. 623-634. doi : 10.4141/cjas2011-059

Hernandez-Calva, L.M., He, M.L., Juárez, M., Aalhus, J.L., Dugan, M.E.R, and McAllister, T.A. (2011). "Effect of flaxseed and forage type on carcass and meat quality of finishing cull cows.", *Canadian Journal of Animal Science*, 91(4), pp. 613-622. doi : 10.4141/CJAS2011-030

Nassu, R.T., Dugan, M.E.R, Juárez, M., Basarab, J.A., Baron, V.S., and Aalhus, J.L. (2011). "Effect of  $\alpha$ -tocopherol tissue levels on beef quality.", *Animal*, 5(12), pp. 2010-2018. doi : 10.1017/S1751731111001182

Juárez, M., Dugan, M.E.R, Aldai, N., Aalhus, J.L., Patience, J.F., Zijlstra, R.T., and Beaulieu, A.D. (2011). "Increasing omega-3 levels through dietary co-extruded flaxseed supplementation negatively affects pork palatability.", *Food Chemistry*, 126(4), pp. 1716-1723. doi: 10.1016/j.foodchem.2010.12.065

Juárez, M., Caine, W.R., Dugan, M.E.R, Hidioglu, N., Larsen, I.L., Uttaro, B., and Aalhus, J.L. (2011). "Effects of dry-ageing on pork quality characteristics in different genotypes.", *Meat Science*, 88(1), pp. 117-121. doi: 10.1016/j.meatsci.2010.12.011

He, M.L., Chung, Y.-H., McAllister, T.A., Beauchemin, K.A., Mir, P.S., Aalhus, J.L., and Dugan, M.E.R (2011). "Inclusion of Flaxseed in Hay- and Barley Silage Diets Increases Alpha-Linolenic Acid in Cow Plasma Independent of Forage Type.", *Lipids*, 46(7), pp. 577-585. doi: 10.1007/s11745-011-3534-4

Nassu, R.T., Dugan, M.E.R, He, M.L., McAllister, T.A., Aalhus, J.L., Aldai, N., and Kramer, J.K.G. (2011). "The effects of feeding flaxseed to beef cows given forage based diets on fatty acids of longissimus thoracis muscle and backfat.", *Meat Science*, 89(4), pp. 469-477. doi: 10.1016/j.meatsci.2011.05.016

Girard, I., Aalhus, J.L., Basarab, J.A., Larsen, I.L., and Bruce, H.L. (2011). "Modification of muscle inherent properties through age at slaughter, growth promotants and breed crosses.", *Canadian Journal of Animal Science*, 91(4), pp. 635-648. doi: 10.4141/CJAS2011-058

Dugan, M.E.R, Aldai, N., Aalhus, J.L., Rolland, D.C., and Kramer, J.K.G. (2011). "Transforming beef to provide healthier fatty acid profiles.", *Canadian Journal of Animal Science*, 91(4), pp. 545-556. doi: 10.4141/CJAS2011-044

Juárez, M., Dugan, M.E.R, Aalhus, J.L., Aldai, N., Basarab, J.A., Baron, V.S., and McAllister, T.A. (2011). "Effects of vitamin E and flaxseed on rumen-derived fatty acid intermediates in beef intramuscular fat.", *Meat Science*, 88(3), pp. 434-440. doi: 10.1016/j.meatsci.2011.01.023

## Other Science Related Publications:

2015

Prieto, N., Juárez, M., Dugan, M.E.R, Zijlstra, R.T., and Aalhus, J.L. (2015). "Near infrared spectroscopy on ears to classify pigs based on carcass and fat composition.", 2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council, Ottawa, Canada, May 6-8, 2015. (Abstract)

Narvaez-Bravo, C., Rodas-Gonzalez, A., Ding, C., Ye, J., López-Campos, Ó., Galbraith, J., Siegel, D., and Aalhus, J.L. (2015). "Effects of novel nitrite packaging film on the microbiological flora of bison strip-loin steaks.", Reciprocal Meat Conference, Lincoln, Nebraska, USA, June 14-18, 2015. (Abstract)

López-Campos, Ó., Larsen, I.L., Prieto, N., Juárez, M.L., Dugan, M.E.R, and Aalhus, J.L. (2015). "Evaluation of the total and saleable beef yield prediction equations and dual energy x-ray absorptiometry for a rapid, non-invasive yield prediction in beef.", 61st International Congress of Meat Science and Technology, Clermont-Ferrand, France, August 23-28, 2015. (Abstract)

López-Campos, Ó., Larsen, I.L., Prieto, N., Juárez, M.L., Dugan, M.E.R, and Aalhus, J.L. (2015). "Evaluation of total and saleable meat yield prediction equations in beef.", *Meat Science*. (Abstract)

Basarab, J.A., Baron, V.S., McKeown, L.E., Juárez, M., Larsen, I.L., Akanno, E.C., Stothard, P., Plastow, G., and Aalhus, J.L. (2015). "Relationships between feed efficiency, carcass quality and meat quality in longissimus steaks from slaughter heifers and steers.", 2nd Symposium of Animal Evaluation and Meat Quality in Pirassununga/SP/Brazil, September 21, 2015.

Davidson, J., Ruan, E.D., Raines, C., Plautz, C., Juárez, M., Jørgensen, N., Aalhus, J.L., Good, C., and Summerfelt, S.T. (2015). "The effect of native freshwater snails *Physa gyrina* on biofilm growth and off-flavor compounds (geosmin and 2-methylisoborneol) in experimental reuse systems culturing rainbow trout.", World Aquaculture Society Meeting, Jeju, South Korea, May 26-30, 2015. (Abstract)

Prieto, N., López-Campos, Ó., Zijlstra, R.T., and Aalhus, J.L. (2015). "Beef dark cutter segregation by visible and near infrared spectroscopy.", *Meat Science*, 99, pp. 147. doi: 10.1016/j.meatsci.2014.07.012 (Abstract)

López-Campos, Ó., Aalhus, J.L., and Delaloye, C. (2015). "Measuring the Canadian beef advantage: Development and validation of a new platform technology for non-invasive carcass fat and lean predictions in beef cattle. BCRC Industry Factsheet." (Factsheet)

Prieto, N., Juárez, M., Dugan, M.E.R, Zijlstra, R.T., and Aalhus, J.L. (2015). "The potential for near infrared spectroscopy on ears to predict body and fat composition post-slaughter.", Banff Pork Seminar 2015, Banff, AB, Canada, January 20-22, 2015.

Li, C., Ekine-Dzivenu, C., Chen, L., Vinsky, M.D., Basarab, J.A., Aalhus, J.L., Dugan, M.E.R, and Fitzsimmons, C.J. (2015). "Heritability estimates and accuracy of predicting direct genomic breeding values for fatty acid composition of beef cattle.", *CASA*. (Abstract)

Prieto, N., Juárez, M., Zijlstra, R.T., López-Campos, Ó., and Aalhus, J.L. (2015). "Rapid authentication of enhanced quality pork by visible and near infrared spectroscopy.", *Meat Science*, 99, pp. 149. doi : 10.1016/j.meatsci.2014.07.010 (Abstract)

López-Campos, Ó., Larsen, I.L., Prieto, N., Juárez, M., and Aalhus, J.L. (2015). "Using Dual Energy X-Ray Absorptiometry technology for rapid and non-invasive fat and lean predictions in beef carcasses.", *Meat Science*, 99, pp. 144. doi : 10.1016/j.meatsci.2014.07.015 (Abstract)

López-Campos, Ó., Aalhus, J.L., Prieto, N., Larsen, I.L., Juárez, M., and Basarab, J.A. (2015). "Chronological vs. physiological age indicators in beef cattle: Effects of the production system and growth promotants.", *Meat Science*, 99, pp. 146. doi : 10.1016/j.meatsci.2014.07.013 (Abstract)

Soladoye, P.O., Shand, P.J., Gariépy, C., Aalhus, J.L., and Juárez, M. (2015). "Effect of cooking method and storage time on lipid oxidation and sensory attributes of bacon.", 61st International Congress of Meat Science and Technology (ICoMST), Clermont-Ferrand, France, August 23-28, 2015.

Soladoye, P.O., López-Campos, Ó., Aalhus, J.L., Prieto, N., Gariépy, C., Shand, P.J., and Juárez, M. (2015). "Evaluating the accuracy of Dual Energy X-ray Absorptiometry (DEXA) in predicting carcass composition from varying pig populations.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2015 Annual Conference and Technical Symposium, Ottawa, Canada, May, 2015.

Soladoye, P.O., Aalhus, J.L., López-Campos, Ó., Prieto, N., Uttaro, B., Dugan, M.E.R., Gariépy, C., Zhang, H., Ye, J., Shand, P.J., and Juárez, M. (2015). "Alternative management strategies for pork differentiation in Canada.", Banff Pork Seminar 2015, Banff, AB, Canada, January 20-22, 2015.

Roy, B.C., Aalhus, J.L., Basarab, J.A., Larsen, I.L., and Bruce, H.L. (2015). "Relationship between meat quality and collagen crosslink concentrations in beef from calf-fed, yearling-fed and mature cattle.", *Meat Science*, 99, pp. 142. doi : 10.1016/j.meatsci.2014.07.017 (Abstract)

López-Campos, Ó., Larsen, I.L., Prieto, N., Juárez, M.L., Juárez, M., Dugan, M.E.R., Uttaro, B., and Aalhus, J.L. (2015). "Evaluation of the Canadian and U.S. beef yield equations.", CMSA, Ottawa, Canada, May, 2015. (Abstract)

Prieto, N., Juárez, M., Dugan, M.E.R., Zijlstra, R.T., and Aalhus, J.L. (2015). "The potential for near infrared spectroscopy on ears to predict body and fat composition post-slaughter.", Banff Pork Seminar, Banff, Canada, January, 2015. (Presentation)

Prieto, N., Juárez, M., Dugan, M.E.R., Zijlstra, R.T., and Aalhus, J.L. (2015). "Near Infra-red spectroscopy on ears to classify pigs based on carcass and meat composition.", 61st International Congress of Meat Science and Technology, Clermont-Ferrand, France, August 23-28, 2015.

Vahmani, P., Meadus, W.J., Uttaro, B., López-Campos, Ó., Mapiye, C., Rolland, D.C., Caine, W.R., Aalhus, J.L., and Dugan, M.E.R. (2015). "Effects of feeding beef fat from different body locations, and with different enrichments of biohydrogenation products on barrow performance, meat quality and body composition.", Banff Pork Seminar, Banff, Canada, January, 2015. (Presentation)

Soladoye, P.O., López-Campos, Ó., Aalhus, J.L., Prieto, N., Gariépy, C., Shand, P.J., and Juárez, M. (2015). "Accuracy of Dual Energy X-ray Absorptiometry (DEXA) in assessing carcass composition from different pig populations.", Banff Pork Seminar 2015, Banff, AB, Canada.

## 2014

Ruan, E.D., Aalhus, J.L., and Juárez, M. (2014). "Determination of malonaldehyde in meat by stir bar sorptive extraction and gas chromatography/mass spectrometry.", 60th International Congress of Meat Science and Technology, Punta Del Este, Uruguay, August 17-22, 2014. (Abstract)

López-Campos, Ó., Larsen, I.L., Prieto, N., Juárez, M., and Aalhus, J.L. (2014). "Using dual energy x-ray absorptiometry for a rapid, non-invasive carcass fat and lean prediction in beef.", 60th International Congress of Meat Science and Technology, Punta Del Este, Uruguay, August 17-22, 2014. (Abstract)

Prieto, N., Aalhus, J.L., López-Campos, Ó., Zijlstra, R.T., and Juárez, M. (2014). "Discrimination of beef dark cutters and enhanced quality pork using visible and near infrared spectroscopy.", AMSA 67th Reciprocal Meat Conference (RMC) Processed Meats Symposium, June, 2014, Poster. (Abstract)

Prieto, N., Juárez, M., Zijlstra, R.T., López-Campos, Ó., and Aalhus, J.L. (2014). "Rapid authentication of enhanced quality pork by visible and near infrared spectroscopy.", Canadian Meat Council's 94th Annual Conference, Toronto, ON, Canada, May 7-9, 2014, Poster. (Abstract)

Zhang, H.M., Aalhus, J.L., Rodas-Gonzalez, A., Larsen, I.L., Ye, J., and Juárez, M. (2014). "Effects of niche-market genotypes on pig performance traits.", 2014 Banff Pork Seminar, Banff, Alberta, Canada. (Abstract)

Prieto, N., Juárez, M., Swift, M.-L., Summerfelt, S.T., Zijlstra, R.T., and Aalhus, J.L. (2014). "Authentication of deputed salmon fillets by near infrared spectroscopy.", 60th International Congress of Meat Science and Technology, Punta Del Este, Uruguay, August 17-22, 2014. (Abstract)

Prieto, N., Juárez, M., Zijlstra, R.T., López-Campos, Ó., and Aalhus, J.L. (2014). "Rapid authentication of enhanced quality pork by visible and near infrared spectroscopy.", 60th International Congress of Meat Science and Technology, Punta Del Este, Uruguay, August 17-22, 2014. (Abstract)

Prieto, N., López-Campos, Ó., Zijlstra, R.T., and Aalhus, J.L. (2014). "Beef darkcutters segregation by visible and near infrared spectroscopy.", Canadian Meat Council's 94th Annual Conference, Toronto, ON, Canada, May 7-9, 2014. (Abstract)

Soladoye, O.P., Juárez, M., Shand, P.J., Dugan, M.E.R, Uttaro, B., López-Campos, Ó., Prieto, N., Zhang, H.M., Larsen, I.L., and Aalhus, J.L. (2014). "Effects of selected pre- and post-slaughter factors on pork carcass quality traits.", 2014 Banff Pork Seminar, Banff, Alberta, Canada. (Abstract)

López-Campos, Ó., Larsen, I.L., Prieto, N., Juárez, M., and Aalhus, J.L. (2014). "Using Dual Energy X-Ray Absorptiometry technology for rapid and non-invasive fat and lean predictions in beef carcasses.", Canadian Meat Council's 94th Annual Conference, Toronto, ON, Canada, May 7-9, 2014. (Abstract)

Li, C., Dugan, M.E.R, Aalhus, J.L., Fitzsimmons, C.J., Basarab, J.A., Buchanan, F.C., Chen, L., Ekine-Dzivenu, C., Stothard, P., Curtis, J., Bruce, H.L., Wang, Z., and Okine, E.K. (2014). "Genetic Influence of Host Animal on Fatty Acid Profile in Beef.", University of Alberta Kinsella Day, Kinsella, AB, Canada, August 13, 2014. (Poster)

Prieto, N., López-Campos, Ó., Zijlstra, R.T., and Aalhus, J.L. (2014). "Beef darkcutters discrimination by visible and near infrared spectroscopy.", 60th International Congress of Meat Science and Technology, Punta Del Este, Uruguay, August 17-22, 2014, Short Paper & Poster. (Abstract)

Li, C., Aalhus, J.L., Dugan, M.E.R, Fitzsimmons, C.J., Basarab, J.A., Curtis, J., Stothard, P., Okine, E.K., Wang, Z., Bruce, H.L., and Buchanan, F.C. (2014). Identifying DNA markers for enhancing beneficial fatty acids in beef. Final project report, 33 pages to Alberta Livestock and Meat Agency (ALMA). (Report)

Zhang, H.M., Aalhus, J.L., Larsen, I.L., Dugan, M.E.R, Uttaro, B., López-Campos, Ó., Prieto, N., Soladoye, O.P., Ye, J., and Juárez, M. (2014). "Optimizing Canadian pork chemical composition and eating quality through integrated management strategies.", 2014 Banff Pork Seminar, Banff, Alberta, Canada. (Abstract)

Sehn, C., Basarab, J.A., Baron, V.S., and Aalhus, J.L. (2014). "Exploring new frontiers. The Lacombe Research centre.", in Kostiuik, B. (ed.) - Today's Angus Advantage, pp. 55-56.

Li, C., Dugan, M.E.R, Aalhus, J.L., Fitzsimmons, C.J., Basarab, J.A., Buchanan, F.C., Chen, L., Ekine-Dzivenu, C., Stothard, P., Curtis, J.M., Bruce, H.L., Wang, Z., and Okine, E.K. (2014). "Genetic Influence of Host Animal on Fatty Acid Profile in Beef.", Beef and Ranch Report, pp. 34-35.

López-Campos, Ó., Aalhus, J.L., Prieto, N., Larsen, I.L., Juárez, M., and Basarab, J.A. (2014). "Effects of production system and growth promotants on the physiological maturity scores in steers.", 60th International Congress of Meat Science and Technology, Punta Del Este, Uruguay, August 17-22, 2014. (Abstract)

Chen, L., Vinsky, M.D., Ekine, C., Basarab, J.A., Aalhus, J.L., Dugan, M.E.R, Curtis, J., Fitzsimmons, C.J., Stothard, P., and Li, C. (2014). "Genomic prediction of direct genomic breeding values for fatty acid concentrations in subcutaneous adipose and longissimus lumborum muscle of beef cattle.", Livestock Gentec 5th Annual conference, Edmonton, AB, Canada, August 12-14, 2014. (Poster)

Mapiye, C., Aalhus, J.L., Vahmani, P., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Procor, S.D., and Dugan, M.E.R (2014). "Subcutaneous biohydrogenation product profiles of steers fed forage-based diets with sunflower seed and wheat dried distillers' grains with sables.", ICoMST, Uruguay, August, 2015. (Abstract)

Davidson, J., Schrader, K., Swift, B., Ruan, E.D., Aalhus, J.L., Juárez, M., Good, C., Wolters, W., Burr, G., and Summerfelt, S.T. (2014). "Evaluating standard operating procedures to mitigate off-flavor from atlantic salmon *salmo salar* cultured in a semi-commercial scale recirculating aquaculture system.", 10th International Conference on Recirculating Aquaculture, Roanoke, Virginia, USA, August 22-24, 2014. (Abstract)

López-Campos, Ó., Aalhus, J.L., Prieto, N., Larsen, I.L., Juárez, M., and Basarab, J.A. (2014). "Effects of production system and growth promotants on the physiological maturity scores in steers.", 2014, Toronto, Ontario, Canada, May 7-9, 2014. (Abstract)

López-Campos, Ó., Aalhus, J.L., Larsen, I.L., Prieto, N., and Juárez, M. (2014). "Using Dual Energy X-Ray Absorptiometry for a rapid, non-invasive carcass fat and lean predictions in beef carcasses.", AMSA 67th Reciprocal Meat Conference (RMC) Processed Meats Symposium, June, 2014. (Abstract)

López-Campos, Ó., Aalhus, J.L., Prieto, N., Larsen, I.L., Juárez, M., and Basarab, J.A. (2014). "Chronological vs. physiological age indicators in beef cattle: Effects of the production system and growth promotants.", Canadian Meat Council's 94th Annual Conference, Toronto, ON, Canada, May 7-9, 2014. (Abstract)

Tullio, R.R., Aalhus, J.L., Nassu, R.T., Juárez, M., Berndt, A., da Silva, M.L.P., Rolland, D.C., de Alencar, M.M., and Dugan, M.E.R (2014). "Effects of finishing system, gender and breed on transvaccenic and conjugated linoleic acids in beef.", ICoMST, Uruguay, August, 2014. (Abstract)



- Aalhus, J.L. and Juárez, M. (2013). "National Beef Quality Satisfaction Survey 2001-2011. Objective Tenderness. On-line Webinar."
- Mahmood, S., Basarab, J.A., Aalhus, J.L., Plastow, G., and Bruce, H.L. (2013). "Relationship between animal sex, production and carcass characteristics and the incidence of dark cutting beef.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P34-GS, pp. 39. (Poster)
- Rodas-González, A.R., López-Campos, Ó., Galbraith, J., Uttaro, B., Juárez, M., and Aalhus, J.L. (2013). "Effects of electrical stimulation on meat quality of Bison strip-loin steaks.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, #1050, P31, pp. 37. (Poster)
- Rodas-González, A.R., Galbraith, J., Uttaro, B., López-Campos, Ó., Juárez, M., Siegel, D., and Aalhus, J.L. (2013). "Effects of electrical stimulation and nitrite film packaging on colour stability of bison steaks and ground meat.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, #1042, P30, pp. 37. (Poster)
- Miller, S.P., Vander Voort, G., Lu, B.D., Mandell, I.B., Squires, E.J., Basarab, J.A., Aalhus, J.L., Stothard, P., and Li, C. (2013). "Improvement of tenderness in Canadian Beef through genomics.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O46, pp. 21.
- Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Effects of feeding flaxseed or sunflower seed in high forage diets on biohydrogenation intermediates in adipose tissues of yearling steers.", ADSA-ASAS Joint Annual Meeting, Indianapolis, USA, July 2013. (Abstract)
- Turner, T.D., Aalhus, J.L., Mapiye, C., Rolland, D.C., Larsen, I.L., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R (2013). "Enriching hamburger with PUFA biohydrogenation products by supplementing steers fed high forage diets with either flaxseed or sunflower seed: Effects of adipose tissue source on palatability and fatty acid composition.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P20, pp. 32. (Poster)
- Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Composition of biohydrogenation intermediates in intramuscular fat of yearling steers fed forage-based diets with supplemental flaxseed or sunflower seed.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P28, pp. 36. (Poster)
- Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Beef production and quality of yearling steers fed high-forage diets with flaxseed or sunflower seed.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P29, pp. 37. (Poster)
- Puente, J.A., Uttaro, B., Samanta, S., Aalhus, J.L., Elezabi, A., and Bruce, H.L. (2013). "Interaction Effects of Chiller Temperatures, Electrical Stimulation and Ageing on Beef Quality.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O10-GS, pp. 7.
- Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Effects of feeding flaxseed and sunflower seed diets in high forage diets on biohydrogenation intermediates in adipose tissues of yearling steers.", ADSA-ASAS Joint Annual Meeting, Indianapolis, USA, July 2013. (Abstract)
- Aalhus, J.L., Basarab, J.A., Larsen, I.L., López-Campos, Ó., Dugan, M.E.R, Prieto, N., Uttaro, B., Schaefer, A.L., Cook, N.J., Plastow, G., Li, C., Calkins, C.R., and Juárez, M. (2013). "The Phenomic Challenge – Integrating performance, carcass and meat quality data with genomics.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O44, pp. 20.
- Prieto, N., López-Campos, Ó., and Aalhus, J.L. (2013). "Applying Near Infrared Reflectance Spectroscopy: Predicting feed inputs and carcass outputs from integrated swine systems.", FarmTech 2013, Westin Hotel, Edmonton, AB, Canada, January 29-31, 2013.
- Zhang, H., Aalhus, J.L., Larsen, I.L., Nelson, S.D., Ye, J., and Juárez, M. (2013). "Effects of niche-market genotypes on pig performance traits.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P10, pp. 28. (Poster)
- Welegedara, N.P., Okine, E.K., Basarab, J.A., Wang, Z., Li, C., Bruce, H.L., Markus, S.B., Stewart-Smith, J., Aalhus, J.L., Seneviratne, R.W., and Goonewardene, L.A. (2013). "Energy partitioning in fat depots and the relationship between marbling score and whole carcass intramuscular fat relative to biological type and harvest age.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P14, pp. 30. (Poster)
- Prieto, N., Uttaro, B., Mapiye, C., Dugan, M.E.R, Zamora, A.M.V., Young, M.G., Zijlstra, R.T., Aalhus, J.L., and Beltranena, E. (2013). "Near infrared reflectance spectroscopy predicts fatty acid content in backfat from pigs fed reduced-oil corn dried distillers grains with solubles.", 59th International Congress of Meat Science and Technology (ICoMST2013), Izmir, Turkey, August 18-23, 2013.

- Ding, C., Juárez, M., Larsen, I.L., Swift, B., Fukui, S., McKenzie, P., Ye, J., and Aalhus, J.L. (2013). "Canadian Atlantic salmon quality characteristics.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P33, pp. 38. (Poster)
- Prieto, N., Dugan, M.E.R, Aalhus, J.L., and Uttaro, B. (2013). "Near infrared reflectance spectroscopy: an alternative technology to predict meat quality.", *Prairie Post - Bull Breeders*, February, pp. 14-15.
- Schwartzkopf-Genswein, K.S.G., Janzen, E., Pajor, E., Crowe, T.G., Aalhus, J.L., Kastelic, J.P., and Ominski, K.H. (2013). Effect of transport conditions on indicators of animal welfare for fat cattle and market cows in Canada - Interim Report to BCRC Project # ANH.10.11 (September 30, 2013). (Report)
- Meadus, W.J., Turner, T.D., Dugan, M.E.R, Aalhus, J.L., Duff, P., Rolland, D., Uttaro, B., and Gibson, L.L. (2013). "Injection of pork loins with the long chain fatty acid, docosahexaenoic acid (DHA) and its effect on flavour.", 59th International Congress of Meat Science and Technology (ICoMST2013), Izmir, Turkey, August 18-23, 2013.
- Meadus, W.J., Turner, T.D., Dugan, M.E.R, Aalhus, J.L., Duff, P., Rolland, D., Uttaro, B., and Gibson, L.L. (2013). "Injection of Pork Loins with The Long Chain Fatty Acid Docosahexaenoic Acid (dha) and Its Effect on Flavour", 59th International Congress of Meat Science and Technology (ICoMST2013), Izmir, Turkey, August 18-23, 2013, Poster ID: S10B-9. (Poster)
- López-Campos, Ó., Larsen, I.L., Prieto, N., Juárez, M., and Aalhus, J.L. (2013). "Preliminary evaluation of the dual energy X-ray absorptiometry to assess intramuscular fat from the Longissimus thoracis muscle of beef.", 59th International Congress of Meat Science and Technology (ICoMST2013), Izmir, Turkey, August 18-23, 2013, pp. 114. (Poster)
- Roy, B.C., Girard, I., Aalhus, J.L., Basarab, J.A., Larsen, I.L., Sedgewick, G., and Bruce, H.L. (2013). "Modification of pyridinoline concentration in m. Gluteus medius with steer age at slaughter, breed cross and growth promotants.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P35, pp. 39. (Poster)
- López-Campos, Ó., Zawadski, S.M., Landry, S., Aalhus, J.L., and Uttaro, B. (2013). "Packaging for retail appearance improvement of dark cutting beef.", 93rd Annual Conference of the Canadian Meat Council, Banff, AB, Canada, May 29-31, 2013, pp. 6.
- Aalhus, J.L., Dugan, M.E.R, Uttaro, B., and Zijlstra, R.T. (2013). "Development of on-line quantification of beef and pork fatty acid composition.", 2013 ALMA Future Fare. (Poster)
- Davidson, J., Schrader, K., Swift, B., Ruan, E.D., Aalhus, J.L., Juárez, M., Good, C., Wolters, W., Burr, G., and Summerfelt, S.T. (2013). "Evaluation of depuration procedures to mitigate off-flavor from harvest size atlantic salmon *Salmo salar* cultured in a land-based recirculating aquaculture system.", 2013 Aquaculture Meeting. (Abstract)
- Prieto, N., Uttaro, B., Mapiye, C., Dugan, M.E.R, Young, M.G., Zamora, A.M.V., Zijlstra, R.T., Aalhus, J.L., and Beltranena, E. (2013). "Near infrared spectroscopy predicting fatty acid content in backfat from pigs fed reduced-oil corn dried distillers grains with solubles.", 59th International Congress of Meat Science and Technology (ICoMST2013), Izmir, Turkey, August 18-23, 2013.
- Avilés, C., Juárez, M., Larsen, I.L., Rodas-González, A.R., and Aalhus, J.L. (2013). "Effect of multiple vacuum packs on colour development and stability in beef steaks.", 93rd Annual Conference of the Canadian Meat Council, Banff, AB, Canada, May 29-31, 2013, pp. 14.
- Aalhus, J.L., López-Campos, Ó., Prieto, N., Rodas-Gonzalez, A., Dugan, M.E.R, Uttaro, B., Juárez, M., and Juarez, M. (2013). "Meat quality and improving carcass value.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013. (Abstract)
- Ekine, C., Chen, L., Vinsky, M.D., Basarab, J.A., Aalhus, J.L., Dugan, M.E.R, Curtis, J., Fitzsimmons, C.J., Wang, Z., Okine, E.K., and Li, C. (2013). "Heritability of fatty acids in longissimus dorsi muscle and subcutaneous adipose tissue of beef cattle.", Livestock Gentec Conference, Edmonton, Canada, October, 2013. (Abstract)
- Turner, T.D., Mapiye, C., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Lopez-Campos, O., López-Campos, Ó., Aalhus, J.L., and Dugan, F.M. (2013). "Inclusion of perirenal fat to enhance the bioactive fatty acid content of hamburger.", 2013, Banff, Alberta, Canada, June 18-20, 2013.
- Chen, L., Vinsky, M.D., Ekine, C., Basarab, J.A., Aalhus, J.L., Dugan, M.E.R, Curtis, J.M., Fitzsimmons, C.J., Buchanan, F.C., Stothard, P., Liao, X.J., Wang, Z., Okine, E.K., and Li, C. (2013). "Genome-wide identification of single nucleotide polymorphisms associated with fatty acids in beef cattle.", Livestock Gentec Conference, Edmonton, Canada, October, 2013. (Abstract)
- Mapiye, C., Turner, T.D., Basarab, J.A., Baron, V.S., Aalhus, J.L., and Dugan, M.E.R (2013). "Subcutaneous fatty acid composition of calf- and yearling-fed steers with and without growth promotants.", World Conference on Animal Production (11th WCAP), Beijing, China, October 15-20, 2013. (Abstract)
- López-Campos, Ó., Aalhus, J.L., Prieto, N., Juárez, M., and Delaloye, C. (2013). "Six year trends in Canadian Bison Carcass Quality.", 93rd Annual Conference of the Canadian Meat Council, Banff, AB, Canada, May 29-31, 2013, pp. 7.

- Turner, T.D., Mapiye, C., Aalhus, J.L., Beaulieu, A.D., Patience, J.F., Zijlstra, R.T., and Dugan, M.E.R (2012). "Flax-fed omega-3 pork: Assessing the long chain fatty acid value.", 41st Banff Pork Seminar, Banff Centre, Banff, AB, Canada, January 17-21, 2012, *Advances in Pork Production Volume 23*, Abstract No. 28.
- Mapiye, C., Dugan, M.E.R, Juárez, M., Basarab, J.A., Baron, V.S., Turner, T.D., Yang, X.Q., Aldai, N., and Aalhus, J.L. (2012). "Effect of vitamin E inclusion on trans-18:1 isomers in subcutaneous fat of steers fed a high-barley grain diet.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012.
- Prieto, N., López-Campos, Ó., Aalhus, J.L., Dugan, M.E.R, and Uttaro, B. (2012). "Predicting polyunsaturated fatty acids and biohydrogenation products in perirenal adipose tissue from cattle fed sunflower or flaxseed by near infrared spectroscopy.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012.
- López-Campos, Ó. and Aalhus, J.L. (2012). National Beef Quality Audit 2010-2011. Cooler Survey. Final Report to CCA-Beef Science Council (BCRC). (Report)
- He, M.L., Hernandez-Calva, L.M., McAllister, T.A., Aalhus, J.L., Dugan, M.E.R, and McKinnon, J.J. (2012). "Inclusion of triticale dried distiller grains and flaxseed in feedlot cattle diets increases alpha-linolenic acid in beef without affecting carcass or meat quality traits.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.
- Prieto, N., López-Campos, Ó., Juárez, M., Aalhus, J.L., Dugan, M.E.R, and Uttaro, B. (2012). "Potential of near infrared spectroscopy to estimate meat quality attributes from cattle fed sunflower or flaxseed.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012, Paper 223.
- Prieto, N., López-Campos, Ó., Juárez, M., Aalhus, J.L., Dugan, M.E.R, and Uttaro, B. (2012). "Using near infrared spectroscopy to estimate meat quality attributes from cattle fed sunflower or flaxseed.", Canadian Meat Science Association Newsletter (June 2012), pp. 22. (Newsletter)
- Holdstock, J., Bruce, H.L., Aalhus, J.L., Larsen, I.L., and Uttaro, B. (2012). "Recovering value from Canada B4 darkcutting beef carcasses.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012, Paper 352.
- Prieto, N., Dugan, M.E.R, López-Campos, Ó., Aalhus, J.L., and Uttaro, B. (2012). "Near infrared spectroscopy prediction of polyunsaturated fatty acids and biohydrogenation products in perirenal adipose tissue from cattle fed sunflower or flaxseed.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012, Paper 222.
- López-Campos, Ó., Uttaro, B., Zawadski, S.M., Landry, S., and Aalhus, J.L. (2012). "Preliminary evaluation of packaging methods on long term retail appearance of beef of different qualities.", Canadian Meat Science Association Newsletter (June 2012), pp. 26. (Newsletter)
- López-Campos, Ó., Aalhus, J.L., Uttaro, B., Dugan, M.E.R, and Juárez, M. (2012). "Ten year trends in the Canadian Beef Quality and Lean Meat Yield Grades.", Canadian Meat Science Association Newsletter, 2012 (June), pp. 22. (Newsletter)
- López-Campos, Ó., Uttaro, B., Zawadski, S.M., Landry, S., and Aalhus, J.L. (2012). "Preliminary evaluation of beef of different qualities packaged under nitrogen on long term retail appearance.", Canadian Meat Science Association Newsletter (June 2012), pp. 27. (Newsletter)
- Badoni, M., Rajagopal, S., Aalhus, J.L., Klassen, M.D., and Gill, C.O. (2012). "The spoilage microflora of Canadian retail beef steaks.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012, pp. 4, SAFMICROP-20.
- Aalhus, J.L. (2012). Beef Cluster - National Beef Quality Audit. (Report)
- López-Campos, Ó., Juárez, M., Baron, V.S., Aalhus, J.L., Okine, E.K., Haugen-Kozyra, K., and Basarab, J.A. (2012). "Reducing age at harvest: toward maximizing efficiency in beef production.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012, Paper 326.
- Juárez, M., Klassen, M.D., Larsen, I.L., and Aalhus, J.L. (2012). "Canadian Beef Tenderness Survey 2001-2011.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012, pp. 4, QUALITYP-31.
- Prieto, N., Dugan, M.E.R, López-Campos, Ó., Aalhus, J.L., and Uttaro, B. (2012). "Rapid prediction of PUFA and biohydrogenation intermediates in perirenal fat by near infrared spectroscopy from cattle fed sunflower or flaxseed.", Canadian Meat Science Association Newsletter (June 2012), pp. 23. (Newsletter)

López-Campos, Ó., Uttaro, B., Zawadski, S.M., Landry, S., and Aalhus, J.L. (2012). "Preliminary evaluation of packaging methods on long term retail appearance of beef of different qualities.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2012 Annual Conference and Technical Symposium, Québec City, QC, Canada, May 29-June 1, 2012, pp. 2. (Abstract)

Prieto, N., Dugan, M.E.R, and Aalhus, J.L. (2012). "Near infrared reflectance spectroscopy: an alternative technology to predict meat quality.", *Prairie Post - Bull Breeders*(February 2013).

Meadus, W.J., Dugan, M.E.R, Aalhus, J.L., Duff, P., and Rolland, D. (2012). "Fortification of pork chops with omega-3 oil derived from microalgae *Schizochytrium*.", BIT's 1st Annual International Congress of Marine Algae (AICMA2012), Dalian, China, September 20-23, 2012.

Juárez, M., Larsen, I.L., Thacker, R., Costello, F., Burbidge-Boyd, C., Croken, G., and Aalhus, J.L. (2012). National Beef Quality Satisfaction Survey 2001-2011. Objective Tenderness. Final Report to CCA-Beef Science Council (BCRC). (Report)

Prieto, N., López-Campos, Ó., Juárez, M., Aalhus, J.L., Dugan, M.E.R, and Uttaro, B. (2012). "Using near infrared spectroscopy to estimate meat quality attributes from cattle fed sunflower or flaxseed.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2012 Annual Conference and Technical Symposium, Québec City, QC, Canada, May 29-June 1, 2012, pp. 11. (Abstract)

López-Campos, Ó., Aalhus, J.L., Uttaro, B., Dugan, M.E.R, and Juárez, M. (2012). "Ten year trends in the Canadian Beef Quality and Lean Meat Yield Grades.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2012 Annual Conference and Technical Symposium, Québec City, QC, Canada, May 29-June 1, 2012, pp.9. (Abstract)

Prieto, N., Dugan, M.E.R, López-Campos, Ó., Aalhus, J.L., and Uttaro, B. (2012). "Rapid prediction of PUFA and biohydrogenation intermediates in perirenal fat by near infrared spectroscopy from cattle fed sunflower or flaxseed.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2012 Annual Conference and Technical Symposium, Québec City, QC, Canada, May 29-June 1, 2012, pp. 7. (Abstract)

López-Campos, Ó., Uttaro, B., Zawadski, S.M., Landry, S., and Aalhus, J.L. (2012). "Preliminary evaluation of beef of different qualities packaged under nitrogen on long term retail appearance.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2012 Annual Conference and Technical Symposium, Québec City, QC, Canada, May 29-June 1, 2012, pp. 5. (Abstract)

Mapiye, C., Dugan, M.E.R, Turner, T.D., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., and Aalhus, J.L. (2012). "Relationships of trans-18:1 isomers between red blood cells and beef tissues in steers fed red clover silage with/without flaxseed.", 58th International Congress of Meat Science and Technology, Montreal, Canada, August 12-17, 2012.

## 2011

Meadus, W.J., Dugan, M.E.R, Uttaro, B., Aalhus, J.L., Rolland, D., and Duff, P. (2011). "Feeding Docosahexaenoic acid in microalgae biomass to pigs reduces triglycerides and induces fat oxidation in liver, adipose and muscle.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011. (Poster)

Juárez, M., Dugan, M.E.R, Larsen, I.L., Gibson, L.L., and Aalhus, J.L. (2011). "Omega-3 pork: Meat quality challenges to a value added opportunity.", 41st Banff Pork Seminar, Banff Centre, Banff, AB, Canada, January 17-21, 2012, *Advances in Pork Production* Volume 23, Abstract No. 30.

Aldai, N., Aalhus, J.L., Mantecon, A., McKinnon, J.J., and McAllister, T.A. (2011). "Comparison of wheat- versus corn-based dried distillers' grains with solubles on muscle fatty acid composition of feedlot cattle.", BSAS/ASF/AVTRW Conference, Jubilee Campus Nottingham University, Nottingham, UK, April 4-5, 2011, Reference Number: 0228.

Holdstock, J., Aalhus, J.L., Uttaro, B., and Bruce, H.L. (2011). "Understanding the formation of dark cutting beef.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.

Holdstock, B. and Aalhus, J.L. (2011). "Understanding dark-cutting beef in Alberta.", Alberta Feeders Council, Calgary, AB, Canada, April 27, 2011.

López-Campos, Ó., Uttaro, B., and Aalhus, J.L. (2011). "A packaging solution for colour improvement of dark cutting beef.", published by Agriculture and Agri-Food Canada (AAFC), Lacombe Research Centre, AB. (Technology transfer)

López-Campos, Ó., Uttaro, B., Aalhus, J.L., Zawadski, S.M., and Landry, S. (2011). "Evaluation of packaging methods on long term retail appearance of beef of different qualities: A final report to the Beef Industry.", published by Agriculture and Agri-Food Canada (AAFC), Lacombe Research Centre, AB. (Technology transfer)

Baron, V.S., Basarab, J.A., and Aalhus, J.L. (2011). Forage-Beef Research and Extension Vision. Document requested by John Knapp, Deputy Minister, AARD, Alberta, Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC).

Juárez, M., Basarab, J.A., Baron, V.S., López-Campos, Ó., Valera, M., and Aalhus, J.L. (2011). "Relative contribution of ante- and post-mortem factors to Canadian beef carcass and meat quality.", 57th International Congress of Meat Science and Technology (ICoMST), Ghent, Belgium, August 7-12, 2011, P 318.

- Juárez, M., Basarab, J.A., Baron, V.S., López-Campos, Ó., Valera, M., and Aalhus, J.L. (2011). "Ante- and post-mortem factors affecting Canadian beef: Relative contribution of carcass and meat quality.", Livestock Gentec's 2nd Annual Conference: Addressing the Gap Between Discovery and Profitable Adoption, Edmonton, AB, Canada, October 19-20, 2011.
- Aalhus, J.L., Gariépy, C., Basarab, J.A., Dugan, M.E.R., Fitzsimmons, C.J., Caine, W.R., Uttaro, B., and Juárez, M. (2011). "Optimizing Canadian pork quality through integrated management strategies.", 40th Banff Pork Seminar 2011, Banff Centre, Banff, AB, Canada, January 18-21, 2011.
- Peethambaran, K., Aalhus, J.L., Juárez, M., Larsen, D.P., Dugan, M.E.R., and Bruce, H.L. (2011). "The use of sugars in high omega-3 processed pork products.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.
- Peethambaran, K., Aalhus, J.L., Juárez, M., Larsen, I.L., Dugan, M.E.R., and Bruce, H.L. (2011). "Improving the oxidative stability of omega-3 enriched pork.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.
- Holdstock, B. and Aalhus, J.L. (2011). "Understanding dark-cutting beef in Alberta.", Alberta Beef Producers, Calgary, AB, Canada, March 31, 2011.
- Peethambaran, K., Aalhus, J.L., Juárez, M., Larsen, I.L., Dugan, M.E.R., and Bruce, H.L. (2011). "Effects of addition of sugars in pork meat rich in omega 3 fatty acids on oxidative stability.", 40th Banff Pork Seminar 2011, Banff Centre, Banff, AB, Canada, January 18-21, 2011, Advances in Pork Production Volume 22, Abstract No. 28.
- Beltranena, E., Aalhus, J.L., Dugan, M.E.R., Young, M., Campbell, N., Oryszak, M., and Zijlstra, R.T. (2011). "Graded inclusions of wheat distillers dried grains with solubles (DDGS) in hog diets: Growth performance, carcass traits, dissected pork yield, loin and belly quality.", 40th Banff Pork Seminar 2011, Banff Centre, Banff, AB, Canada, January 18-21, 2011, Advances in Pork Production Volume 22, Abstract No. 25.
- Basarab, J.A., Baron, V.S., López-Campos, Ó., Aalhus, J.L., Haugen-Kozyra, K., and Okine, E.K. (2011). Greenhouse gas emissions from calf- and yearling-fed beef production systems, with and without the use of growth promotants. Full Report for Alberta Livestock and Meat Agency (ALMA) Ltd., Edmonton, AB. (Report)
- Holdstock, J., Aalhus, J.L., Uttaro, B., and Bruce, H.L. (2011). "Understanding the grade B4 beef in Alberta.", 64th Annual Reciprocal Meat Conference, Kansas State University, Manhattan, KS, USA, June 19-22, 2011, Published in: Meat Science, 89(4), pp. 350. (Abstract).
- McLean, K.L., Dugan, M.E.R., McAllister, T.A., Basu, U., Li, C., He, M.L., Aalhus, J.L., Guan, L.L., and Fitzsimmons, C.J. (2011). "Identifying gene expression differences associated with a diet-induced increase of omega-3 fatty-acids in beef cattle.", Plant & Animal Genome XIX Conference, Town & Country Convention Center, San Diego, CA, USA, January 15-19, 2011, P708.
- Nassu, R.T., Dugan, M.E.R., Juárez, M., Basarab, J.A., Baron, V.S., and Aalhus, J.L. (2011). "Beef quality of animals fed different levels of vitamin E.", 57th International Congress of Meat Science and Technology (ICoMST), Ghent, Belgium, August 7-12, 2011.
- Nassu, R.T., Uttaro, B., Aalhus, J.L., Zawadski, S.M., Juárez, M., and Dugan, M.E.R. (2011). "Effect of packaging in the colour of beef with different  $\alpha$ -tocopherol levels.", 57th International Congress of Meat Science and Technology (ICoMST), Ghent, Belgium, August 7-12, 2011.
- Wang, H., Yao, J., Erin, K., and Aalhus, J.L. (2011). "The effect of hydrostatic pressure and boning method on quality and functional properties of the fresh beef semimembranosus muscle.", Canadian Meat Science Association, published in 2011 Annual Meeting Poster Session Abstracts, pp. 24. (Poster)
- Stoll, L.C., Dugan, M.E.R., Aalhus, J.L., and Shand, P.J. (2011). "A Comparison of Wheat and Corn-Based Distillers Grains Plus Solubles and their Combination on the Quality of Beef Longissimus.", Canadian Meat Science Association, published in 2011 Annual Meeting Poster Session Abstracts, pp. 20. (Poster)
- López-Campos, Ó., Juárez, M., Larsen, I.L., Aalhus, J.L., Uttaro, B., Robertson, W.M., and Basarab, J.A. (2011). "Effect of production system and implant strategies on steer maturity and carcass characteristics.", Canadian Meat Science Association Annual Meeting, Halifax, NS, Canada, May 4-6, 2011, published in 2011 Annual Meeting Poster Session Abstracts, pp. 18. (Poster)
- Holdstock, J., Aalhus, J.L., Uttaro, B., and Bruce, H.L. (2011). "Understanding the Formation of Grade B4 Beef in Alberta.", Canadian Meat Science Association 60th Annual Meeting / Canadian Meat Council Technical Symposium 91st Annual Conference, Halifax, NS, Canada, May 4-7, 2011, pp. 13. (Poster)
- Peethambaran, K., Aalhus, J.L., Wismer, W., and Bruce, H.L. (2011). "Sensory characterization of omega-3 enriched pork meat using free choice profiling following addition of sugars.", 91st Annual Conference of the Canadian Meat Council, Halifax Marriott Harbourfront Hotel, Halifax, NS, Canada, May 4-6, 2011.
- Prieto, N., Dugan, M.E.R., López-Campos, Ó., McAllister, T.A., Aalhus, J.L., and Uttaro, B. (2011). "Predicting the content of polyunsaturated fatty acids and biohydrogenation products in subcutaneous fat of beef cows fed flaxseed by near infrared reflectance spectroscopy.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.

López-Campos, Ó., Robertson, W.M., Aalhus, J.L., Larsen, I.L., Baron, V.S., Juárez, M., Uttaro, B., Okine, E.K., and Basarab, J.A. (2011). "Effect of production system and implant strategies on steer performance and carcass traits.", Canadian Meat Science Association Annual Meeting, Halifax, NS, Canada, May 4-6, 2011, published in 2011 Annual Meeting Poster Session Abstracts, pp. 17. (Poster)

Peethambaran, K., Aalhus, J.L., Wismer, W., and Bruce, H.L. (2011). "Effects of addition of sugars in pork meat rich in omega 3 fatty acids on sensory characteristics.", 40th Banff Pork Seminar 2011, Banff Centre, Banff, AB, Canada, January 18-21, 2011, Advances in Pork Production Volume 23, Abstract No. 29.

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## Research Publications:

2015

Zhang, L., Khabbaz, S.E., Wang, A.M., Li, H., and Abbasi, P.A. (2015). "Detection and characterization of broad-spectrum anti-pathogen activity of novel rhizobacterial isolates and suppression of Fusarium crown and root rot disease of tomato.", *Journal of Applied Microbiology*, 118(3), pp. 685-703. doi : 10.1111/jam.12728

Yan, M., Wang, Q., Cao, Y., Guo, D., and Abbasi, P.A. (2015). "Bio-based and reduced-risk strategies for the management of Phytophthora blight and root rot of pepper.", in Arora, N.K., Mehnaz, S. and Balestrini, R. (eds.) - *Bioformulations for Sustainable Agriculture*, Springer.

Abbasi, P.A., Khabbaz, S.E., and Zhang, L. (2015). "Bioformulations of novel indigenous rhizobacterial strains for managing soilborne pathogens.", in Arora, N.K., Mehnaz, S. and Balestrini, R. (eds.) - *Bioformulations for Sustainable Agriculture*, Springer.

Abbasi, P.A., Khabbaz, S.E., Weselowski, B., and Zhang, L. (2015). "Occurrence of copper-resistant strains and a shift in *Xanthomonas* spp. Causing tomato bacterial spot in Ontario.", *Canadian Journal of Microbiology*, 61(10), pp. 753-761. doi : 10.1139/cjm-2015-0228

Ma, X., Cui, H., Bernardy, M.G., Tian, L.-N., Abbasi, P.A., and Wang, A.M. (2015). "Molecular characterization of a Strawberry mild yellow edge virus isolate from Canada.", *Canadian Journal of Plant Pathology*, 37(3), pp. 369-375. doi : 10.1080/07060661.2015.1053990

Abbasi, P.A. and Weselowski, B. (2015). "Efficacy of *Bacillus subtilis* QST 713 formulations, copper hydroxide, and their tank mixes on bacterial spot of tomato.", *Crop Protection*, 74, pp. 70-76. doi : 10.1016/j.cropro.2015.04.009

Abbasi, P.A. (2015). "Managing plant diseases with by-products of the fish processing industry.", in Sangeetha, G., Kurucheve, V. and Jayaraman, J. (eds.) - *Natural Products for Sustainable Crop Disease Management*, CABI Publishing, pp. 184-197.

Khabbaz, S.E., Zhang, L., Cáceres, L.A., Sumarah, M.W., Wang, A.M., and Abbasi, P.A. (2015). "Characterization of antagonistic *Bacillus* and *Pseudomonas* strains for biocontrol potential and suppression of damping-off and root rot diseases.", *Annals of Applied Biology*, 166(3), pp. 456-471. doi : 10.1111/aab.12196

2014

Borrego-Benjumea, A., Basallote-Ureba, M.J., Melero-Vara, J.M., and Abbasi, P.A. (2014). "Characterizing *Fusarium* isolates from asparagus fields in Southwestern Ontario and influence of soil organic amendments on *Fusarium* crown and root rot.", *Phytopathology*, 104(4), pp. 403-415. doi : 10.1094/PHTO-08-13-0231-R

Borrego-Benjumea, A., Basallote-Ureba, M.J., Abbasi, P.A., Lazarovits, G., and Melero-Vara, J.M. (2014). "Effects of incubation temperature on the organic amendment-mediated control of *Fusarium* wilt of tomato.", *Annals of Applied Biology*, 164(3), pp. 453-463. doi : 10.1111/aab.12116

Abbasi, P.A. and Weselowski, B. (2014). "Influence of foliar sprays of *Bacillus subtilis* QST 713 on development of early blight disease and yield of field tomatoes in Ontario.", *Canadian Journal of Plant Pathology*, 36(2), pp. 170-178. doi : 10.1080/07060661.2014.924027

Khabbaz, S.E. and Abbasi, P.A. (2014). "Isolation, characterization, and development of antagonistic bacteria for the management of seedlings damping-off and root rot disease of cucumber.", *Canadian Journal of Microbiology*, 60(1), pp. 25-33. doi : 10.1139/cjm-2013-0675

2013

Xu, Z., Ali, Z., Hou, X., Li, H., Yi, J., and Abbasi, P.A. (2013). "Characterization of Chinese eggplant isolates of the fungal pathogen *Verticillium dahliae* from different geographic origins.", *Genetics and Molecular Research*, 12(1), pp. 183-195. doi : 10.4238/2013.January.24.11

Abbasi, P.A. (2013). "Establishing suppressive conditions against soilborne potato diseases with low rates of fish emulsion applied serially as a pre-plant soil amendment.", *Canadian Journal of Plant Pathology*, 35(1), pp. 10-19. doi : 10.1080/07060661.2012.740076

2011

Abbasi, P.A., Lazarovits, G., and Weselowski, B. (2011). "Effectiveness of AG3 phosphonate formulation in suppressing phytophthora blight in cucumber and bell pepper plants under growth room conditions.", *Canadian Journal of Plant Pathology*, 33(2), pp. 150-158. doi: 10.1080/07060661.2011.562245

## **Other Science Related Publications:**

2015

Ding, X., Hernández-Sebastià, C., Abbasi, P.A., Celetti, M.J., Fisher, P., and Wang, A.M. (2015). "Occurrence, distribution and incidence of viruses infecting strawberry in Ontario.", 34th Annual Meeting of American Society for Virology, London, Ontario, Canada, July 11-15, 2015.

Abbasi, P.A., Khabbaz, S.E., and Zhang, L. (2015). "Developing bioformulations of antagonistic strains of rhizobacteria for managing seedling damping-off, root rot, and tuber diseases caused by various soilborne pathogens.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015. (Abstract)

Abbasi, P.A. and Bevis, E. (2015). "Investigating the causes of strawberry decline disease which is an emerging threat to strawberry production in North America.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015. (Abstract)

2014

Khabbaz, S.E., Zhang, L., Wang, A.M., and Abbasi, P.A. (2014). "Mechanisms of biological suppression of damping-off and root rot diseases of cucumber and radish with soil bacteria.", XVIth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada.

Zhang, L., Khabbaz, S.E., Wang, A.M., and Abbasi, P.A. (2014). "Broad-spectrum anti-pathogen activity of new isolates of *Bacillus* and *Pseudomonas* bacteria and their suppression of *Fusarium* crown and root rot disease of tomato.", XVIth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada, July 27-August 1, 2014, BAM-PM 1126.

Abbasi, P.A., Khabbaz, S.E., Zhang, L., and Weselowski, B. (2014). "Occurrence of copper-resistant strains of bacterial spot pathogen and presence of all four species of *Xanthomonas* in Ontario commercial tomato fields.", American Phytopathological Society (APS) and Canadian Phytopathological Society (CPS) Joint Meeting 2014, Hilton Minneapolis, Minneapolis, MN, USA, August 9-13, 2014, *Phytopathology* 104 (Suppl. 3): S3.1. (Abstract)

2013

Abbasi, P.A. (2013). "Strawberry decline syndrome: an emerging threat to strawberry production in Atlantic Canada.", Maritime Canadian Phytopathological Society regional meeting, Charlottetown, PEI, Canada, November 27, 2013, *Can. J. Plant Pathol.* 36: 282. (Abstract)



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## Research Publications:

2015

Abbott, D.W., Martens, E.C., Gilbert, H.J., Cuskin, F., and Lowe, E.C. (2015). "Coevolution of yeast mannan digestion: Convergence of the civilized human diet, distal gut microbiome, and host immunity.", *Gut Microbes*, 6(5), pp. 334-339. doi : 10.1080/19490976.2015.1091913

McLean, R., Hobbs, J.K., Suits, M.D., Tuomivaara, S.T., Jones, D.R., Boraston, A.B., and Abbott, D.W. (2015). "Functional analyses of resurrected and contemporary enzymes illuminate an evolutionary path for the emergence of exolysis in polysaccharide lyase family.", *Journal of Biological Chemistry*, 290(35), pp. 21231-21243. doi : 10.1074/jbc.M115.664847

Cuskin, F., Lowe, E.C., Temple, M.J., Zhu, Y., Cameron, E.A., Pudlo, N.P., Abbott, D.W., and others (2015). "Human gut Bacteroidetes can utilize yeast mannan through a selfish mechanism.", *Nature*, 517(7533), pp. 165-169. doi : 10.1038/nature13995

2014

Abbott, D.W., Farnell, B.J., and Yamashita, J.W. (2014). "Pectins: structure, function, and the human distal gut microbiota.", - *Pectin: Chemical Properties, Uses and Health Benefits*, Nova Publishers.

Thomas, D.K., Lone, A.G., Selinger, L.B., Taboada, E.N., Uwiera, R.R.E., Abbott, D.W., and Inglis, G.D. (2014). "Comparative Variation within the Genome of *Campylobacter jejuni* NCTC 11168 in Human and Murine Hosts.", *PLoS ONE*, 9(2:e88229). doi : 10.1371/journal.pone.0088229

Abbott, D.W. and Lammerts van Bueren, A. (2014). "Using structure to inform carbohydrate binding module function.", *Current Opinion in Structural Biology*, 28, pp. 32-40. doi : 10.1016/j.sbi.2014.07.004

2013

Abbott, D.W., Thomas, D.K., Pluvinage, B., and Boraston, A.B. (2013). "An ancestral member of the polysaccharide Lyase Family 2 displays endolytic activity and magnesium dependence.", *Applied Biochemistry and Biotechnology*, 171(7), pp. 1911-1923. doi : 10.1007/s12010-013-0483-9

Pluvinage, B., Chitayat, S., Ficko-Blean, E., Abbott, D.W., Kunjachen, J.M., Grondin, J., Spencer, H.L., Smith, S.P., and Boraston, A.B. (2013). "Conformational Analysis of StrH, the Surface-Attached exo- $\beta$ -D-N-Acetylglucosaminidase from *Streptococcus pneumoniae*.", *Journal of Molecular Biology*, 425(2), pp. 334-349. doi : 10.1016/j.jmb.2012.11.005

2012

Boraston, A.B. and Abbott, D.W. (2012). "Structure of a pectin methyl esterase from *Yersinia enterocolitica*.", *Acta Crystallographica Section F*, 68(2), pp. 129-133. doi : 10.1107/S1744309111055400

2011

Martens, E.C., Lowe, E.C., Chiang, H., Pudlo, N.P., Wu, M., McNulty, N.P., Abbott, D.W., Henrissat, B., Gilbert, H.J., Bolam, D.N., and Gordon, J.I. (2011). "Recognition and degradation of plant cell wall polysaccharides by two human gut symbionts.", *PLoS Biology*, 9(12, Article No. e1001221). doi : 10.1371/journal.pbio.1001221

Abbott, D.W. and Boraston, A.B. (2011). "Structural analysis of a putative family 32 carbohydrate-binding module from the *Streptococcus pneumoniae* enzyme, EndoD.", *Acta Crystallographica Section F*, 67(4), pp. 429-433. doi : 10.1107/S1744309111001874

Pluvinage, B., Lowe, E.C., Higgins, M.A., Abbott, D.W., Robb, C., Dalia, A.B., Deng, L., Weiser, J.N., Parsons, T.B., Fairbanks, A.J., Vocadlo, D.J., Boraston, A.B. (2011). "Inhibition of the pneumococcal virulence factor StrH and molecular insights into N-glycan recognition and hydrolysis.", *Structure*, 19(11), pp. 1603-1614. doi : 10.1016/j.str.2011.08.011

## Other Science Related Publications:

2012

Abbott, D.W. and Boraston, A.B. (2012). "Quantitative approaches to the analysis of carbohydrate-binding module function in Cellulases (Glycoside Hydrolases).", in Gilbert, H.J. (ed.) - *Methods in Enzymology*, Elsevier, pp. 211-231.

# Abdelaal, Elsayed M., Ph.D.

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## Research Publications:

2015

Choo, T.-M., Martin, R.A., ter Beek, S.M., MacDonald, D., Scott, P., Dion, Y., Rioux, S., Pageau, D., and Abdel-Aal, E-S.M. (2015). "AAC purpose barley.", *Canadian Journal of Plant Science*, 95(3), pp. 599-602. doi : 10.4141/CJPS-2014-395

Gamel, T.H., Abdel-Aal, E-S.M., and Tosh, S.M. (2015). "Effect of yeast-fermented and sour-dough making processes on physicochemical characteristics of  $\beta$ -glucan in whole wheat/oat bread.", *Food Science and Technology - LWT*, 60(1), pp. 78-85. doi : 10.1016/j.lwt.2014.07.030

Read, A., Wright, A.J., and Abdel-Aal, E-S.M. (2015). "In vitro bioaccessibility and monolayer uptake of lutein from wholegrain baked foods.", *Food Chemistry*, 174, pp. 263-269. doi : 10.1016/j.foodchem.2014.11.074

Abdel-Aal, E-S.M., Hucl, P.J., Shipp, J., and Rabalski, I. (2015). "Compositional Differences in Anthocyanins from Blue- and Purple-Grained Spring Wheat Grown in Four Environments in Central Saskatchewan.", *Cereal Chemistry*. doi : 10.1094/CCHEM-03-15-0058-R

Choo, T.-M., ter Beek, S.M., Martin, R.A., MacDonald, D., Scott, P., Dion, Y., Rioux, S., Pageau, D., Fregeau-Reid, J., and Abdel-Aal, E-S.M. (2015). "AAC starbuck hullless barley.", *Canadian Journal of Plant Science*, 95(3), pp. 595-598. doi : 10.4141/CJPS-2014-371

Choo, T.-M., Vigier, B.J., Savard, M.E., Blackwell, B.A., Martin, R.A., Wang, J.M., Yang, J., and Abdel-Aal, E-S.M. (2015). "Black Barley as a Means of Mitigating Deoxynivalenol Contamination.", *Crop Science*, 55(May-June), pp. 1096-1103. doi : 10.2135/cropsci2014.05.0405

Adams, V., Ragaee, S.M., and Abdel-Aal, E-S.M. (2015). "Impact of wheat fiber on frozen dough shelf life and bread quality.", *Cereal Chemistry*, 92(4), pp. 370-377. doi : 10.1094/CCHEM-01-15-0016-R

Gayin, J., Bertoft, E., Manful, J., Yada, R.Y., and Abdel-Aal, E-S.M. (2015). "Molecular and thermal characterization of starches isolated from African rice (*Oryza glaberrima*).", *Starch*, 67, pp. 1-11. doi : 10.1002/star.201500145

Hamed, A., Ragaee, S.M., Marcone, M.F., and Abdel-Aal, E-S.M. (2015). "Quality of Bread and Cookie Baked from Frozen Dough and Batter Containing  $\beta$ -Glucan-Rich Barley Flour Fraction.", *Journal of Food Quality*, 38(5), pp. 316-327. doi : 10.1111/jfq.12151

Abdel-Aal, E-S.M. and Rabalski, I. (2015). "Composition of lutein ester regioisomers in marigold flower, dietary supplement and herbal tea.", *Journal of Agricultural and Food Chemistry*, 63(44), pp. 9740-9746. doi : 10.1021/acs.jafc.5b04430

Gayin, J., Abdel-Aal, E-S.M., Manful, J., and Bertoft, E. (2015). "Unit and internal chain profile of African rice (*Oryza glaberrima*) amylopectin.", *Carbohydrate Polymers*, 137, pp. 466-472. doi : 10.1016/j.carbpol.2015.11.008

2014

Saez, P.J., Abdel-Aal, E-S.M., and Bureau, D. (2014). "Feeding increasing levels of corn gluten meal induces suboptimal muscle pigmentation of rainbow trout (*Oncorhynchus mykiss*).", *Aquaculture Research*, pp. 1-14. doi : 10.1111/are.12653

Abdel-Aal, E-S.M. (2014). "Cereal-based functional foods and nutraceuticals.", in Brar, S.K., Kaur, S., and Dhillon, G.S. (eds.) - *Nutraceuticals and Functional Foods: Natural Remedy*, Nova Science Publishers Inc, pp. 175-191.

Abdel-Aal, E-S.M. and Choo, T.-M. (2014). "Differences in compositional properties of a hullless barley cultivar grown in 23 environments in eastern Canada.", *Canadian Journal of Plant Science*, 94(5), pp. 807-815. doi : 10.4141/CJPS2013-301

Gamel, T.H., Abdel-Aal, E-S.M., Ames, N.P., Duss, R., and Tosh, S.M. (2014). "Enzymatic extraction of beta -glucan from oat bran cereals and oat crackers and optimization of viscosity measurement.", *Journal of Cereal Science*, 59(1), pp. 33-40. doi : 10.1016/j.jcs.2013.10.011

Ragaee, S.M., Seetharaman, K., and Abdel-Aal, E-S.M. (2014). "The Impact of Milling and Thermal Processing on Phenolic Compounds in Cereal Grains.", *Critical Reviews in Food Science and Nutrition*, 54(7), pp. 837-849. doi : 10.1080/10408398.2011.610906

Abdel-Aal, E-S.M. and Hucl, P.J. (2014). "Einkorn: A functional wheat for developing high-lutein whole grain baked products.", *Cereal FoodsWorld*, 59(1), pp. 5-10. doi : 10.1094/CFW-59-1-0005

Hamed, A., Ragaee, S.M., and Abdel-Aal, E-S.M. (2014). "Effect of  $\beta$ -glucan-rich barley flour fraction on rheology and quality of frozen yeasted dough.", *Journal of Food Science*, 79(12), pp. E2470-E2479. doi : 10.1111/1750-3841.12702

Abdel-Aal, E-S.M., Akhtar, M.H., Rabalski, I., and Bryan, M.K. (2014). "Accelerated, microwave-assisted and conventional solvent extraction methods affect anthocyanin composition from colored grains.", *Journal of Food Science*, 79(2), pp. C138-C146. doi : 10.1111/1750-3841.12346

## 2013

Abdel-Aal, E-S.M., Akhtar, M.H., Zaheer, K., and Ali, R. (2013). "Dietary sources of lutein and zeaxanthin carotenoids and their role in eye health. Review.", *Nutrients*, 5(4), pp. 1169-1185. doi : 10.3390/nu5041169

Abdel-Aal, E-S.M. and Rabalski, I. (2013). "Effect of baking on free and bound phenolic acids in wholegrain bakery products.", *Journal of Cereal Science*, 57(3), pp. 312-318. doi : 10.1016/j.jcs.2012.12.001

## 2012

Abdel-Aal, E-S.M. and Rabalski, I. (2012). "AACCI approved methods technical committee report: A new AACCI approved method for the determination of the total carotenoid content of cereal whole grain and refined flours.", *Cereal FoodsWorld*, 57(6), pp. 289-293. doi : 10.1094/cfw-57-6-0289

Abdel-Aal, E-S.M., Choo, T.-M., Dhillon, S., and Rabalski, I. (2012). "Free and Bound Phenolic Acids and Total Phenolics in Black, Blue, and Yellow Barley and Their Contribution to Free Radical Scavenging Capacity.", *Cereal Chemistry*, 89(4), pp. 198-204. doi : 10.1094/CCHEM-10-11-0116

Ragaee, S.M., Guzar, I., Abdel-Aal, E-S.M., and Seetharaman, K. (2012). "Bioactive components and antioxidant capacity of Ontario hard and soft wheat varieties.", *Canadian Journal of Plant Science*, 92(1), pp. 19-30. doi : 10.4141/CJPS2011-100

Gamel, T.H., Abdel-Aal, E-S.M., Wood, P.J., Ames, N.P., and Tosh, S.M. (2012). "Application of the rapid Visco Analyzer (RVA) as an effective rheological tool for measurement of  $\beta$ -glucan viscosity.", *Cereal Chemistry*, 89(1), pp. 52-58. doi : 10.1094/CCHEM-07-11-0089

Aldughpassi, A., Abdel-Aal, E-S.M., and Wolever, T.M.S. (2012). "Barley Cultivar, Kernel Composition, and Processing Affect the Glycemic Index.", *Journal of Nutrition*, 142(9), pp. 1666-1671. doi : 10.3945/jn.112.161372

Challacombe, C.A., Abdel-Aal, E-S.M., Seetharaman, K., and Duizer, L.M. (2012). "Influence of phenolic acid content on sensory perception of bread and crackers made from red or white wheat.", *Journal of Cereal Science*, 56(2), pp. 181-188. doi : 10.1016/j.jcs.2012.03.006

## 2011

Gamel, T.H. and Abdel-Aal, E-S.M. (2011). "Phenolic acids and antioxidant properties of barley whole grain and pearling fractions.", *Agricultural and Food Science*, 21(2), pp. 118-131.

Abdel-Aal, E-S.M., Hucl, P.J., Patterson, C.A., and Gray, D. (2011). "Phytochemicals and heavy metals content of hairless canary seed: A variety developed for food use.", *Food Science and Technology - LWT*, 44(4), pp. 904-910. doi : 10.1016/j.lwt.2010.10.019

Abdel-Aal, E-S.M., Hucl, P.J., Miller, S.S., and Patterson, C.A. (2011). "Microstructure and nutrient composition of hairless canary seed and its potential as a blending flour for food use.", *Food Chemistry*, 125(2), pp. 410-416. doi : 10.1016/j.foodchem.2010.09.021

Dhillon, S., Abdel-Aal, E-S.M., and Seetharaman, K. (2011). "Effect of iodine on polymer leaching and granule swelling of starches from different botanical sources.", *Journal of Cereal Science*, 54(1), pp. 76-82. doi : 10.1016/j.jcs.2011.01.016

## Other Science Related Publications:

### 2015

Ragaee, S.M. and Abdel-Aal, E-S.M. (2015). "Whole grain foods as sources of essential nutrients for feeding hungry world.", 10th Annual Summit - Fighting World Hunger, University of Guelph, Guelph, ON, Canada, February 20-22, 2015.

Adams, V., Ragaee, S.M., and Abdel-Aal, E-S.M. (2015). "Properties of arabinoxylans in frozen dough enriched with wheat fiber and their impact on bread quality.", 29th EFFoST International Conference - Food Science Research and Innovation: Delivering sustainable solutions to the global economy and society, Athens, Greece, November 10-12, 2015.

Abdel-Aal, E-S.M., Razavi, S.M.A., Irani, M., Hucl, P.J., and Patterson, C.A. (2015). "Hairless canary seed: a promising alternative source for small starch granules.", American Association of Cereal Chemists Annual Meeting, Minneapolis, Minnesota, USA, October 18-21, 2015. (Poster)

Abdel-Aal, E-S.M., Hucl, P.J., and Patterson, C.A. (2015). "Fractionation and characterization of glabrous canary seed components for food and non-food applications.", American Chemical Society Spring Meeting, Denver, CO, USA, March 22-26, 2015.

Abdel-Aal, E-S.M. (2015). "Developing purple wheat as a source of anthocyanin pigments for food and non-food applications.", 5th Euro-Global Summit and Expo on Food and Beverages, OMICS International Conferences, Alicante, Spain, June 16-18, 2015.

Abdel-Aal, E-S.M. (2015). "High lutein baked foods: Boosting lutein intake.", eFOOD-Lab International, 2015 (Issue 4), pp. 20-22.

Abdel-Aal, E-S.M., Hucl, P.J., and Pickard, M.A. (2015). "Purple wheat: Anthocyanin-pigmented grain for health promotion.", eFOOD-Lab International, 2015 (Issue 1), pp. 20-23.

Ragaei, S.M., Wolever, T.M.S., and Abdel-Aal, E-S.M. (2015). "Glycemic and Satiety Responses of Wholegrain and Fiber-Rich Breads.", 6th International Dietary Fibre Conference, Paris, France, June 1-3, 2015.

## 2014

Abdel-Aal, E-S.M., Hucl, P.J., and Rabalski, I. (2014). "Detailed identification of anthocyanin pigments in purple wheat bran and powder isolate.", 2014 International Annual Meeting of the American Association of Cereal Chemists (AACC), Providence, RI, USA, October 5-8, 2014. (Poster)

Abdel-Aal, E-S.M. (2014). "Barley-based functional foods in health and nutrition.", 3rd International Conference on Nutrition and Food Sciences, OMICS Group conferences, September 23-25, 2014.

Abdel-Aal, E-S.M. and Hucl, P.J. (2014). "Characterization and isolation of anthocyanin pigments from purple wheat.", 247th American Chemical Society National Meeting, Dallas, TX, USA, March 16-20, 2014.

## 2012

Gamel, T.H., Tosh, S.M., Abdel-Aal, E-S.M., and Ames, N.P. (2012). "Impact of digestive enzymes on the optimization of in vitro digestion and beta glucan viscosity measurement using Rapid Visco Analyzer.", 2012 International Annual Meeting of the American Association of Cereal Chemists (AACC), Hollywood, FL, USA, September 30-October 3, 2012, Published in: Supplement Cereal Food World, 57(4) A46. (Abstract)

Abdel-Aal, E-S.M., Hucl, P.J., Shipp, J., and Rabalski, I. (2012). "Differences in anthocyanin composition of blue and purple wheat lines grown at three sites in Saskatchewan.", 2012 International Annual Meeting of the American Association of Cereal Chemists (AACC), Hollywood, FL, USA, September 30-October 3, 2012, Published in: Supplement Cereal Food World, 57(4) A31. (Abstract)

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## Research Publications:

2015

Huang, Q.Q., Jin, L., Xu, Z.J., Barbieri, L.R., Acharya, S.N., Hu, T.M., McAllister, T.A., Stanford, K.I.M., and Wang, Y. (2015). "Effects of purple prairie clover (*Dalea purpurea* Vent.) on feed intake, nutrient digestibility and faecal shedding of *Escherichia coli* O157:H7 in lambs.", *Animal Feed Science and Technology*, 207, pp. 51-61. doi : 10.1016/j.anifeedsci.2015.06.009

Acharya, S.N. (2015). "AAC Mountainview Sainfoin (*Onobrychis viciifolia* subsp. *Viciifolia*).", *Canadian Journal of Plant Science*, 95(3), pp. 603-607. doi: 10.4141/CJPS-2014-332

Wang, Y., McAllister, T.A., and Acharya, S.N. (2015). "Condensed Tannins in Sainfoin: Composition, Concentration, and Effects on Nutritive and Feeding Value of Sainfoin Forage.", *Crop Science*, 55(1), pp. 13-22. doi : 10.2135/cropsci2014.07.0489

2014

Sottie, E.T., Acharya, S.N., McAllister, T.A., Thomas, J.E., Wang, Y., and Iwaasa, A.D. (2014). "Alfalfa pasture bloat can be eliminated by intermixing with newly-developed sainfoin population.", *Agronomy Journal*, 106(4), pp. 1470-1478. doi : 10.2134/agronj13.0378

Prasad, R., Acharya, S.N., Erickson, R.S., and Thomas, J.E. (2014). "Identification of *Cercospora* leaf spot (*Cercospora traversiana*) resistance among fenugreek accessions and morphological characterization of the pathogen.", *Australian Journal of Crop Science*, 8(6), pp. 822-830.

Acharya, S.N. (2014). "AAC Meadowview alfalfa.", *Canadian Journal of Plant Science*, 94(1), pp. 187-189. doi : 10.4141/CJPS2013-2491

Thompson, D.J., Acharya, S.N., and Beck, R.K. (2014). "Simulated early spring deer damage to alfalfa in interior BC.", *Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014.*

2013

Wang, Y., Jin, L., Ominski, K.H., He, M.L., Xu, Z.J., Krause, D.O., Acharya, S.N., Wittenberg, K.M., Liu, X.-L., and McAllister, T.A. (2013). "Screening of condensed tannins from Canadian Prairie forages for anti-*Escherichia coli* O157:H7, with an emphasis on purple prairie clover (*Dalea purpurea* Vent)", *Journal of Food Protection*, 76(4), pp. 560-567. doi : 10.4315/0362-028X.JFP-12-259

Acharya, S.N., Sottie, E.T., Coulman, B., Iwaasa, A.D., McAllister, T.A., Wang, Y., and Liu, J.-H. (2013). "New Sainfoin Populations for Bloat-free Alfalfa Pasture Mixtures in Western Canada.", *Crop Science*, 53(5), pp. 2283-2293. doi : 10.2135/cropsci2012.10.0591

Casler, M.D., Papadopoulos, Y.A., Bittman, S., Mathison, R.D., Min, D.H., Robins, J.G., Chemey, J.H., Acharya, S.N., Belesky, D.P., Bowley, S., Coulman, B.E., Drapeau, R., Ehlerke, N.J., Hall, M.H., Leep, R.H., Michaud, R., Rowsell, J., Shewmaker, G.E., Teutsch, C.D., and Coblenz, W.K. (2013). "Sparse-flowering Orchardgrass is Stable Across Temperate North America.", *Crop Science*, 53(5), pp. 1870-1877. doi : 10.2135/cropsci2013.01.0055

Chung, Y.-H., McGeough, E.J., Acharya, S.N., McAllister, T.A., McGinn, S.M., Harstad, O.M., and Beauchemin, K.A. (2013). "Enteric methane emission, diet digestibility and nitrogen excretion from beef heifers fed sainfoin or alfalfa.", *Journal of Animal Science*, 91(10), pp. 4861-4874. doi : 10.2527/jas.2013-6498

Zhao, B., Acharya, S.N., Liu, J.H., Zhang, X., Li, J., and Chen, Q. (2013). "Effect of water stress on protective enzyme system and yield of naked oat (*Avena nuda* L.)", *Research on Crops*, 14(3), pp. 702-710.

Prasad, R., Acharya, S.N., and Thomas, J.E. (2013). *Identification Of High Seed Yielding And Stable Fenugreek Mutants.*, LAMBERT Academic Publishing. (Book)

Casler, M.D., Undersander, D.J., Papadopoulos, Y.A., Bittman, S., Hunt, D.W.A., Mathison, R.D., Min, D.H., Robins, J.G., Chemey, J.H., Acharya, S.N., Belesky, D.P., Bowley, S., Coulman, B.E., Drapeau, R., Ehlerke, N.J., Hall, M.H., Leep, R.H., Michaud, R., Rowsell, J., Shewmaker, G.E., Teutsch, C.D., and Coblenz, W.K. (2013). "Sparse-Flowering orchardgrass represents an improvement in forage quality during reproductive growth.", *Crop Science*, 54(1), pp. 421-429. doi : 10.2135/cropsci2013.04.0227

2012

Acharya, S.N. and Steppuhn, H. (2012). "Bridgeview alfalfa.", *Canadian Journal of Plant Science*, 92(1), pp. 203-206. doi : 10.4141/CJPS2011-114

Zhu, B., Yi, L., Guo, L., Chen, G., Hu, Y.G., Tang, H., Xiao, C., Xiao, X., Yang, G., Acharya, S. N., and Zeng, Z. (2012). "Performance of two winter cover crops and their impacts on soil properties and two subsequent rice crops in Dongting Lake Plain, Hunan, China.", *Soil & Tillage Research*, 124, pp. 95-101. doi : 10.1016/j.still.2012.05.007

Doepel, L., Montgomery, J.E., Beauchemin, K.A., King, J.R., and Acharya, S.N. (2012). "Ruminal degradability and whole-tract digestibility of protein and fibre fractions in fenugreek haylage.", *Canadian Journal of Animal Science*, 92(2), pp. 211-217. doi : 10.4141/CJAS2011-101

Steppuhn, H., Acharya, S.N., Iwaasa, A.D., Gruber, M.Y., and Miller, D.R. (2012). "Inherent responses to root-zone salinity in nine alfalfa populations.", *Canadian Journal of Plant Science*, 92(2), pp. 235-248. doi : 10.4141/CJPS2011-174

2011

Biliget, B., Acharya, S.N., and Coulman, B. (2011). "Leaf area expansion and net photosynthetic rate of three bromegrass (*Bromus*) species.", *Photosynthetica*, 49(3), pp. 478-480.

Acharya, S.N., Acharya, K., Paul, S., and Basu, S.K. (2011). "Antioxidant and antileukemic properties of selected fenugreek (*Trigonella foenum-graecum* L.) genotypes grown in western Canada.", *Canadian Journal of Plant Science*, 91(1), pp. 99-105. doi : 10.4141/CJPS10025

Ciftci, O.N., Przybylski, R., Rudzinska, M., and Acharya, S.N. (2011). "Characterization of Fenugreek (*Trigonella foenum-graecum*) Seed Lipids.", *Journal of the American Oil Chemists Society (JAOCS)*, 88(10), pp. 1603-1610. doi : 10.1007/s11746-011-1823-y

Lu, X.-P., Yun, J.-F., Gao, C.-P., and Acharya, S.N. (2011). "Quantitative trait loci analysis of economically important traits in *Sorghum bicolor* × *S. sudanense* hybrid.", *Canadian Journal of Plant Science*, 91(1), pp. 81-90. doi : 10.4141/CJPS09112

### **Other Science Related Publications:**

2014

Wang, Y., Sortie, E., Acharya, S.N., and McAllister, T.A. (2014). "Role of condensed tannin containing forages in pasture productivity, animal and environmental health. Balancing the Trade-Off between Productivity and Environmental Health.", Joint Meeting of the: Canadian Society of Agronomy and Canadian Society for Horticultural Science, University of Lethbridge, Lethbridge, AB, Canada, July 10-12, 2014.

Larsen, R.J. and Acharya, S.N. (2014). "Perennial Cereal Rye Agronomy-Evaluating Biomass Yield, Quality and Perennial Habit Through a Series of Biomass Harvests.", CSA-CSHS Joint Annual Conference, Lethbridge, AB, Canada. (Poster)

2011

Acharya, S.N., Iwaasa, A.D., McAllister, T.A., Wang, Y., and Thomas, J. (2011). "Animal performance and incidence of bloat in mixed alfalfa/sainfoin grazing.", *Plant Canada 2011*, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

Iwaasa, A.D., Steppuhn, H., Schellenberg, M.P., Acharya, S.N., and Wang, Y. (2011). "A forage and grazing research update.", SWFA Annual General Meeting, Swift Current, SK, Canada, March 1, 2011.

Acharya, S.N., Iwaasa, A.D., Coulman, B., Jefferson, P.G., McAllister, T.A., and Wang, Y. (2011). "New sainfoin keepspace with alfalfa for safe grazing.", *Plant Canada 2011*, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

# Akhtar, M. Humayoun, Ph.D.

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## Research Publications:

2014

Abdel-Aal, E-S.M., Akhtar, M.H., Rabalski, I., and Bryan, M.K. (2014). "Accelerated, microwave-assisted and conventional solvent extraction methods affect anthocyanin composition from colored grains.", *Journal of Food Science*, 79(2), pp. C138-C146. doi : 10.1111/1750-3841.12346

Nguyen, S., Huang, H.-C., Foster, B.C., Tam, T.W., Xing, T., Smith, M.L., Arnason, J.T., and Akhtar, M.H. (2014). "Antimicrobial and P450 inhibitory properties of common functional foods.", *Journal of Pharmacy & Pharmaceutical Sciences*, 17(2), pp. 254-265.

2013

Abdel-Aal, E-S.M., Akhtar, M.H., Zaheer, K., and Ali, R. (2013). "Dietary sources of lutein and zeaxanthin carotenoids and their role in eye health. Review.", *Nutrients*, 5(4), pp. 1169-1185. doi : 10.3390/nu5041169

2012

Sheehan, N.L., van Heeswijk, R., Foster, B.C., Akhtar, M.H., Singhal, N., Seguin, I., DeBalso, L.D., Bourbeau, M., Chauhan, B.M., Boulassel, M.-R., Burger, D.M., Lalonde, R.G., and Cameron, D.W. (2012). "The Effect of  $\beta$ -Carotene Supplementation on the Pharmacokinetics of Nelfinavir and Its Active Metabolite M8 in HIV-1-infected Patients.", *Molecules*, 17(1), pp. 688-702. doi : 10.3390/molecules17010688

2011

Tam, T.W., Akhtar, M.H., Arnason, J.T., Cvijovic, K., Boon, H., Cameron, D.W., Drouin, C.E., Jaeger, W., Tsuyuki, R.T., Vohra, S., and Foster, B.C. (2011). "Inhibition of Human Cytochrome P450 Metabolism by Blended Herbal Products and Vitamins.", *Journal of Pharmacy & Pharmaceutical Sciences*, 14(1), pp. 1-16.

## Other Science Related Publications:

2012

Akhtar, M.H. (2012). "Reducing process-induced toxins in foods.", in Boye, J.I. and Arcand, Y. (eds.) - *Green Technologies in Food Production and Processing (Food Engineering Series)*, Springer, Chapter 21, pp. 571-605.



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## Research Publications:

2015

Holman, D.B., McAllister, T.A., Topp, E., Wright, A.-D.G., and Alexander, T.W. (2015). "The nasopharyngeal microbiota of feedlot cattle that develop bovine respiratory disease.", *Veterinary Microbiology*, 180(1-2), pp. 90-95. doi : 10.1016/j.vetmic.2015.07.031

Valle, E.R., Henderson, G., Janssen, P.H., Cox, F., Alexander, T.W., and McAllister, T.A. (2015). "Considerations in the use of fluorescence in situ hybridization (FISH) and confocal laser scanning microscopy to characterize rumen methanogens and define their spatial distributions.", *Canadian Journal of Microbiology*, 61(6), pp. 417-428. doi : 10.1139/cjm-2014-0873

2014

Klima, C.L., Alexander, T.W., Hendrick, S., and McAllister, T.A. (2014). "Characterization of *Mannheimia haemolytica* isolates collected from the nasopharynx of morbid and healthy feedlot cattle in western Canada.", *Canadian Journal of Veterinary Research*.

Hao, X., Hill, B.R., Caffyn, P.R., Travis, G.R., Olson, A.F., Lamey, F.J., McAllister, T.A., and Alexander, T.W. (2014). "Co-composting of beef cattle feedlot manure with construction and demolition waste.", *Journal of Environmental Quality*, 43(5), pp. 1799-1808. doi : 10.2134/jeq2014.02.0087

Klima, C.L., Zaheer, R., Cook, S.R., Booker, C.W., Hendrick, S., Alexander, T.W., and McAllister, T.A. (2014). "Pathogens of bovine respiratory disease in North American feedlots conferring multidrug resistance via integrative conjugative elements.", *Journal of Clinical Microbiology*, 52(2), pp. 438-448. doi : 10.1128/JCM.02485-13

2013

Hsu, Y.-H., Cook, S.R., Alexander, T.W., Klima, C.L., Niu, Y.D., Selinger, L.B., and McAllister, T.A. (2013). "Investigation of *Mannheimia haemolytica* bacteriophages relative to host diversity.", *Journal of Applied Microbiology*, 114(6), pp. 1592-1603. doi : 10.1111/jam.12185

Narvaez, N., Wang, Y., Xu, Z.J., Alexander, T.W., Garden, S., and McAllister, T.A. (2013). "Effects of hop varieties on ruminal fermentation and bacterial community in an artificial rumen (rusitec).", *Journal of the Science of Food and Agriculture*, 93(1), pp. 45-52. doi : 10.1002/jsfa.5725

Klima, C.L., Alexander, T.W., Hendrick, S., and McAllister, T.A. (2013). "Characterization of *Mannheimia haemolytica* isolates collected from the nasopharynx of morbid and healthy feedlot cattle in western Canada.", *Canadian Journal of Veterinary Research*, 78(1), pp. 38-45.

Alexander, T.W., Cook, S.R., Klima, C.L., Topp, E., and McAllister, T.A. (2013). "Susceptibility to tulathromycin in *Mannheimia haemolytica* isolated from feedlot cattle over a three-year period.", *Frontiers in Microbiology*, 4(297). doi : 10.3389/fmicb.2013.00297

Klima, C.L., Cook, S.R., Hahn, K.R., Amoako, K.K., Alexander, T.W., Hendrick, S., and McAllister, T.A. (2013). "Draft genome sequence of a *Mannheimia haemolytica* serotype 6 isolate collected from the nasopharynx of a beef calf with bovine respiratory disease.", *Genome Announcements*, 1(2): e0005113. doi : 10.1128/genomeA.00051-13

Alexander, T.W., Jin, X., Li, Q., Cook, S.R., and McAllister, T.A. (2013). "Characterization of tetracycline resistance genes in *Escherichia coli* isolated from feedlot cattle administered therapeutic or subtherapeutic levels of tetracycline.", *Canadian Journal of Microbiology*, 59(4), pp. 287-290. doi : 10.1139/cjm-2012-0660

2012

Chung, Y.-H., Zhou, M., Holtshausen, L., Alexander, T.W., McAllister, T.A., Guan, L.L., Oba, M., and Beauchemin, K.A. (2012). "A fibrolytic enzyme additive for lactating Holstein cow diets: Ruminal fermentation, rumen microbial populations, and enteric methane emissions.", *Journal of Dairy Science (JDS)*, 95(3), pp. 1419-1427. doi : 10.3168/jds.2011-4552

2011

Klima, C.L., Alexander, T.W., Read, R.R., Gow, S.P., Booker, C.W., Hannon, S., Sheedy, C., McAllister, T.A., and Selinger, L.B. (2011). "Genetic characterization and antimicrobial susceptibility of *Mannheimia haemolytica* isolated from the nasopharynx of feedlot cattle.", *Veterinary Microbiology*, 149(3-4), pp. 390-398. doi : 10.1016/j.vetmic.2010.11.018

Wu, R.-B., Alexander, T.W., Li, J.-Q., Munns, K., Sharma, R., and McAllister, T.A. (2011). "Prevalence and diversity of class 1 integrons and resistance genes in antimicrobial-resistant *Escherichia coli* originating from beef cattle administered subtherapeutic antimicrobials.", *Journal of Applied Microbiology*, 111(2), pp. 511-523. doi : 10.1111/j.1365-2672.2011.05066.x

Alexander, T.W., Yanke, L.J., Reuter, T.R., Topp, E., Read, R.R., Selinger, L.B., and McAllister, T.A. (2011). "Longitudinal characterization of antimicrobial resistance genes in feces shed from cattle fed different subtherapeutic antibiotics.", *BMC Microbiology*, 11:19. doi : 10.1186/1471-2180-11-19

Reuter, T.R., Alexander, T.W., and McAllister, T.A. (2011). "Viability of *Bacillus licheniformis* and *Bacillus thuringiensis* spores as a model for predicting the fate of *Bacillus anthracis* spores during composting of livestock mortalities.", *Applied and Environmental Microbiology*, 77(5), pp. 1588-1592. doi : 10.1128/AEM.01889-10

## Other Science Related Publications:

2015

Reich, J., Chatterton, S., and Alexander, T.W. (2015). "Development of a multiplex qPCR TaqMan assay for the quantification of airborne spores of *Botrytis cinerea* and *Sclerotinia sclerotiorum*.", Botany 2015, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015. (Abstract)

Hao, X., Lamey, F.J., Ellert, B.H., Alexander, T.W., and McAllister, T.A. (2015). "Co-composting cattle feedlot manure with construction and demolition waste.", International Compost Conference, Beijing, China, November 22-25, 2015. (Abstract)

2014

Alexander, T.W., McAllister, T.A., Stanford, K.I.M., Reuter, T.R., and Topp, E. (2014). "Characterization of Shiga toxin-producing *Escherichia coli* isolated from feces of cattle in commercial feedlots.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.

Jin, L., Li, C., He, M.L., Wang, Y., Alexander, T.W., and McAllister, T.A. (2014). "Effects of echium and flaxseed oil on ruminal fatty acid metabolism in vitro.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.

Hao, X., Lamey, F.J., Alexander, T.W., and McAllister, T.A. (2014). "Co-composting beef cattle feedlot manure with construction & demolition (C&D) waste.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014, Oral presentation. (Abstract)

Hao, X., Hill, B.D., Caffyn, P.R., Travis, G.R., Olsen, P.A., Lamey, F.J., McAllister, T.A., and Alexander, T.W. (2014). "Co-composting of beef cattle feedlot manure with construction and demolition waste.", 51st Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 12-14, 2014. (Abstract)

Hao, X., Hill, B.D., Caffyn, P.R., Travis, G.R., Olson, A.F., Lamey, F.J., McAllister, T.A., and Alexander, T.W. (2014). "Co-composting of beef cattle feedlot manure with housing construction waste for value-added organic fertilizer.", 51st Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 12-14, 2014, pp. 30. (Abstract)

2013

Jin, L., He, M.L., Wang, Y., Alexander, T.W., Kraft, J., Li, C., Zhang, Y.G., and McAllister, T.A. (2013). "In vitro effects of echium oil and flaxseed oil on major rumen bacterial populations.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P48, pp. 45. (Poster)

Klima, C.L., Zaheer, R., Hendrick, S., Alexander, T.W., and McAllister, T.A. (2013). "Agents of Bovine Respiratory Disease in North American Feedlots.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O13-GS, pp. 8.

Alexander, T.W. (2013). "DNA extraction and PCR methods.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013.

Alexander, T.W. (2013). "Antimicrobial use and livestock production.", Pacific North West Economic Region annual summit, Anchorage, Alaska, USA, July 14-18, 2013. (Presentation)

Subramanian, S., McAllister, T.A., Baah, J., and Alexander, T.W. (2013). "Analysis of probiotic bacteria to inhibit the respiratory pathogen *Mannheimia haemolytica* and adhere to bovine bronchial epithelial cells in vitro.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P57, pp. 49. (Poster)

## 2012

Alexander, T.W. and McAllister, T.A. (2012). "Manipulating the ruminant microbiota to improve production.", 48th Annual Eastern Nutrition Conference of the Animal Nutrition Association of Canada (ANAC), Kitchener, ON, Canada, May 9-10, 2012.

Alexander, T.W., Wright, A.-D.G., and McAllister, T.A. (2012). "Comparison of the Bacterial Microbiota in Nasopharyngeal Samples from Cattle Treated for Bovine Respiratory Disease and Cattle with no History of Disease.", 112th General Meeting of American Society for Microbiology, San Francisco, CA, USA, June 15-19, 2012.

Alexander, T.W. and McAllister, T.A. (2012). "Manipulating the ruminant microbiota to improve production.", DSM Pharmaceuticals Conference: Probiotics, Rheinfelden, Switzerland, February 1-2, 201. (Presentation)

## 2011

Klima, C.L., McAllister, T.A., Hendrick, S., and Alexander, T.W. (2011). "Antimicrobial susceptibility and genetic characterization of *Mannheimia haemolytica* isolates from the nasopharynx of feedlot cattle in western Canada.", Antimicrobial stewardship in Canadian agriculture and veterinary medicine conference: How is Canada doing and what still needs to be done?, Toronto Airport, Toronto, ON, Canada, October 30-November 2, 2011.

Wu, R.-B., Alexander, T.W., Li, J.-Q., Munns, K., Sharma, R., and McAllister, T.A. (2011). "Characterization of class 1 integrons and resistance genes in antimicrobial-resistant *Escherichia coli* in beef cattle.", Antimicrobial stewardship in Canadian agriculture and veterinary medicine conference: How is Canada doing and what still needs to be done?, Toronto Airport, Toronto, ON, Canada, October 30-November 2, 2011.

Zaheer, R., Cook, S.R., Klima, C.L., Read, R.R., Alexander, T.W., and McAllister, T.A. (2011). "Characterization of *Mannheimia haemolytica* and other erythromycin resistant nasopharyngeal microbes from macrolide-treated feedlot cattle.", Antimicrobial stewardship in Canadian agriculture and veterinary medicine conference: How is Canada doing and what still needs to be done?, Toronto Airport, Toronto, ON, Canada, October 30-November 2, 2011.

Reuter, T.R., Alexander, T.W., and McAllister, T.A. (2011). "Detection of genetically modified feed and food.", in Fink-Gremmels, J. (ed.) - Animal Feed Contamination: Effects on Livestock and Food Safety, Woodhead Publishing, Cambridge, UK.

McAllister, T.A., Alexander, T.W., Cook, S.R., Yanke, L.J., and Zaheer, R. (2011). "Molecular Ecology of Antimicrobial Resistance in the Feedlot.", Antimicrobial Stewardship in Canadian Agriculture and Veterinary Medicine: How is Canada doing and what still needs to be done?, Toronto Airport, Toronto, ON, Canada, October 30-November 2, 2011.

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## Research Publications:

2013

Mitchell Fetch, J.W., Tekauz, A., Brown, P.D., Ames, N.P., Chong, J., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Townley-Smith, L., Stadnyk, K.D., and Green, D.A. (2013). "Stride oat", *Canadian Journal of Plant Science*. doi : 10.4141/cjps2012-325

2012

Gamel, T.H., Abdel-Aal, E-S.M., Wood, P.J., Ames, N.P., and Tosh, S.M. (2012). "Application of the rapid Visco Analyzer (RVA) as an effective rheological tool for measurement of  $\beta$ -glucan viscosity.", *Cereal Chemistry*, 89(1), pp. 52-58. doi : 10.1094/CCHEM-07-11-0089

2011

Gliwa, J., Gunenc, A., Ames, N.P., Willmore, W.G., and Hosseinian, F.S. (2011). "Antioxidant activity of alkylresorcinols from rye bran and their protective effects on cell viability of PC-12 AC cells.", *Journal of Agricultural and Food Chemistry*, 59(21), pp. 11473-11482. doi : 10.1021/jf2023353

Yan, W., Mitchell Fetch, J.W., Frégeau-Reid, J.A., Rosnagel, B.G., and Ames, N.P. (2011). "Genotype x Location Interaction Patterns and Testing Strategies for Oat in the Canadian Prairies.", *Crop Science*, 51(5), pp. 1903-1914. doi : 10.2135/cropsci2010.09.0548

Mitchell Fetch, J.W., Brown, P.D., Ames, N.P., Chong, J., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., and Stadnyk, K.D. (2011). "Summit oat.", *Canadian Journal of Plant Science*, 91(4), pp. 787-791. doi : 10.4141/CJPS10158

Mitchell Fetch, J.W., Brown, P.D., Ames, N.P., Chong, J., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Townley-Smith, L., and Stadnyk, K.D. (2011). "Stainless oat.", *Canadian Journal of Plant Science*, 91(2), pp. 357-361. doi : 10.4141/CJPS10159

## Other Science Related Publications:

2012

Gamel, T.H., Tosh, S.M., Abdel-Aal, E-S.M., and Ames, N.P. (2012). "Impact of digestive enzymes on the optimization of in vitro digestion and beta glucan viscosity measurement using Rapid Visco Analyzer.", 2012 International Annual Meeting of the American Association of Cereal Chemists (AACC), Hollywood, FL, USA, September 30-October 3, 2012, Published in: Supplement *Cereal Food World*, 57(4) A46. (Abstract)

Gardner, K.M., Wight, C.P., Mitchell Fetch, J.W., Yan, W., Ames, N.P., Rosnagel, B.G., Hermann, M., Molnar, S.J., Frégeau-Reid, J.A., Miller, S.S., Fetch Jr., T.G., Chong, J., Martin, R.A., Tekauz, A., Haber, S.M., Savard, M.E., and Tinker, N.A. (2012). "Prospects of whole genome selection in oat using high throughput genetic markers.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

2011

Ames, N.P., Storsley, J., Gamel, T.H., and Tosh, S.M. (2011). "Validating the health benefits of barley foods: Effect of processing on physiological properties of beta-glucan in test foods.", *Cereal Foods World*, 56(4, Suppl.), pp. A28. (Abstract)

Ames, N.P. (2011). "The Value Chain from Breeding to the Clinical Trials and Back to Breeding: The Barley Story.", AAFC Regional Research User Meeting, Winnipeg, MB, Canada, June 1, 2011. (Presentation)

Ames, N.P. (2011). "Formulating High Fibre Foods with Oat and Barley: Benefits and Challenges.", 2011 International Annual Meeting of the American Association of Cereal Chemists (AACC): Rice Division Lunch, Palm Springs Convention Center, Palm Springs, CA, October 15-19, 2011. (Presentation)

Ames, N.P. (2011). "Designing Test Foods for a Clinical Trial to Meet the Requirements of a Health Claim.", Therapeutic Applications for Functional Foods Conference, St. Boniface Hospital Research Centre, Winnipeg, MB, Canada, May 31 - June 1, 2011.

Ames, N.P., Blewett, H.J., Storsley, J., Zahradka, P., and Taylor, C.G. (2011). "Utilization of high fibre barley fractions in tortillas to reduce glycemic fractions in tortillas to reduce glycemic response in humans.", *Cereal Foods World*, 56(4, Suppl.), pp. A28. (Abstract)

Brown, D.C.W., Mazza, G., Ross, K.A., Jordan, M.A., McCallum, J.L., Netticadan, T., Siow, Y.L., Khanizadeh, S., Ames, N.P., and Lui, E.M.K. (2011). "Plant Bioactives Research in Canada.", *Plant Bioactives Research in Canada. Canada-United Kingdom Gut and Health Workshop*, AAFC-FRDC / AAC-CRDA, Saint-Hyacinthe, QC, Canada, February 24-25, 2011.

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## Research Publications:

2015

- Forge, T.A., Neilsen, G.H., Neilsen, D., O'Gorman, D.T., Hogue, E.J., and Angers, D.A. (2015). "Organic orchard soil management practices affect soil biology and organic matter.", *Acta Horticulturae (ISHS)*, 1076, pp. 77-84.
- Maillard, É., Angers, D.A., Chantigny, M.H., Bittman, S., Rochette, P., Lévesque, G., Hunt, D.E., and Parent, L.-É. (2015). "Carbon accumulates in organo-mineral complexes after long-term liquid dairy manure application.", *Agriculture, Ecosystems and Environment*, 202, pp. 108-119. doi : 10.1016/j.agee.2014.12.013
- Bélanger, G., Rochette, P., Chantigny, M.H., Ziadi, N., Angers, D.A., Charbonneau, É., Pellerin, D., and Liang, C. (2015). "Nitrogen availability from dairy cow dung and urine applied to forage grasses in eastern Canada.", *Canadian Journal of Plant Science*, 95(1), pp. 55-65. doi: 10.4141/CJPS-2014-039
- Aita, C., Schirrmann, J., Pujol, S.B., Giacomini, S.J., Rochette, P., Angers, D.A., Chantigny, M.H., Gonzatto, R., Giacomini, D.A., and Doneda, A. (2015). "Reducing nitrous oxide emissions from a maize-wheat sequence by decreasing soil nitrate concentration: Effects of split application of pig slurry and dicyandiamide.", *European Journal of Soil Science*, 66(2), pp. 359-368. doi : 10.1111/ejss.12181
- dos Reis Martins, M. and Angers, D.A. (2015). "Different plant types for different soil ecosystem services.", *Geoderma*, 237, pp. 266-269. doi : 10.1016/j.geoderma.2014.09.013
- Li, L., Lamey, F.J., Angers, D.A., Pearson, D.C., and Blackshaw, R.E. (2015). "Surface soil quality attributes following 12 years of conventional and conservation management on irrigated rotations in southern Alberta.", *Soil Science Society of America Journal*, 79(3), pp. 930-942. doi : 10.2136/sssaj2015.02.0051
- Miola, E.C.C., Aita, C., Rochette, P., Chantigny, M.H., Angers, D.A., Bertrand, N., and Gasser, M.-O. (2015). "Static chamber measurements of ammonia volatilization from manured soils: Impact of deployment duration and manure characteristics.", *Soil Science Society of America Journal*, 79(1), pp. 305-313. doi : 10.2136/sssaj2014.07.0305
- O'Rourke, S.M., Angers, D.A., Holden, N.M., and McBratney, A.B. (2015). "Soil organic carbon across scales.", *Global Change Biology*, 21(10), pp. 3561-3574. doi : 10.1111/gcb.12959
- Liu, E., Wang, J., Zhang, Y., Angers, D.A., Yan, C., Oweis, T., He, W., Liu, Q., and Chen, B. (2015). "Priming effect of <sup>13</sup>C-labelled wheat straw in no-tillage soil under drying and wetting cycles in the Loess Plateau of China.", *Scientific Reports*, 5(Article number 13826), pp. 1-9. doi : 10.1038/srep13826

2014

- Ziadi, N., Angers, D.A., Gagnon, B., Lalande, R., Morel, C., Rochette, P., and Chantigny, M.H. (2014). "Long-term tillage and synthetic fertilization affect soil functioning and crop yields in a corn-soybean rotation in eastern Canada.", *Canadian Journal of Soil Science*, 94(3), pp. 365-376. doi : 10.4141/CJSS2013-067
- Rochette, P., Chantigny, M.H., Ziadi, N., Angers, D.A., Bélanger, G., Charbonneau, É., Pellerin, D., Liang, C., and Bertrand, N. (2014). "Soil Nitrous Oxide Emissions Following Deposition of Dairy Cow Excreta in Eastern Canada.", *Journal of Environmental Quality*, 43(3), pp. 829-841. doi : 10.2134/jeq2013.11.0474
- McBratney, A.B., Stockmann, U., Angers, D.A., Minasny, B., and Field, D.J. (2014). "Challenges for soil organic carbon research.", in Hartemink, A.E. and McSweeney, K. (eds.) - *Soil Carbon*, Springer, pp. 3-16.
- Poirier, V., Angers, D.A., and Whalen, J.K. (2014). "Formation of millimetric-scale aggregates and associated retention of <sup>13</sup>C-<sup>15</sup>N-labelled residues are greater in subsoil than topsoil.", *Soil Biology & Biochemistry*, 75, pp. 45-53. doi : 10.1016/j.soilbio.2014.03.020
- Miola, E.C.C., Rochette, P., Chantigny, M.H., Angers, D.A., Aita, C., Gasser, M.-O., Pelster, D.E., and Bertrand, N. (2014). "Ammonia volatilization after surface application of laying-hen and broiler-chicken manures.", *Journal of Environmental Quality*, 43(6), pp. 1864-1872. doi : 10.2134/jeq2014.05.0237
- Chantigny, M.H., Angers, D.A., Rochette, P., and Pelster, D.E. (2014). "Evidencing overwinter loss of residual organic and clay-fixed nitrogen from spring-applied, <sup>15</sup>N-labelled pig slurry.", *Canadian Journal of Soil Science*, 94(1), pp. 1-8. doi : 10.4141/cjss2013-072
- Maillard, É. and Angers, D.A. (2014). "Animal manure application and soil organic carbon stocks: A meta-analysis.", *Global Change Biology*, 20(2), pp. 666-679. doi : 10.1111/gcb.12438

Neilsen, G.H., Forge, T.A., Angers, D.A., Neilsen, D., and Hogue, E.J. (2014). "Suitable orchard floor management strategies in organic apple orchards that augment soil organic matter and maintain tree performance.", *Plant and Soil*, 378(1-2), pp. 325-335. doi : 10.1007/s11104-014-2034-8

Chantigny, M.H., Lamey, F.J., Bittman, S., Lapen, D.R., Angers, D.A., Rochette, P., and Hunt, D.E. (2014). "Transformations and fate of fall-applied nitrogen as a function of winter conditions – a multi-site experiment", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014, Extended Abstract –reviewed. (Abstract)

Whalen, J.K., Gul, S., Poirier, V., Yanni, S.F., Simpson, M.J., Clemente, J.S., Feng, X.-J., Grayston, S.J., Barker, J., Ishimaru, K., Gregorich, E.G., Angers, D.A., Rochette, P., and Janzen, H.H. (2014). "Transforming plant carbon into soil carbon: process-level control on carbon sequestration.", *Canadian Journal of Plant Science*, 94(6), pp. 1065-1073. doi : 10.4141/CJPS2013-145

Aita, C., Gonzatto, R., Miola, E.C.C., dos Santos, D.B., Rochette, P., Angers, D.A., Chantigny, M.H., Pujol, S.B., Giacomini, D.A., and Giacomini, S.J. (2014). "Injection of dicyandiamide-treated pig slurry reduced ammonia volatilization without enhancing soil nitrous oxide emissions from no-till corn in Southern Brazil.", *Journal of Environmental Quality*, 43(3), pp. 789-800. doi : 10.2134/jeq2013.07.0301

Thivierge, M.-N., Parent, D., Bélanger, V., Angers, D.A., Allard, G., Pellerin, D., and Vanasse, A. (2014). "Environmental sustainability indicators for cash-crop farms in Quebec, Canada: A participatory approach.", *Ecological Indicators*, 45, pp. 677-686. doi : 10.1016/j.ecolind.2014.05.024

## 2013

Stockmann, U., Adams, M.A., Crawford, J.W., Field, D.J., Henakaarchchi, N., Jenkins, M., Minasny, B., McBratney, A.B., Courcelles, V.D.R.D., Singh, K., Wheeler, I., Abbott, L., Angers, D.A., Baldock, J., Bird, M., Brookes, P.C., Chenu, C., Jastrow, J.D., Lal, R., Lehmann, J., O'Donnell, A.G., Parton, W.J., Whitehead, D., and Zimmermann, M. (2013). "The knowns, known unknowns and unknowns of sequestration of soil organic carbon.", *Agriculture, Ecosystems and Environment*, 164, pp. 80-99. doi : 10.1016/j.agee.2012.10.001

Rochette, P., Angers, D.A., Chantigny, M.H., Gasser, M.-O., MacDonald, J.D., Pelster, D.E., and Bertrand, N. (2013). "NH<sub>3</sub> volatilization, soil NH<sub>4</sub><sup>+</sup> concentration and soil pH following subsurface banding of urea at increasing rates.", *Canadian Journal of Soil Science*, 93(2), pp. 261-268. doi : 10.4141/cjss2012-095

Chantigny, M.H., MacDonald, J.D., Angers, D.A., Rochette, P., Royer, I., and Gasser, M.-O. (2013). "Soil nitrogen dynamics following herbicide kill and tillage of manured and unmanured grasslands.", *Canadian Journal of Soil Science*, 93(2), pp. 229-237. doi : 10.4141/cjss2012-094

Neilsen, G.H., Forge, T.A., Neilsen, D., O'Gorman, D.T., Hogue, E.J., Angers, D.A., and Bissonnette, N. (2013). "Soil management in organic production systems.", *Acta Horticulturae (ISHS)*, 1001, pp. 295-302.

Poirier, V., Angers, D.A., Rochette, P., and Whalen, J.K. (2013). "Initial soil organic carbon concentration influences the short-term retention of crop-residue carbon in the fine fraction of a heavy clay soil.", *Biology and Fertility of Soils*. doi : 10.1007/s00374-013-0794-6

Rieux, C.M., Vanasse, A., Chantigny, M.H., Gélinas, P., Angers, D.A., Rochette, P., and Royer, I. (2013). "Yield and bread-making potential of spring wheat under mineral and organic fertilization.", *Crop Science*, 53(3), pp. 1139-1147. doi : 10.2135/cropsci2012.07.0448

Rochette, P., Angers, D.A., Chantigny, M.H., Gasser, M.-O., MacDonald, J.D., Pelster, D.E., and Bertrand, N. (2013). "Ammonia Volatilization and Nitrogen Retention: How Deep to Incorporate Urea?", *Journal of Environmental Quality*, 42, pp. 1635-1642. doi : 10.2134/jeq2013.05.0192

Leifeld, J., Angers, D.A., Chenu, C., Fuhrer, J., Kätterer, T., and Powelson, D.S. (2013). "Organic farming gives no climate change benefit through soil carbon sequestration (Letter).", *Proceedings of the National Academy of Sciences of the USA (PNAS)*, 110(11, Article No. E984). doi : 10.1073/pnas.1220724110

Martins, M.R., Angers, D.A., and Corá, J.E. (2013). "Non-labile plant C contributes to long-lasting macroaggregation of an Oxisol.", *Soil Biology & Biochemistry*, 158, pp. 153-58. doi : 10.1016/j.soilbio.2012.11.011

Pelster, D.E., Chantigny, M.H., Rochette, P., Angers, D.A., Laganière, J., Zebarth, B.J., and Goyer, C. (2013). "Crop residue incorporation alters soil nitrous oxide emissions during freeze-thaw cycles.", *Canadian Journal of Soil Science*, 93(4), pp. 415-425. doi : 10.4141/cjss2012-043

## 2012

Chantigny, M.H., Pelster, D.E., Perron, M.-H., Rochette, P., Angers, D.A., Parent, L.-É., Massé, D.I., and Ziadi, N. (2012). "Nitrous Oxide Emissions from Clayey Soils Amended with Paper Sludges and Biosolids of Separated Pig Slurry.", *Journal of Environmental Quality*, 42(1), pp. 30-39. doi : 10.2134/jeq2012.0196

Garrigues, E., Corson, M.S., Angers, D.A., van der Werf, H.M.G., and Walter, C. (2012). "Soil quality in Life Cycle Assessment: Towards development of an indicator.", *Ecological Indicators*, 18(1), pp. 434-442. doi : 10.1016/j.ecolind.2011.12.014

Gasser, M.-O., Chantigny, M.H., Angers, D.A., Bittman, S., Buckley, K.E., Rochette, P., and Massé, D.I. (2012). "Plant-available and water-soluble phosphorus in soils amended with separated manure solids.", *Journal of Environmental Quality*, 41(4), pp. 1290-1300. doi: 10.2134/jeq2011.0290

Lamey, F.J. and Angers, D.A. (2012). "The role of organic amendments in soil reclamation: A review.", *Canadian Journal of Soil Science*, 92(1), pp. 19-38. doi: 10.4141/CJSS2010-064

Le Guillou, C., Angers, D.A., Leterme, P., and Menasseri-Aubry, S. (2012). "Changes during winter in water-stable aggregation due to crop residue quality.", *Soil Use and Management*, 28(4), pp. 590-595. doi: 10.1111/j.1475-2743.2012.00427.x

Martins, M.R., Angers, D.A., and Corá, J.E. (2012). "Co-accumulation of microbial residues and particulate organic matter in the surface layer of a no-till Oxisol under different crops.", *Soil Biology & Biochemistry*, 50, pp. 208-213. doi: 10.1016/j.soilbio.2012.03.024

Pelster, D.E., Chantigny, M.H., Rochette, P., Angers, D.A., Rieux, C.M., and Vanasse, A. (2012). "Nitrous Oxide Emissions Respond Differently to Mineral and Organic Nitrogen Sources in Contrasting Soil Types.", *Journal of Environmental Quality*, 41(2), pp. 427-435. doi: 10.2134/jeq2011.0261

dos Reis Martins, M., Angers, D.A., and Corá, J.E. (2012). "Carbohydrate Composition and Water-Stable Aggregation of an Oxisol as Affected by Crop Sequence under No-Till.", *Soil Science Society of America Journal*, 76(2), pp. 475-484. doi: 10.2136/sssaj2011.0110

## 2011

Laganière, J., Angers, D.A., Paré, D., Bergeron, Y., and Chen, H.Y.H. (2011). "Black Spruce Soils Accumulate More Uncomplexed Organic Matter than Aspen Soils.", *Soil Science Society of America Journal*, 75(3), pp. 1125-1132. doi: 10.2136/sssaj2010.0275

Angers, D.A., Arrouays, D., Saby, N.P.A., and Walter, C. (2011). "Estimating and mapping the carbon saturation deficit of French agricultural topsoils.", *Soil Use and Management*, 27(4), pp. 448-452. doi: 10.1111/j.1475-2743.2011.00366.x

Messiga, A.J., Ziadi, N., Angers, D.A., Morel, C., and Parent, L.-É. (2011). "Tillage practices of a clay loam soil affect soil aggregation and associated C and P concentrations.", *Geoderma*, 164(3-4), pp. 225-231. doi: 10.1016/j.geoderma.2011.06.014

Pelster, D.E., Larouche, F., Rochette, P., Chantigny, M.H., Allaire, S.E., and Angers, D.A. (2011). "Nitrogen fertilization but not soil tillage affects nitrous oxide emissions from a clay loam soil under a maize-soybean rotation.", *Soil & Tillage Research*, 115-116, pp. 16-26. doi: 10.1016/j.still.2011.06.001

MacDonald, J.D., Rochette, P., Chantigny, M.H., Angers, D.A., Royer, I., and Gasser, M.-O. (2011). "Ploughing a poorly drained grassland and reduced N<sub>2</sub>O emissions compared to chemical fallow.", *Soil & Tillage Research*, 111(2), pp. 123-132. doi: 10.1016/j.still.2010.09.005

Shafer, S.R., Walthall, C.L.L., Franzluebbers, A.J., Scholten, M., Clark, H., Reisinger, A., Yagi, K., Roel, A., Slattery, B., Campbell, I.D., McConkey, B.G., Angers, D.A., Soussana, J.-F., and Richard, G. (2011). "Emergence of the global research alliance on agricultural greenhouse gases.", *Carbon Management*, 2(3), pp. 209-214. doi: 10.4155/cmt.11.26

MacDonald, J.D., Chantigny, M.H., Angers, D.A., Rochette, P., Royer, I., and Gasser, M.-O. (2011). "Soil soluble carbon dynamics of manured and unmanured grasslands following chemical kill and ploughing.", *Geoderma*, 164(1-2), pp. 64-72. doi: 10.1016/j.geoderma.2011.05.011

Gagnon, B., Ziadi, N., Rochette, P., Chantigny, M.H., and Angers, D.A. (2011). "Fertilizer Source Influenced Nitrous Oxide Emissions from a Clay Soil under Corn.", *Soil Science Society of America Journal*, 75(2), pp. 595-604. doi: 10.2136/sssaj2010.0212

Viaud, V., Angers, D.A., Parnaudeau, V., Morvan, T., and Aubry, S.M. (2011). "Response of organic matter to reduced tillage and animal manure in a temperate loamy soil.", *Soil Use and Management*, 27(1), pp. 84-93. doi: 10.1111/j.1475-2743.2010.00314.x

Le Guillou, C., Angers, D.A., Leterme, P., and Menasseri-Aubry, S. (2011). "Differential and successive effects of residue quality and soil mineral N on water-stable aggregation during crop residue decomposition.", *Soil Biology & Biochemistry*, 43(9), pp. 1955-1960. doi: 10.1016/j.soilbio.2011.06.004



## Other Science Related Publications :

2015

Chantigny, M.H., Royer, I., Rochette, P., Angers, D.A., Massé, D.I., Benchaar, C., and others (2015). "Influence des stratégies alimentaires et d'entreposage des effluents d'élevage sur la disponibilité de l'azote et les émissions de protoxyde d'azote des sols de fermes laitières.", Journée d'information scientifique – Bovins laitiers et plantes fourragères, Centre de référence en agriculture et agroalimentaire du Québec, Drummondville, QC, Canada, 25 février 2015.

Royer, I., Cambouris, A.N., Claessens, A., Angers, D.A., Ziadi, N., and Perron, I. (2015). "Soil contaminated with trace metal for the production of bioenergy from biomass.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, McGill University, Montreal, QC, Canada, July 5-10, 2015. (Poster)

Vaillancourt, M., Vanasse, A., Chantigny, M.H., Pageau, D., and Angers, D.A. (2015). "Impact of cover crops and organic and mineral fertilization on canola yields and nitrogen uptake.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, McGill University, Montreal, QC, Canada, July 5-10, 2015.

Maillard, É., Chantigny, M.H., Angers, D.A., Lévesque, G., Lafond, G.P., Pageau, D., Bitman, S., and Hunt, D.W.A. (2015). "Réduire son empreinte carbone grâce aux lisiers.", *Le Producteur de Lait Québécois*, 36(1), pp. 45-48.

Chantigny, M.H., Angers, D.A., Rochette, P., and Goyer, C. (2015). "Nitrification occurs in frozen agricultural soils – consequences on fate and management of fall-applied and soil residual N under cold climate.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

2014

Chenu, C., Angers, D.A., and others (2014). "The potential of agricultural practices to increase C storage in cropped soils: an assessment for France.", European Geosciences Union (EGU) General Assembly 2009, Vienna, Austria, April 19-24, 2009.

Lafond, J., Angers, D.A., Pageau, D., and Lajeunesse, J. (2014). "Effets de la rotation, du travail du sol et de la source d'éléments nutritifs sur les rendements en plantes fourragères et céréales.", Congrès annuel de l'AQSSS à Victoriaville, Québec, Canada, du 26 au 29 mai 2014.

Angers, D.A., Claessens, A., Leclerc, M.-L., and Maillard, É. (2014). "Perennial herbaceous crops used for bioenergy: a review of their impact on soil organic carbon.", 20th World Congress of Soil Science, Jeju, South Korea, June 8-13, 2014.

Angers, D.A., McBratney, A.B., and Minasny, B. (2014). "Digging deeper: does it matter when assessing soil changes? Soil Change Matters.", International Symposium, Bendigo, Australia, March 2014.

Rochette, P., Chantigny, M.H., Ziadi, N., Angers, D.A., Bélanger, G., Charbonneau, É., Pellerin, D., Liang, C., and Bertrand, N. (2014). "Nitrous oxide emission factors for dairy cow excreta in eastern Canada.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, 30 juin-3 juillet, 2014.

Chenu, C., Angers, D.A., and others (2014). "The potential of agricultural practices to increase C storage in soils: an assessment for France.", 20th World Congress of Soil Science, Jeju, South Korea, June 8-13, 2014.

Chantigny, M.H., Rochette, P., Angers, D.A., Vanasse, A., and Goyer, C. (2014). "Significance and temporal dynamics of N<sub>2</sub>O emissions in snow-covered agricultural soils.", Canadian Soil Science Society – Canadian Geophysical Union Joint Annual Meetings – Advances in Geophysical and Soil Sciences, Banff, Alberta, Canada, May 4-8, 2014, Oral presentation.

Lamey, F.J., Li, L., Lupwayi, N.Z., Angers, D.A., Pearson, D.C., and Blackshaw, R.E. (2014). "Irrigated crop rotations: soil quality.", Irrigated Crop Production Update, Lethbridge, AB, Canada, January 21-22, 2014.

Chantigny, M.H. and Angers, D.A. (2014). "Organic amendments for agriculture: soil conditioner or fertilizer?", Canadian Soil Science Society – Canadian Geophysical Union Joint Annual Meetings – Advances in Geophysical and Soil Sciences, Banff, Alberta, Canada, May 4-8, 2014, Invited keynote speaker.

Angers, D.A. (2014). "Managing and understanding soil carbon sequestration - Keynote address.", Alberta Soil Science Workshop, Calgary, Alberta, Canada, February 2014. (Presentation)

Xu, Y., Parent, S.-É., Angers, D.A., and Parent, L.-É. (2014). "A synthesis of studies on the effect of tillage treatment on soil aggregation using compositional data analysis.", Conférence présentée au congrès annuel de l'Association Québécoise des Spécialistes en Science du Sol (AQSSS), Victoriaville, QC, Canada, 26-29 mai 2014.

Tremblay, G.F., Dion, Y., Rioux, S., Vanasse, A., and Angers, D.A. (2014). "Effets de quatre facteurs de régie sur la stabilité structurale des agrégats d'un sol argileux.", Conférence présentée au congrès annuel de l'Association Québécoise des Spécialistes en Science du Sol (AQSSS), Victoriaville, QC, Canada, 26-29 mai 2014.

Royer, I., Chantigny, M.H., Angers, D.A., Rochette, P., Massé, D.I., Bittman, S., and Benchaar, C. (2014). "Trace metals content of soils and plants from different dairy manure types based on feeding and manure storage strategies", Annual meeting of the Canadian Soil Science Society, Banff, Alberta, Canada, May 4-7, 2014.

Royer, I., Chantigny, M.H., Angers, D.A., Rochette, P., Massé, D.I., Bittman, S., and Benchaar, C. (2014). "La stratégie d'alimentation et de stockage du fumier de bovin laitier influence-t-elle le contenu en éléments traces métalliques des sols ?", Congrès annuel de l'AQSSS à Victoriaville, Québec, Canada, du 26 au 29 mai 2014.

Thivierge, M.-N., Vanasse, A., Chantigny, M.H., Angers, D.A., and Séguin, P. (2014). "Millet perlé sucré, sorgho sucré et maïs pour l'éthanol : ce que les racines ont à dire.", Conférence présentée du congrès annuel de l'Association Québécoise des Spécialistes en Science du Sol (AQSSS), Victoriaville, QC, Canada, 26-29 mai 2014.

Lamey, F.J., Li, L., Lupwayi, N.Z., Angers, D.A., Pearson, D.C., and Blackshaw, R.E. (2014). "Soil quality changes over 12 years of conservation management on irrigated crop rotations in southern Alberta.", Canadian Geophysical Union-Canadian Society of Soil Science (CGU/CSSS) Joint Annual Meeting, Banff, AB, Canada, May 4-8, 2014, Poster. (Abstract)

Lafond, J., Angers, D.A., Pageau, D., and Lajeunesse, J. (2014). "Impact de la rotation, du travail du sol et de la source d'éléments nutritifs sur les rendements en plantes fourragères et céréales.", Conférence présentée du congrès annuel de l'Association Québécoise des Spécialistes en Science du Sol (AQSSS), Victoriaville, QC, Canada, 26-29 mai 2014.

Chantigny, M.H., Lamey, F.J., Bittman, S., Lapen, D.R., Angers, D.A., Rochette, P., and Hunt, D.W.A. (2014). "Transformation and fate of fall-applied nitrogen as a function of winter conditions – a multi-site experiment.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014. (Poster)

## 2013

Li, L., Janzen, H.H., Lamey, F.J., and Angers, D.A. (2013). "Long-term recovery of soil organic matter and aggregate stability in an artificially eroded soil under various one-time amendments.", Joint Annual Meetings of the Canadian Society of Soil Science, Manitoba Soil Science Society, Canadian Society of Agricultural and Forest Meteorology, Winnipeg, MB, Canada, July 22-25, 2013. (Poster)

Li, L., Angers, D.A., and Lamey, F.J. (2013). "Effects of conservation management practices and rotations on soil organic matter fractions and aggregation of irrigated land in southern Alberta.", 50th Annual Alberta Soil Science Workshop, Lethbridge, AB, Canada, February 19-21, 2013. (Abstract)

Chantigny, M.H., Lamey, F.J., Angers, D.A., Bittman, S., Lapen, D.R., and Rochette, P. (2013). "Overwinter transformation and fate of fall-applied nitrogen in various Canadian ecozones.", Canadian Society of Soil Science-Manitoba Soil Science Soc.-Can. Soc. Agric. Forest Meteorology Joint Ann. Meeting, Winnipeg, MB, Canada, July 22-25, 2013, pp. 46. (Abstract)

Li, L., Janzen, H.H., Lamey, F.J., and Angers, D.A. (2013). "Long-term recovery of soil organic matter and aggregate stability in an artificially eroded soil under various one-time amendments.", Canadian Society of Soil Science-Manitoba Soil Science Soc.-Can. Soc. Agric. Forest Meteorology Joint Ann. Meeting, Winnipeg, MB, Canada, July 22-25, 2013, pp. 111. (Abstract)

Royer, I., Angers, D.A., Chantigny, M.H., and Rochette, P. (2013). "Contenu en éléments traces métalliques suite au travail du sol d'une vieille prairie fertilisée avec du lisier de porc.", Congrès annuel de l'AQSSS à Chicoutimi, Québec, Canada, du 28 au 30 mai 2013.

Royer, I., Angers, D.A., Chantigny, M.H., and Rochette, P. (2013). "Influence of Liquid Swine Manure Application on the Trace Metal Contents and links with dissolved organic carbon.", International conference on the biogeochemistry of trace elements (ICOBTE) meeting, Athens, Georgia, USA, June 16-20, 2013.

Forge, T.A., Neilsen, G.H., Neilsen, D., O'Gorman, D.T., Hogue, E.J., Angers, D.A., and Bissonnette, N. (2013). "Organic orchard soil management practices affect soil biology and organic matter", II International symposium of organic matter management and compost use in horticulture III Workshop of bioproducts for agriculture and III Workshop of Ibero-american network for biological fertilizers for agriculture, Santiago, Chile, pp. 31.

## 2012

Chantigny, M.H., Royer, I., Rochette, P., Angers, D.A., Massé, D.I., and Benchaar, C. (2012). "Manure storage strategies alter nutrient availability and greenhouse gas emissions following application to soils.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012.

Angers, D.A. (2012). "Animal manure application and soil C storage: a global meta-analysis.", 4th International Congress EUROSOIL: Soil Science for the Benefit of Mankind and Environment, Bari, Italy, July 2-6, 2012, S05.01b-3.

Chantigny, M.H., Pelster, D.E., Rochette, P., Angers, D.A., Royer, I., and Vanasse, A. (2012). "Significance of N losses through gaseous emissions and leaching in the non-growing season in snow-covered agricultural soils.", Congrès conjoint SCSS-AQSSS à Lac Beauport, Québec, Canada, du 3 au 8 juin 2012.

Royer, I., MacDonald, J.D., Angers, D.A., Chantigny, M.H., Rochette, P., and Gasser, M.-O. (2012). "Influence of Liquid Swine Manure Application on the Trace Metal Contents of an Old Grassland Soil.", Annual meeting of the Soils Science Society of America, Cincinnati, Ohio, USA, October 21-24, 2012.

2011

Musset, G., Chantigny, M.H., Royer, I., Angers, D.A., Vanasse, A., Menasseri-Aubrya, S., Morvan, T., Rochette, P., and MacDonald, J.D. (2011). "Étude lysimétrique de la lixiviation du phosphore selon le type de sol et de fertilisant.", Congrès annuel de l'AQSSS, Wendake, Québec, Canada, du 25 au 27 mai 2011.

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## Research Publications:

2015

Kumar, A., Kroetsch, T.G., Blondin, P., and Anzar, M. (2015). "Fertility-associated metabolites in bull seminal plasma and blood serum: <sup>1</sup>H nuclear magnetic resonance analysis.", *Molecular Reproduction and Development*, 82(2), pp. 123-131. doi : 10.1002/mrd.22450

2014

Ahmad, M., Ahmad, N.H.M., Riaz, A., and Anzar, M. (2014). "Sperm survival kinetics in different types of bull semen: progressive motility, plasma-membrane integrity, acrosomal status and reactive oxygen species generation.", *Reproduction, Fertility and Development*, 27(5), pp. 784-793. doi : 10.1071/RD13400

Anzar, M., Grochulski, P., and Bonnet, B. (2014). "Synchrotron x-ray diffraction to detect glass or ice formation in the vitrified bovine cumulus-oocyte complexes and morulae.", *PLoS ONE*, 9(12: e114801). doi : 10.1371/journal.pone.0114801

2013

Hussain, S.A., Lessard, C.J., and Anzar, M. (2013). "A strategy for improvement of postthaw quality of bison sperm.", *Theriogenology*, 79(1), pp. 108-115. doi : 10.1016/j.theriogenology.2012.09.015

2012

Prentice-Biensch, J.R., Singh, J., Mapletoft, R.J., and Anzar, M. (2012). "Vitrification of immature bovine cumulus-oocyte complexes: Effects of cryoprotectants, the vitrification procedure and warming time on cleavage and embryo development.", *Reproductive Biology and Endocrinology*, 10(73). doi : 10.1186/1477-7827-10-73

Prentice-Biensch, J.R., Singh, J., Alfoteisy, B., Anzar, M. (2012). "A simple and high-throughput method to assess maturation status of bovine oocytes: Comparison of anti-lamin A/C-DAPI with an aceto-orcein staining technique.", *Theriogenology*, 78(7), pp. 1633-1638. doi : 10.1016/j.theriogenology.2012.07.013

2011

Prentice, J.R. and Anzar, M. (2011). "Cryopreservation of Mammalian oocyte for conservation of animal genetics.", *Veterinary Medicine International*, 2011 (Article ID 146405). doi : 10.4061/2011/146405

Anzar, M., Kroetsch, T.G., and Boswall, A.L. (2011). "Cryopreservation of bull semen shipped overnight and its effect on post-thaw sperm motility, plasma membrane integrity, mitochondrial membrane potential and normal acrosomes.", *Animal Reproduction Science*, 126(1-2), pp. 23-31. doi : 10.1016/j.anireprosci.2011.04.018

Lagunov, A., Anzar, M., Sadeu, J.C., Khan, M.I.R., Bruin, J.E., Woynillowicz, A.K., Buhr, M.M., Holloway, A.C., and Foster, W.G. (2011). "Effect of in utero and lactational nicotine exposure on the male reproductive tract in peripubertal and adult rats.", *Reproductive Toxicology*, 31(4), pp. 418-423. doi : 10.1016/j.reprotox.2010.12.004

Prentice, J.R., Singh, J., Dochi, O., and Anzar, M. (2011). "Factors affecting nuclear maturation, cleavage and embryo development of vitrified bovine cumulus-oocyte complexes.", *Theriogenology*, 75(4), pp. 602-609. doi : 10.1016/j.theriogenology.2010.09.027

Hussain, S.A., Lessard, C.J., and Anzar, M. (2011). "Quantification of damage at different stages of cryopreservation of endangered North American bison (*Bison bison*) semen and the effects of extender and freeze rate on post-thaw sperm quality.", *Animal Reproduction Science*, 129(3-4), pp. 171-179. doi : 10.1016/j.anireprosci.2011.12.002

## Other Science Related Publications:

2014

Cervantes, M.P., Anzar, M., Mapletoft, R.J., Palomino, J.M., and Adams, G.P. (2014). "In vivo and in vitro maturation of wood bison (*bison bison athabascae*) cumulus-oocyte complexes during the ovulatory season.", 40th Annual Conference of International Embryo Transfer Society, Hannover, Germany, January 19-22, 2014.

Beck, K.L., Singh, J., and Anzar, M. (2014). "The avian chorio-allantoic membrane: a suitable short-term culture system for bovine ovarian tissue.", *Reproduction, Fertility and Development*, 27(1), pp. 116-117. doi: 10.1071/RDv27n1Ab47 (Abstract)

Ahmad, M., Ahmad, N.H.M., and Anzar, M. (2014). "Bovine sperm death kinetics: temporal changes in production of reactive oxygen species and plasma membrane injury of dairy and beef frozen-thawed semen.", *Reproduction, Fertility and Development*, 27(1), pp. 118. (Abstract)

Cervantes, M.P., Palomino, J.M., Anzar, M., Mapletoft, R.J., Mastromonaco, G., and Adams, G.P. (2014). "In vitro embryo production using in vivo-matured oocytes collected transvaginally from wood bison (*Bison bison athabasca*).", *Reproduction, Fertility and Development*, 27(1), pp. 213-214. (Abstract)

## 2013

Palomino, J.M., Mapletoft, R.J., Anzar, M., Woodbury, M.R., Cervantes, M.P., and Adams, G.P. (2013). "Does progesterone or equine chorionic gonadotropin improve the superovulatory response and embryo quality in wood bison during the anovulatory season?", 39th Annual Conference of International Embryo Transfer Society, Hannover, Germany, January 19-22, 2013.

Cervantes, M.P., Anzar, M., Mapletoft, R.J., Palomino, J.M., and Adams, G.P. (2013). "Nuclear maturation of wood bison (*Bison bison athabasca*) cumulus-oocyte complexes.", 39th Annual Conference of International Embryo Transfer Society, Hannover, Germany, January 19-22, 2013.

Ahmed, M., Ahmad, N.H.M., Riaz, A., and Anzar, M. (2013). "Bovine sperm death kinetics: Changes in motility, acrosomes and plasma membrane.", 39th Annual Conference of International Embryo Transfer Society, Hannover, Germany, January 19-22, 2013.

## 2012

Alfoteisy, B., Singh, J., Lessard, C.J., and Anzar, M. (2012). "Vitrification of immature bovine-cumulus-oocyte-complexes using natural honey as a non-permeant cryoprotectant.", 17th International Congress on Animal Reproduction, Vancouver, BC, Canada, July 29 - August 02, 2012.

Prentice, J.R., Singh, J., and Anzar, M. (2012). "The effect of meiotic stage of bovine oocytes on the survival of vitrified cumulus-oocyte complexes.", 38th Annual Conference of International Embryo Transfer Society, Phoenix, AZ, USA, January 7-10, 2012.

Palomino, J.M., McCorkell, R.B., Anzar, M., Woodbury, M.R., Hawkins, N., Prentice, J.R., Toosi, B.M., and Adams, G.P. (2012). "Superovulation and embryo collection in wood bison during the anovulatory season.", 38th Annual Conference of International Embryo Transfer Society, Phoenix, AZ, USA, January 7-10, 2012.

Anzar, M. (2012). "Cryopreservation of mammalian semen using protein-free extender (Invention disclosure)."

## 2011

Hussain, S.A., Lessard, C.J., and Anzar, M. (2011). "Cryopreservation of bison semen.", 36th Annual Conference of the American Society of Andrology Annual Meeting, Hyatt Regency Montréal, Montréal, QC, Canada, April 2-5, 2011.

Gratton, G., Manjunath, P., Anzar, M., and Lessard, C.J. (2011). "Identifying seminal plasma proteins that interfere with bison sperm membrane integrity.", WDA annual meeting, Québec City, QC, Canada, 2011.

Prentice, J.R., Singh, J., Mapletoft, R.J., and Anzar, M. (2011). "Effect of cryoprotectant exposure, vitrification and warming time of bovine cumulus-oocyte complexes on in vitro fertilization and embryonic development.", 37th Annual Conference of the International Embryo Transfer Society, Orlando, FL, USA, January 8-12, 2011.

Hussain, S.A., Lessard, C.J., and Anzar, M. (2011). "Cryopreservation of bison semen.", 36th Annual Meeting of American Society of Andrology, Montreal, Quebec, Canada, April 2-5, 2011.

Gratton, G., Toosi, B.M., Anzar, M., McCorkell, R.B., and Lessard, C.J. (2011). "Effects of a long-acting tranquilizer on sperm motility of North American bison bulls.", 37th Annual Conference of the International Embryo Transfer Society, Orlando, FL, USA, January 8-12, 2011.

# Arcand, Yves, Ph.D.

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## Research Publications:

2015

Champagne, C.P., Raymond, Y., Guertin, N., Martoni, C.J., Jones, M.L., Mainville, I., and Arcand, Y. (2015). "Impact of a yogurt matrix and cell microencapsulation on the survival of *Lactobacillus reuteri* in three in vitro gastric digestion procedures.", *Beneficial Microbes*, 6(5), pp. 753-763. doi: 10.3920/BM2014.0162

2013

Vergé, X.P.C., Maxime, D., Dyer, J.A., Desjardins, R.L., Arcand, Y., and VanderZaag, A.C. (2013). "Carbon footprint of Canadian dairy products: Calculations and issues.", *Journal of Dairy Science (JDS)*, 96(9), pp. 6091-6104. doi: 10.3168/jds.2013-6563

Lai, Y.P., Mondor, M., Moresoli, C., Drolet, H., Gros-Louis, M., Ippersiel, D., Lamarche, F., and Arcand, Y. (2013). "Production of soy protein isolates with low phytic acid content by membrane technologies: Impact of the extraction and ultrafiltration/diafiltration conditions.", *Journal of Food Engineering*, 114(2), pp. 221-227. doi: 10.1016/j.foodeng.2012.08.012

Villeneuve, S., Des Marchais, L.-P., Gauvreau, V., Mercier, S., Do, C.B., and Arcand, Y. (2013). "Effect of flaxseed processing on engineering properties and fatty acids profiles of pasta.", *Food and Bioprocess Processing: Transactions of the Institution of Chemical Engineers, Part C*, 91(3), pp. 183-191. doi: 10.1016/j.fbp.2012.09.002

2012

Boye, J.I. and Arcand, Y. (2012). "Current Trends in Green Technologies in Food Production and Processing.", *Food Engineering Reviews*, 5(1), pp. 1-17. doi: 10.1007/s12393-012-9062-z

2011

Tompkins, T.A., Mainville, I., and Arcand, Y. (2011). "The Impact of Meal on a Probiotic During Transit Through a Model of the Human Upper Gastro-Intestinal Tract.", *Beneficial Microbes*, 4(2), pp. 295-303. doi: 10.3920/BM2011.0022

Russin, T.A., Boye, J.I., Arcand, Y., and Rajamohamed, S.H. (2011). "Alternative Techniques for Defatting Soy: A Practical Review.", *Food and Bioprocess Technology*, 4(2), pp. 200-223. doi: 10.1007/s11947-010-0367-8

## Other Science Related Publications:

2014

L'Hocine, L., Pitre, M., Bernard, H., and Arcand, Y. (2014). "Impact of Food Processing and Food Matrix Composition on Peanut Allergens Digestibility and Allergenicity by a Dynamic in Vitro Digestion System.", 17th IUFOST World Congress of Food Science and Technology, Montreal, QC, Canada, August 17-22, 2014, Oral presentation.

VanderZaag, A.C., Desjardins, R.L., Arcand, Y., Vergé, X.P.C., Maxime, D., and Worth, D.E. (2014). "Carbon footprint of dairy and meat production in Canada.", IUFOST 2014 World Congress, Montreal, QC, Canada, August 17-21, 2014, Invited presentation.

2012

Power, K.A., Villeneuve, S., Mondor, M., Fustier, P., Arcand, Y., Lamarche, F., Britten, M., Cui, S.W., Tsao, R., Fofana, B., and Wanasundara, J.P.D. (2012). "Recent progress on the incorporation of flaxseed into cereal based matrices: delivery of bioactives to target sites and a comprehensive assessment of their biological effects.", 64th Flax Institute of the United States, Doublewood Inn, Fargo, ND, USA, March 29-30, 2012. (Presentation)

Arcand, Y., Maxime, D., and Zareifard, M.R. (2012). "Life cycle assessment of processed food.", in Boye, J.I. and Arcand, Y. (eds.) - *Green Technologies in Food Production and Processing (Food Engineering Series)*, Springer, Chapter 6, pp. 115-148.

Boye, J.I., Maltais, A., Bittner, S., and Arcand, Y. (2012). "Greening of research and development.", in Boye, J.I. and Arcand, Y. (eds.) - Green Technologies in Food Production and Processing (Food Engineering Series), Springer, Chapter 19, pp. 519-540.

Boye, J.I. and Arcand, Y. (Eds.) (2012). Green Technologies in Food Production and Processing (Food Engineering Series), Springer. (Book)

Boye, J.I. and Arcand, Y. (2012). "Preface.", in Boye, J.I. and Arcand, Y. (eds.) - Green Technologies in Food Production and Processing (Food Engineering Series), Springer, pp. vii-ix.

Do, C.B., Labranche, J., DesMarchais, L.-P., Arcand, Y., and Villeneuve, S. (2012). "Effect of processing, cooking and mastication on in vitro digestibility of pasta.", 11th Conference of Food Engineering (CoFE 2012), National Conference Center, Leesburg, VA, USA, April 2-4, 2012. (Presentation)

Desjardins, R.L., Arcand, Y., and Worth, D.E. (2012). "Carbon footprint of Canadian dairy products: National and regional assessments.", The 8th International Conference on LCA in the Agri-Food Sector, Saint-Malo, France, October 1-4, 2012.

Des Marchais, L.-P., Do, C.B., Arcand, Y., and Villeneuve, S. (2012). "Effect of flaxseed processing on fatty acids profile of pasta after drying, cooking and in vitro digestion.", 11th Conference of Food Engineering (CoFE 2012), National Conference Center, Leesburg, VA, USA, April 2-4, 2012. (Poster)

## 2011

Do, C.B., Labranche, J., DesMarchais, L.-P., Arcand, Y., and Villeneuve, J. (2011). "Effect of processing, cooking and mastication on in vitro digestibility of pasta.", Plant Bioactives Research in Canada. Canada-United Kingdom Gut and Health Workshop, AAFC-FRDC / AAC-CRDA, Saint-Hyacinthe, QC, Canada, February 24-25, 2011. (Poster)

Campbell, G., Arcand, Y., and Mainville, I. (2011). "Development of a Tissue Mimicking Stomach Construct for in vitro Digestive System.", Plant Bioactives Research in Canada. Canada-United Kingdom Gut and Health Workshop, AAFC-FRDC / AAC-CRDA, Saint-Hyacinthe, QC, Canada, February 24-25, 2011. (Poster)

Champagne, C.P., Raymond, Y., Mainville, I., Arcand, Y., Do, C.B., and Bélanger, G. (2011). "The effect of encapsulation technologies on the stability of Lactobacillus rhamnosus in ice cream during storage and in a simulated gastro-enteric environment.", Plant Bioactives Research in Canada. Canada-United Kingdom Gut and Health Workshop, AAFC-FRDC / AAC-CRDA, Saint-Hyacinthe, QC, Canada, February 24-25, 2011. (Poster)

Arcand, Y. (2011). "Development of the IViDiS: Another human in vitro digestion system.", Plant Bioactives Research in Canada. Canada-United Kingdom Gut and Health Workshop, AAFC-FRDC / AAC-CRDA, Saint-Hyacinthe, QC, Canada, February 24-25, 2011.

Villeneuve, S., Mondor, M., and Arcand, Y. (2011). "An Engineering approach for the incorporation and delivery of bioactive compounds through food matrices.", Plant Bioactives Research in Canada. Canada-United Kingdom Gut and Health Workshop, AAFC-FRDC / AAC-CRDA, Saint-Hyacinthe, QC, Canada, February 24-25, 2011.

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## Research Publications:

2015

Narvaez-Bravo, C., Echeverry, A., Miller, M.F., Rodas-Gonzalez, A., Brashears, M.T., Aslam, M., and Brashears, M.M. (2015). "Virulence characterization and molecular subtyping of typical and atypical escherichia coli O157:H7 and O157:H(2) isolated from fecal samples and beef carcasses in Mexico.", *Journal of Food Protection*, 78(2), pp. 264-272. doi: 10.4315/0362-028X.JFP-14-348

2014

Aslam, M., Mehdi, T., Bravo, C.N., Lai, V., Rempel, H., Manges, A., and Diarra, M.S. (2014). "Characterization of Extraintestinal Pathogenic Escherichia coli Isolated from Retail Poultry Meats from Alberta, Canada", *International Journal of Food Microbiology*, 177, pp. 49-56. doi: 10.1016/j.ijfoodmicro.2014.02.006

2012

Aslam, M., Diarra, M.S., and Masson, L. (2012). "Characterization of antimicrobial resistance and virulence genotypes of Enterococcus faecalis recovered from a pork processing plant.", *Journal of Food Protection*, 75(8), pp. 1486-1491. doi: 10.4315/0362-028X.JFP-11-524

Sheikh, A.A., Checkley, S.L., Avery, B., Chalmers, G., Bohaychuk, V.M., Boerlin, P., Reid-Smith, R., and Aslam, M. (2012). "Antimicrobial Resistance and Resistance Genes in Escherichia coli Isolated from Retail Meat Purchased in Alberta, Canada.", *Foodborne Pathogens and Disease*, 9(7), pp. 625-631. doi: 10.1089/fpd.2011.1078

Aslam, M., Checkley, S.L., Avery, B., Chalmers, G., Bohaychuk, V.M., Gensler, G., Reid-Smith, R., and Boerlin, P. (2012). "Phenotypic and genetic characterization of antimicrobial resistance in Salmonella serovars isolated from retail meats in Alberta, Canada.", *Food Microbiology*, 32(1), pp. 110-117. doi: 10.1016/j.fm.2012.04.017

Aslam, M., Diarra, M.S., Checkley, S.L., Bohaychuk, V.M., and Masson, L. (2012). "Characterization of antimicrobial resistance and virulence genes in Enterococcus spp. Isolated from retail meats in Alberta, Canada.", *International Journal of Food Microbiology*, 156(3), pp. 222-230. doi: 10.1016/j.ijfoodmicro.2012.03.026

## Other Science Related Publications:

2014

Aslam, M., Mehdi, T., Narvaez-Bravo, C., and Taboada, E.N. (2014). "Phenotypic and Molecular Characterization of Antimicrobial Resistance in Campylobacter Isolated from Retail meats Purchased in Alberta, Canada.", 8th Dubai International Food Safety Conference, November 17-19, 2014. (Poster)

2013

Mehdi, T., Narvaez-Bravo, C., Weese, J.S., Deckert, A., Smith, R.R., Diarra, M.S., and Aslam, M. (2013). "Prevalence and Characterization of Methicillin-Resistant Staphylococcus aureus Isolated from Commercial Pork Processing Plants in Alberta, Canada.", Annual meeting of International Association for Food Protection, Charlotte, North Carolina, USA, July 28 -31, 2013. (Poster)

Aslam, M., Weese, J.S., Diarra, M.S., Reid-Smith, R., and Deckert, A. (2013). Prevalence and characterization of methicillin-resistant Staphylococcus aureus isolated from commercial pork processing plant. Final report to ALMA on project 2010F018R. (Report)

2012

Aslam, M., Diarra, M.S., and Masson, L. (2012). "Characterization of antimicrobial resistance and virulence genes in Enterococcus faecalis isolated from a pork processing plant.", 101st Annual Meeting of the International Association of Food Protection (IAFP 2012), Rhode Island Convention Center, Providence, RI, USA, July 22-25, 2012, (Poster ID# 2317. (Poster)



Diarra, M.S., Lai, V., Rempel, H., Bravo, C.A.N., Aslam, M., and Manges, A.R. (2012). "Characterization of extraintestinal pathogenic *Escherichia coli* isolated from retail poultry meats in Alberta Canada.", 101st Annual Meeting of the International Association of Food Protection (IAFP 2012), Rhode Island Convention Center, Providence, RI, USA, July 22-25, 2012, Poster ID# 2291. (Poster)

2011

Diarra, M.S., Lai, V., Heidi, R., Service, C., Aslam, M., and Manges, A.R. (2011). "Detection of virulence genes in *Escherichia coli* isolated from retail poultry meats.", Canadian Meat Science Association 60th Annual Meeting / Canadian Meat Council Technical Symposium 91st Annual Conference, Halifax, NS, Canada, May 4-7, 2011.

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## Other Science Related Publications:

2014

Boyetchko, S.M. and Audy, P. (2014). "AAFC Scientists developing biocontrol agents in the war against late blight.", *Ecozone Express: Prairie/Boreal Plain Ecozone*, 3(6).

Boyetchko, S.M., Audy, P., Choo, H.S., Desgagnés, R., Sawchyn, K., and Conn, K.L. (2014). "Bacterial antagonists as a biological solution for control of potato late blight disease.", *APS-CPS Joint Meeting, Hilton Minneapolis, Minneapolis, MN, USA, August 9-13, 2014, Phytopathology 104 (11S) 17-18.*

Audy, P., Castonguay, Y., Claessens, A., and Desgagnés, R. (2014). "SRAP polymorphisms associated with Phytophthora Root Rot (PRR) tolerance in alfalfa.", *North American Alfalfa Improvement Conference, Lethbridge, AB, Canada, July 8-10, 2014, Invited speaker.*

Audy, P., Desgagnés, R., Claessens, A., and Castonguay, Y. (2014). "Nouvelle approche de sélection assistée par marqueurs dans le développement d'une luzerne plus résistante aux maladies.", *Demi-journée d'information scientifique sur les fourrages 2012, Victoriaville, QC, Canada, February 12, 2014, Presentation, pp. 23-35.*

Boyetchko, S.M., Audy, P., Sawchyn, K., Desgagnés, R., Zhou, T., and Dumonceaux, T.J. (2014). "Application of bacterial strains as microbial biopesticides for control of potato late blight disease (AAFC Inventions Disclosure, 8 pages)."

Audy, P. (2014). "Miliou de la pomme de terre; exploration de solutions biologiques pour une maladie mondiale.", *séminaire du CRDSGC, Centre de recherche et de développement sur les sols et les grandes cultures, Québec, QC, Canada, April 10, 2014, Presentation.*

Boyetchko, S.M., Audy, P., Foran, N., Desgagnés, R., Sawchyn, K., Choo, H.S., Gravel, V., and Conn, K.L. (2014). "The Search for Bacterial Antagonists to Control Potato Late Blight Disease.", *Joint Saskatchewan-Alberta Plant Pathology Conference, Saskatoon, SK, Canada, December 2-4, 2014.*

Audy, P., Castonguay, Y., Claessens, A., and Desgagnés, R. (2014). "SRAP polymorphisms associated with Phytophthora Root Rot (PRR) tolerance in alfalfa.", *Joint Conference of NAAIC, Trifolium, & Grass Breeders, Lethbridge, Alberta, Canada, July 8-10, 2014.*

2013

Castonguay, Y., Claessens, A., Bertrand, A., and Audy, P. (2013). "Reaping the benefits of new breeding technologies to improve forage yield and quality.", *Annual meeting of the "Canadian Forage Grassland Association", Old, Alberta, Canada, December 9-11, 2013, Oral presentation.*

Audy, P., Boyetchko, S.M., Desgagnés, R., and Sawchyn, K. (2013). "Assessment of promising soil bacteria for biological control of Phytophthora infestans causing storage decay in potato.", *Potato Association of America Annual Meeting, Quebec City, QC, Canada, July 28-August 1, 2013, J. Am. J. Potato Res, 91:34-35.*

Tremblay, G.F., Berthiaume, R.R., Bélanger, G., Audy, P., Lafrenière, C., Charbonneau, É., and Allard, G.C. (2013). *Sélection des fourrages sur la base de la valeur alimentaire et de l'ensilabilité pour mieux les valoriser en production laitière. Rapport final de projet de recherche, 2012-2013, Direction générale de la science et de la technologie d'AAC, Programme d'innovation en agriculture (PIA), Rapport final, Projet de recherche #, 26 pages. (Report)*

2012

Audy, P., Castonguay, Y., Claessens, A., and Desgagnés, R. (2012). "SRAP polymorphisms associated with Phytophthora Root Rot (PRR) resistance within two alfalfa genetic backgrounds.", *22nd Trifolium Conference & 41st Grass Breeders Conference, Ithaca, New York, USA, July 10-12, 2012. (Poster)*

Pouleur, S., Audy, P., Gilbert, G., and Laberge, S. (2012). "Première mention du Polymyxa graminis chez le maïs au Canada.", *Congrès annuel de la Société de Protection des Plantes du Québec (SPPQ), Québec, QC, Canada, du 5 au 6 juin 2013.*

Boyetchko, S.M., Zhou, T., Audy, P., and Svircev, A.M. (2012). "Evaluation of promising bacterial strains for biological control of post-harvest and storage decay pathogens on fruits and vegetables.", *4th Joint Saskatchewan-Alberta Plant Pathology Conference: Mapping and cloning of clubroot resistance genes in Brassica species, Lloydminster, SK, Canada, November 5-7, 2012.*

Audy, P. (2012). "Mildiou et pomme de terre bio: de la bouillie bordelaise aux alternatives. Symposium: Spores, toxines et allergènes de espèces nuisibles – les risques pour la santé humaine.", Congrès annuel de la Société de Protection des Plantes du Québec (SPPQ), Québec, QC, Canada, du 5 au 6 juin 2013.

Boyetchko, S.M., Zhou, T., Audy, P., and Svircev, A.M. (2012). "Evaluation of promising bacterial strains for biological control of post-harvest and storage decay pathogens on fruits and vegetables.", 4th Joint Saskatchewan-Alberta Plant Pathology Conference, Lloydminster, SK, Canada, November 5-7, 2012.

Boyetchko, S.M., Zhou, T., Audy, P., and Svircev, A.M. (2012). "Assessment of bacterial strains for biological control of pathogens causing post-harvest and storage decay of fruits and vegetables.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Can. J. Plant Pathol. 35(1):103-104.

Berthiaume, R.R., Tremblay, G.F., Bélanger, G., Audy, P., Lafrenière, C., Charbonneau, É., and Allard, G. (2012). "Des variétés de fourrages performantes aux champs et à l'étable, est-ce possible?", Réunion annuelle des représentants Semican - Lallemand 2012, Victoriaville, QC, Canada, July 17, 2012.

## 2011

Tremblay, G.F., Berthiaume, R.R., Bélanger, G., Audy, P., Lafrenière, C., Charbonneau, É., and Allard, G. (2011). "Valeur alimentaire des ensilages fabriqués à partir de fourrages plus sucrés.", Réunion annuelle des représentants Semican - Lallemand 2011, Victoriaville, QC, Canada, June 15, 2011.

Audy, P., Boyetchko, S.M., Le Floch-Fouère, C., and Sawchyn, K. (2011). "Assessment of bacterial antagonists for control of *Phytophthora infestans* causing postharvest storage disease of potato.", 4th International Biofumigation & Biopesticides Symposium, Sheraton Cavalier Hotel, Saskatoon, SK, Canada, October 18-21, 2011. (Poster)

Audy, P., Boyetchko, S.M., Le Floch-Fouère, C., and Sawchyn, K. (2011). "In vitro antagonistic effects of bacteria on potato late blight causing agent *Phytophthora infestans*.", Canadian Phytopathological Society (CPS) 82nd Annual Meeting (with Plant Canada 2011), Halifax, NS, Canada, July 17-21, 2011, Can. J. Plant Pathol. 34(2): 323-324. (Poster)

Audy, P., Boyetchko, S.M., Le Floch-Fouère, C., and Sawchyn, K. (2011). "Effets antagonistes in vitro de microorganismes bactériens de la rhizosphère envers *Phytophthora infestans*, l'agent de la brûlure tardive de la pomme de terre.", Réunion annuelle conjointe Société de Protection des Plantes du Québec (SPPQ-SEQ), Montmagny, QC, Canada, June 14-15, 2011, Phytprotection 92:44.

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## Research Publications:

2015

Elhiti, M., Wang, H.Y., Austin, R.S., Chen, B., Brown, D.C.W., and Wang, A.M. (2015). "Generation of chemically induced mutations using in vitro propagated shoot tip tissues for genetic improvement of fruit trees.", *Plant Cell, Tissue and Organ Culture: Journal of Plant Biotechnology*. doi: 10.1007/s11240-015-0894-0

2014

Na, R., Yu, D., Chapman, B. P., Zhang, Y., Kufu, K., Austin, R.S., Qutob, D., Zhao, J., Wang, Y., and Gijzen, M. (2014). "Genome Re-Sequencing and Functional Analysis Places the *Phytophthora sojae* Avirulence Genes *Avr1c* and *Avr1a* in a Tandem Repeat at a Single Locus.", *PLoS ONE*, 9(2): Article e89738. doi: 10.1371/journal.pone.0089738

Zou, X., Shi, C., Austin, R.S., Merico, D., Munholland, S., Marsolais, F., Navabi, A., Crosby, W.L., Pauls, K.P., Yu, K., and Cui, Y. (2014). "Genome-wide single nucleotide polymorphism and Insertion-Deletion discovery through next-generation sequencing of reduced representation libraries in common bean.", *Molecular Breeding*, 33(4), pp. 769-778. doi: 10.1007/s11032-013-9997-7

Austin, R.S., Chatfield, S.P., Desveaux, D., and Guttman, D.S. (2014). "Next-generation mapping of genetic mutations using bulk population sequencing.", *Methods in Molecular Biology (Clifton, N.J.)*, 1062, pp. 301-315. doi: 10.1007/978-1-62703-580-4\_17

2013

Austin, R.S., Wu, D., Zhou, S., and Brown, D.C.W. (2013). "The root transcriptome for North American ginseng assembled and profiled across seasonal development.", *BMC Genomics*, 14(1): Article number 564, pp. 1-14. doi: 10.1186/1471-2164-14-564

2012

Liao, D., Pajak, A., Karcz, S.R., Chapman, B. P., Austin, R.S., Sharpe, A.G., Datla, R.S.S., Dhaubhadel, S., and Marsolais, F. (2012). "Transcripts of sulfur metabolic genes are coordinately regulated in developing seeds of common bean lacking phaseolin and major lectins.", *Journal of Experimental Botany*, 63(17), pp. 6283-6295. doi: 10.1093/jxb/ers280

Schreiber, K.J., Austin, R.S., Gong, Y., Zhang, J., Fung, P., Wang, P.W., Guttman, D.S., and Desveaux, D. (2012). "Forward chemical genetic screens in *Arabidopsis* identify genes that influence sensitivity to the phytotoxic compound sulfamethoxazole.", *BMC Plant Biology*, 12:226. doi: 10.1186/1471-2229-12-226

2011

Winter, C.M., Austin, R.S., Blanvillain-Baufumé, S., Reback, M.A., Monniaux, M., Wu, M.F., Sang, Y., Yamaguchi, A., Yamaguchi, N., Parker, J.E., Parcy, F., Jensen, S.T., Li, H., and Wagner, D. (2011). "LEAFY target genes reveal floral regulatory logic, cis motifs, and a link to biotic stimulus response.", *Developmental Cell*, 20(4), pp. 430-443. doi: 10.1016/j.devcel.2011.03.019

Austin, R.S., Vidaurre, D., Stamatiou, G., Breit, R., Provar, N.J., Bonetta, D., Zhang, J., Fung, P., Gong, Y., Wang, P.W., McCourt, P., and Guttman, D.S. (2011). "Next-generation mapping of *Arabidopsis* genes.", *Plant Journal*, 67(4), pp. 715-725. doi: 10.1111/j.1365-3113.2011.04619.x

## Other Science Related Publications:

2015

Bett, K.E., Stonehouse, R.G., Miklas, P.N., Dhaubhadel, S., Austin, R.S., and Marsolais, F. (2015). "Is the slow-darkening gene another allele at P?", *Bean Improvement Cooperatives 2015*, Niagara Falls, ON, Canada, November 1-4, 2015. (Abstract)

## 2014

Kambhampati, S., Pandurangan, S., Pajak, A., Austin, R.S., and Marsolais, F. (2014). "Transcriptional responses to exogenous asparagine in Arabidopsis roots.", Eastern Regional Meeting of the Canadian Society of Plant Biologists, Guelph, ON, Canada, November 28-29, 2014. (Poster)

Zou, X., Shi, C., Austin, R.S., Merico, D., Munholland, S., Marsolais, F., Navabi, A., Crosby, W.L., Pauls, K.P., Yu, K., and Cui, Y. (2014). "Genome-wide SNP and InDel discovery and transcriptional profiling of CBB resistance in common bean.", 6th International Food Legumes Research Conference (IFLRC VI) and 7th International Conference on Legume Genetics and Genomics (ICLGG VII), Saskatoon, SK, Canada, July 14-17, 2014, Presentation. (Poster)

Dhaubhadel, S., Austin, R.S., Marsolais, F., Mainali, H.R., P-Behnam, S., Pajak, A., and Chen, L. (2014). "Seed coat RNAseq analysis of two Pinto bean cultivars that differ in post-harvest seed coat darkening.", Joint conference of the 6th International Food Legumes Research Conference (IFLRC VI) and 7th International Conference on Legume Genetics and Genomics (ICLGG VII), Saskatoon, SK, Canada, July 6-11, 2014.

Bergin, F., Leckie, K., Croft, M., and Austin, R.S. (2014). "Cell-type specific chromatin dynamics in the Arabidopsis Root.", 25th International Conference on Arabidopsis Research, Vancouver, BC, Canada, July 28-August 1, 2014, #296. (Poster)

Austin, R.S. (2014). "Applications of NGS to crop research and development.", Canadian NGS Symposium, Toronto ON, Canada, September 25, 2014. (Presentation)

## 2013

Elhiti, M., Wang, H., Chen, B., Xu, A., Austin, R.S., Brown, R., and Wang, A.M. (2013). "Towards generation of peach (*Prunus persica* L. Batsch) mutants resistant to Plum pox virus (PPV).", 2013 CSPB/SCBV Annual General Meeting, Quebec City, Canada, June 25-28, 2013.

Austin, R.S. (2013). "Exploring cell-type specific chromatin accessibility dynamics in the Arabidopsis root.", 9th Canadian Plant Genomics Workshop, Halifax, NS, Canada, August 12-15, 2013, Presentation.

## 2012

Pandurangan, S., Pajak, A., Marsolais, F., and Austin, R.S. (2012). "Transcriptional responses to exogenous asparagine in Arabidopsis roots.", *Pharmaceutical Biology*, 50, pp. 1341. (Abstract)

Zou, X., Shi, C., Austin, R.S., Navabi, A., Yu, K., and Cui, Y. (2012). "Genome Wide SNP discovery and transcriptional profiling of CBB resistance in common bean.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Poster)

Pandurangan, S., Pajak, A., Austin, R.S., and Marsolais, F. (2012). "Transcriptional responses to exogenous asparagine in Arabidopsis roots.", 51st Phytochemical Society of North America (PSNA) Annual Meeting, University of Western Ontario, London, ON, Canada, August 11-15, 2012.

Wu, D., Austin, R.S., Zhou, S., and Brown, D.C.W. (2012). "De novo assembly of the North American Ginseng root transcriptome and analysis of expression during development.", International Conference on Cultivating Natural Bioactives for Health & Disease, London Convention Centre, London, ON, Canada, July 9-11, 2012.

Na, R., Yu, D., Chapman, A.D., Austin, R.S., Zhao, J., and Gijzen, M. (2012). "Mapping of the *Phytophthora sojae* avirulence gene *Avr1c-a* - a combined strategy of bulk segregant analysis and next generation sequencing.", Canadian Phytopathological Society (CPS) South Western Ontario Regional 2012 Meeting, Southern Crop Protection and Food Research Centre, AAFC, London, ON, Canada, November 3, 2012, Published in: *Canadian Journal of Plant Pathology* (2013), 35(1), 97 (Abstract).

## 2011

Lo, T., Chatfield, S.P., Austin, R.S., Lewis, J., Breit, R., Santos-Severino, A., Provar, N.J., Fung, P., Wang, P.W., Guttman, D.S., and Desveaux, D. (2011). "Next-generation mapping of disease resistance genes in Arabidopsis: Exploiting natural variation.", Canadian Society of Plant Physiologists Eastern Regional Meeting & Plant Development Workshop / Congrès de la Société Canadienne de Physiologie Végétale & Congrès de Développement Végétale (Congrès Régional de l'Est), Carleton University, Ottawa, ON, Canada, December 2-3, 2011, SC-5, pp. 22.

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## Research Publications:

2015

Aboagye, I.A., Lynch, J.P., Church, J.S., Baah, J., and Beauchemin, K.A. (2015). "Digestibility and growth performance of shee ped alfalfa hay treated with fibrolytic enzymes and a ferulic acid esterase producing bacterial additive.", *Animal Feed Science and Technology*, 203, pp. 53-66. doi : 10.1016/j.anifeedsci.2015.02.010

Jin, L., Duniere, L., Lynch, J.P., McAllister, T.A., Baah, J., and Wang, Y. (2015). "Impact of ferulic acid esterase producing lactobacilli and fibrolytic enzymes on conservation characteristics, aerobic stability and fiber degradability of barley silage.", *Animal Feed Science and Technology*, 207, pp. 62-74. doi : 10.1016/j.anifeedsci.2015.06.011

Lynch, J.P., Baah, J., and Beauchemin, K.A. (2015). "Conservation, fiber digestibility, and nutritive value of corn harvested at 2 cutting heights and ensiled with fibrolytic enzymes, either alone or with a ferulic acid esterase-producing inoculant.", *Journal of Dairy Science (JDS)*, 98(2), pp. 1214-1224. doi : 10.3168/jds.2014-8768

Lynch, J.P., Jin, L., Church, J.S., Baah, J., and Beauchemin, K.A. (2015). "Fibrolytic enzymes and a ferulic acid esterase-producing bacterial additive applied to alfalfa hay at baling: Effects on fibre digestibility, chemical composition and conservation characteristics.", *Grass and Forage Science*, 70(1), pp. 85-93. doi : 10.1111/gfs.12093

Kouazounde, J.B., Gbenou, J.D., Babatoude, S., Srivastava, N., Eggleston, S.H., Antwi, C., Baah, J., and McAllister, T.A. (2015). "Development of methane emission factors for enteric fermentation in cattle from Benin using IPCC Tier 2 methodology.", *Animal*, 9(3), pp. 526-533. doi : 10.1017/S1751731114002626

Addah, W., Baah, J., Okine, E.K., and McAllister, T.A. (2015). "Effect of barley silage chop length and inoculation on growth performance, feeding behavior, and ruminal acidosis in finishing feedlot steers.", *Journal of Animal Science*, 93(5), pp. 2309-2321. doi : 10.2527/jas.2014-8247

2014

Lynch, J.P., Jin, L., Lara, E.C., Baah, J., and Beauchemin, K.A. (2014). "The effect of exogenous fibrolytic enzymes and a ferulic acid esterase-producing inoculant on the fibre degradability, chemical composition and conservation characteristics of alfalfa silage.", *Animal Feed Science and Technology*, 193, pp. 21-31. doi : 10.1016/j.anifeedsci.2014.03.013

Addah, W., Baah, J., Okine, E.K., Owens, F.N., and McAllister, T.A. (2014). "Effects of chop-length and a ferulic acid esterase-producing inoculant on fermentation and aerobic stability of barley silage, and growth performance of finishing feedlot steers.", *Animal Feed Science and Technology*, 197, pp. 34-36. doi : 10.1016/j.anifeedsci.2014.07.012

Stanford, K.I.M., Bach, S.J., Baah, J., and McAllister, T.A. (2014). "A mixture of *Lactobacillus casei*, *Lactobacillus lactis* and *Paenibacillus polymyxa* reduces *Escherichia coli* O157:H7 in finishing feedlot cattle.", *Journal of Food Protection*, 77(5), pp. 738-744. doi : 10.4315/0362-028X.JFP-13-433

2013

Naghmouchi, K., Baah, J., Hober, D., Jouy, E., Rubrecht, C., Sané, F., and Drider, D. (2013). "Synergistic effect between colistin and bacteriocins in controlling gram-negative pathogens and their potential to reduce antibiotic toxicity in mammalian epithelial cells.", *Antimicrobial Agents and Chemotherapy*, 57(6), pp. 2719-2725. doi : 10.1128/AAC.02328-12

2012

Chaves, A.V., Baah, J., Wang, Y., McAllister, T.A., and Benchaar, C. (2012). "Effects of cinnamon leaf, oregano and sweet orange essential oil on fermentation and aerobic stability of barley silage.", *Journal of the Science of Food and Agriculture*, 92(4), pp. 906-915. doi : 10.1002/jsfa.4669

Naghmouchi, K., Hammami, R., Fliss, I., Baah, J., and Drider, D. (2012). "Colistin A and colistin B among inhibitory substances of *Paenibacillus polymyxa* JB05-01-1.", *Archives of Microbiology*, 194(5), pp. 363-370. doi : 10.1007/s00203-011-0764-z

Meale, S.J., Chaves, A.V., Baah, J., and McAllister, T.A. (2012). "Methane Production of Different Forages in In vitro Ruminal Fermentation.", *Asian-Australasian Journal of Animal Science*, 25(1), pp. 86-91. doi : 10.5713/ajas.2011.11249

Addah, W., Baah, J., Okine, E.K., and McAllister, T.A. (2012). "Use of thermal imaging and the in situ technique to assess the impact of an inoculant with feruloyl esterase activity on the aerobic stability and digestibility of barley silage.", *Canadian Journal of Animal Science*, 92(3), pp. 381-394. doi: 10.4141/CJAS2012-016

Addah, W., Karikari, P.K., Baah, J. (2012). "Under nutrition in the ewe: Foeto-placental adaptation, and modulation of lamb birth weight: A review.", *Livestock Research for Rural Development*, 24(9), pp. 10.

2011

Naghmouchi, K., Paterson, L.J., Förster, R.J., McAllister, T.A., Ohene-Adjei, S., Drider, D., Teather, R.M., and Baah, J. (2011). "Paenibacillus polymyxa JB05-01-1 and its perspectives for food conservation and medical applications.", *Archives of Microbiology*, 193(3), pp. 169-177. doi: 10.1007/s00203-010-0654-9

Baah, J., Tait, R.M., and Tuah, A.K. (2011). "Selecting browse plants to supplement cassava peel-based diet for peri-urban small ruminants.", *Small Ruminant Research*, 96(1), pp. 36-40. doi: 10.1016/j.smallrumres.2010.11.006

Addah, W., Baah, J., Groenewegen, P., Okine, E.K., and McAllister, T.A. (2011). "Comparison of the fermentation characteristics, aerobic stability and nutritive value of barley and corn silages ensiled with or without a mixed bacterial inoculant.", *Canadian Journal of Animal Science*, 91(1), pp. 133-146. doi: 10.4141/cjast0071

McAllister, T.A., Beauchemin, K.A., Alazeh, A.Y., Baah, J., Teather, R.M., and Stanford, K.I.M. (2011). "The use of direct fed microbials to mitigate pathogens and enhance production in cattle."

Addah, W., Baah, J., Okine, E.K., and McAllister, T.A. (2011). "A third-generation esterase inoculant alters fermentation pattern and improves aerobic stability of barley silage and the efficiency of weight gain of growing feedlot cattle.", *Journal of Animal Science*, 90(5), pp. 1541-1552. doi: 10.2527/jas.2011-4085

## Other Science Related Publications:

2013

Jin, L., Lynch, J.P., Duniere, L., Wang, Y., Baah, J., Beauchemin, K.A., and McAllister, T.A. (2013). "Effect of inoculant containing *L. buchneri* on ensiling fermentation of whole barley crop.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P64, pp. 51. (Poster)

Addah, W., Baah, J., McAllister, T.A., and Okine, E.K. (2013). "Effects of an esterase-producing inoculant and chop-length on silage fermentation, ruminal fermentation, growth performance and carcass characteristics of finishing feedlot steers.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O14-GS, pp. 8.

Subramanian, S., McAllister, T.A., Baah, J., and Alexander, T.W. (2013). "Analysis of probiotic bacteria to inhibit the respiratory pathogen *Mannheimia haemolytica* and adhere to bovine bronchial epithelial cells in vitro.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P57, pp. 49. (Poster)

Jin, L., Lynch, J.P., Duniere, L., Wang, Y., Baah, J., Beauchemin, K.A., and McAllister, T.A. (2013). "Ensilage properties of whole crop barley and intercropped barley-oat-spring triticale.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P63, pp. 51. (Poster)

Lynch, J.P., Jin, L., Lara, E.C., Church, J.S., Baah, J., and Beauchemin, K.A. (2013). "The ensilage dynamics and nutritive value of alfalfa silage produced using fibrolytic enzymes and a silage inoculant.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P22, pp. 33. (Poster)

2012

Addah, W., Baah, J., and Okine, E.K. (2012). "Effects of an esterase-producing inoculant and chop-length on fermentation and aerobic stability of barley silage.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012.

Addah, W., Baah, J., Okine, E.K., and McAllister, T.A. (2012). "Effects of an esterase-producing inoculant and chop-length on fermentation and aerobic stability of barley silage.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

2011

Addah, W., Baah, J., Okine, E.K., and McAllister, T.A. (2011). "A ferulic acid esterase silage inoculant improves barley silage fermentation, aerobic stability and efficiency of feed use by growing feedlot cattle.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.

Addah, W., Baah, J., Okine, E.K., and McAllister, T.A. (2011). "Effects of applying a feroyl esterase silage inoculant at ensiling on in situ neutral detergent fibre disappearance of barley silage.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.

Addah, W., Baah, J., Okine, E.K., and McAllister, T.A. (2011). "Thermal infrared assessment of aerobic stability of barley silage ensiled with or without an esterase silage inoculant in large silos.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.

Baah, J., Addah, W., Okine, E.K., and McAllister, T.A. (2011). "Effects of homolactic bacterial inoculant alone or combined with an anionic surfactant on fermentation, aerobic stability and in situ ruminal degradability of barley silage.", *Asian-Australasian Journal of Animal Science*, 24(3), pp. 369-378.

Addah, W., Baah, J., Barkley, C., Wilde, R.E., Okine, E.K., and McAllister, T.A. (2011). "Use of infrared thermography to assess the aerobic stability of silage.", 32nd Western Nutrition Conference: Quality from Complexity, Crowne Plaza Chateau Lacombe, Edmonton, AB, Canada, September 14-15, 2011.



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## Research Publications:

2015

Bovo, F., de Cesare, A., Manfreda, G., Bach, S.J., and Delaquis, P.J. (2015). "Fate of *Salmonella enterica* spp. In mixed ingredient salads containing lettuce, chicken meat and cheese.", *Journal of Food Protection*, 78(3), pp. 491-497. doi : 10.4315/0362-028X.JFP-14-187

Toivonen, P.M.A., Lu, C., Bach, S.J., and Delaquis, P.J. (2015). "Hypoxic atmospheres can induce subsequent increases in cutting-induced hydrogen peroxide production by fresh-cut Romaine lettuce.", *Acta Horticulturae (ISHS)*, 1071, pp. 519-526.

2014

Diarra, M.S., Delaquis, P.J., Rempel, H., Bach, S.J., Harlton, C.E., Aslam, M.N., Pritchard, J., and Topp, E. (2014). "Antibiotic resistance and diversity of *Salmonella enterica* serovars associated with broiler chickens.", *Journal of Food Protection*, 77(1), pp. 40-49. doi : 10.4315/0362-028X.JFP-13-251

Stanford, K.I.M., Bach, S.J., Baah, J., and McAllister, T.A. (2014). "A mixture of *Lactobacillus casei*, *Lactobacillus lactis* and *Paenibacillus polymyxa* reduces *Escherichia coli* O157:H7 in finishing feedlot cattle.", *Journal of Food Protection*, 77(5), pp. 738-744. doi : 10.4315/0362-028X.JFP-13-433

McKellar, R.C., Pérez Rodríguez, F., Harris, L.J., Moyne, A.-L., Blais, B., Topp, E., Bezanson, G.S., Bach, S.J., and Delaquis, P.J. (2014). "Evaluation of different approaches for modeling *Escherichia coli* O157:H7 survival on field lettuce.", *International Journal of Food Microbiology*, 184, pp. 74-85. doi : 10.1016/j.ijfoodmicro.2014.04.026

Bach, S.J., Wahlgren, S., and Harlton, C.E. (2014). "The impact of cold stress on non-O157 Verotoxin-producing *Escherichia coli* (VTEC).", *Foodmicro 2014*, Nantes, France, Sept 1-4, 2014. (Abstract)

2013

Dinu, L.-D. and Bach, S.J. (2013). "Detection of viable but non-culturable *Escherichia coli* O157: H7 from vegetable samples using quantitative PCR with propidium monoazide and immunological assays.", *Food Control*, 31(2), pp. 268-273. doi : 10.1016/j.foodcont.2012.10.020

2012

Kropinski, A.M., Lingohr, E.J., Moyles, D.M., Ojha, S., Mazzocco, A., She, Y.-M., Bach, S.J., Rozema, E.A., Stanford, K.I.M., McAllister, T.A., and Johnson, R.P. (2012). "Endemic bacteriophages: a cautionary tale for evaluation of bacteriophage therapy and other interventions for infection control in animals.", *Virology Journal*, 9(1), pp. 207.

Bezanson, G.S., Delaquis, P.J., Bach, S.J., McKellar, R., Topp, E., Gill, A.O., Blais, B., and Gilmour, M. (2012). "Comparative Examination of *Escherichia coli* O157:H7 Survival on Romaine Lettuce and in Soil at Two Independent Experimental Sites.", *Journal of Food Protection*, 75(3), pp. 480-487. doi : 10.4315/0362-028X.JFP-11-306

Yemiş, G.P., Pagotto, F.J., Bach, S.J., and Delaquis, P.J. (2012). "Thermal Tolerance and Survival of *Cronobacter sakazaki* in Powdered Infant Formula Supplemented with Vanillin, Ethyl Vanillin, and Vanillic Acid.", *Journal of Food Science*, 77(9), pp. M523-M527. doi : 10.1111/j.1750-3841.2012.02834.x

Toivonen, P.M.A., Lu, C., Bach, S.J., and Delaquis, P.J. (2012). "Modulation of wound-induced hydrogen peroxide and its influence on the fate of *Escherichia coli* O157:H7 in cut lettuce tissues.", *Journal of Food Protection*, 75(12), pp. 2208-2212. doi : 10.4315/0362-028X.JFP-12-208

Bach, S.J., Cook, S.R., Wang, Y., Stanford, K.I.M., Johnson, R.P., and McAllister, T.A. (2012). "*Escherichia coli* O157 bacteriophages: Lytic activity and effects on fermentation in ruminal batch culture.", *Canadian Journal of Animal Science*, 92(4), pp. 545-550. doi : 10.4141/cjas2012-084

2011

Dinu, L.-D. and Bach, S.J. (2011). "Induction of viable but nonculturable *Escherichia coli* O157:H7 in the phyllosphere of lettuce: A food safety risk factors.", *Applied and Environmental Microbiology*, 77(23), pp. 8295-8302. doi : 10.1128/AEM.05020-11

Yemiş, G.P., Pagotto, F.J., Bach, S.J., and Delaquis, P.J. (2011). "Effect of vanillin, ethyl vanillin, and vanillic acid on the growth and heat resistance of Cronobacter species.", *Journal of Food Protection*, 74(12), pp. 2062-2069. doi : 10.4315/0362-028X.JFP-11-230

Toivonen, P.M.A., Lu, C., Delaquis, P.J., and Bach, S.J. (2011). "Slicing under chlorinated water improves the disinfection of fresh-cut romaine lettuce.", *Journal of Food Protection*, 74(12), pp. 2142-2147. doi : 10.4315/0362-028X.JFP-11-194

## Other Science Related Publications:

2015

Bach, S.J., Fan, L., Fomey, C.F., and Delaquis, P.J. (2015). "Quality and Safety in Fresh-cut Vegetables and Fruits. United Fresh Produce Association Food Safety and Technology Council.", United Fresh 2015, Chicago, IL, USA, June 9-11, 2015, Oral presentation and handout information on AAFC's research activities.

2014

Tang, J., Mei, G.-Y., Bach, S.J., and Kostrzynska, M. (2014). "Biofilm formation by verotoxin-producing *Escherichia coli* (VTEC) O157:H7 and non-O157 strains on polypropylene and glass surfaces.", 11th Annual GFSS Symposium, Guelph, ON, Canada, October 22, 2014.

Bach, S.J., Ries, C., Lau, D., and Wahlgren, S. (2014). "Growth phase of non-O157 verotoxin-producing *Escherichia coli* affects their resistance to cold stress.", United Fresh 2014, Chicago, IL, USA, June 10-14, 2014. (Abstract)

Dawson, A., Ross, K.A., and Bach, S.J. (2014). "Antimicrobial activity of phenolic and crude polysaccharide compounds isolate d from apples, cherries, and North American ginseng against foodborne pathogens.", United Fresh 2014, Chicago, IL, USA, June 10-14, 2014. (Abstract)

Nadya, S., Allen, K.J., Ziegler, K., Johnson, R., Bach, S.J., and Delaquis, P.J. (2014). "Prevalence of Shiga Toxin-producing *Escherichia coli* in Irrigation Waters and Fresh Produce in British Columbia, Canada.", Annual Meeting of the International Association for Food Protection (IAFP), Indianapolis, USA, August 3-6, 2014, Oral presentation. (Abstract)

Bach, S.J., Delaquis, P.J., and Harlton, C.E. (2014). "Stress and Virulence Gene Response of Non-O157 Shiga Toxin-producing *Escherichia coli* (STEC) Exposed to Low Temperature.", Annual Meeting of the International Association for Food Protection (IAFP), Indianapolis, USA, August 3-6, 2014, Oral presentation. (Abstract)

Bovo, F., de Cesare, A., Manfreda, G., Bach, S.J., and Delaquis, P.J. (2014). "Fate of *Salmonella enterica* in a mixed ingredient salad containing lettuce, cooked chicken and cheese.", Annual Meeting of the International Association for Food Protection (IAFP), Indianapolis, USA, August 3-6, 2014, Oral presentation. (Abstract)

Nadya, S., Allen, K.J., Johnson, R.P., Ziebell, K.A., Topp, E., Delaquis, P.J., and Bach, S.J. (2014). "A comparison of the presence of total *Escherichia coli* and Shiga-toxigenic *E. coli* in irrigation waters from an intensive agricultural region.", United Fresh 2014, Chicago, IL, USA, June 10-14, 2014, Abstract. (Poster)

McKellar, R.C., Pérez Rodríguez, F., Harris, L.J., Moyne, A.-L., Blais, B., Topp, E., Bezanson, G.S., Bach, S.J., and Delaquis, P.J. (2014). "Evaluation of mathematical models to describe *Escherichia coli* O157:H7 decay on field-grown leafy vegetables.", Annual Meeting of the International Association for Food Protection (IAFP), Indianapolis, USA, August 3-6, 2014, Oral presentation. (Abstract)

Bach, S.J., Marden, C., Harlton, C.E., and Wahlgren, S. (2014). "The impact of low temperature on verotoxin-producing *Escherichia coli* (VTEC) on fresh-cut Romaine lettuce.", United Fresh 2014, Chicago, IL, USA, June 10-14, 2014. (Abstract)

2013

Toivonen, P.M.A., Lu, C., Bach, S.J., and Delaquis, P.J. (2013). "Hypoxic atmospheres can induce subsequent increases in cutting-induced hydrogen peroxide production by fresh-cut Romaine lettuce.", 11th International Controlled and Modified Atmosphere Research Conference, Trani, Italy, June 3-7, 2013. (Poster)

Fung, S., Rempel, H., Block, G.S., Chen, W., Janzen, T., Lewis, C.T., Zhang, N., El-Kayssi, N., Bilkhu, S., Hambleton, S., Amoako, K.K., Lévesque, C.A., Bach, S.J., Delaquis, P.J., and Diarra, M.S. (2013). "Bacillus species across Canada's agriculture environment: an ecological perspective.", International conference on *Bacillus anthracis*, *B. cereus*, and *B. thuringiensis*, Victoria, BC, Canada, September 1-5, 2013, Abstract. (Poster)

Delaquis, P.J., Bach, S.J., McKellar, R., Bezanson, G.S., and Topp, E. (2013). "Survival of six Shiga-toxigenic *Escherichia coli* serotypes in field lettuce.", 58th Annual Meeting of the International Association of Food Protection (IAFP 2013), Charlotte Convention Center, Charlotte, NC, USA, July 28-31, 2013. (Poster)

Toivonen, P.M.A., Lu, C., Bach, S.J., and Delaquis, P.J. (2013). "Hypoxic treatment can enhance cut-edge hydrogen peroxide production in Romaine lettuce.", United Fresh 2013, San Diego Convention Center, San Diego, CA, USA, May 14-16, 2013, Abstract. (Poster)

Delaquis, P.J., Bach, S.J., Lu, C., and Toivonen, P.M.A. (2013). "Effect of environmental factors (field versus controlled environment chamber) on the survival of *Escherichia coli* O157:H7 on Romaine lettuce.", United Fresh 2013, San Diego Convention Center, San Diego, CA, USA, May 14-16, 2013, Abstract. (Poster)

Bach, S.J., Delaquis, P.J., Toivonen, P.M.A., and Lu, C. (2013). "The effect of hypoxic treatment of Romaine lettuce on the survival of *Escherichia coli* O157:H7.", United Fresh 2013, San Diego Convention Center, San Diego, CA, USA, May 14-16, 2013, Abstract. (Poster)

Bach, S.J., Lu, C., Delaquis, P.J., and Toivonen, P.M.A. (2013). "Impact of wound induced hydrogen peroxide production on *Escherichia coli* O157:H7 in fresh-cut lettuce.", 5th Congress of European Microbiologists (FEMS 2013), Leipzig, Germany, July 21-25, 2013, Presentation. (Poster)

Bach, S.J., Delaquis, P.J., Toivonen, P.M.A., and Lu, C. (2013). "Impact of hydrogen peroxide on *Escherichia coli* O157:H7 in vitro and in vivo on fresh-cut lettuce.", United Fresh 2013, San Diego Convention Center, San Diego, CA, USA, May 14-16, 2013, Abstract. (Poster)

## 2012

Diarra, M.S., Rempel, H., Bach, S.J., Harlton, C.E., Delaquis, P.J., Pritchard, J., Aslam, M.N., Leslie, M., and Topp, E. (2012). "Distribution of antibiotic resistance phenotypes and genotypes among *Salmonella* spp. Isolated from broiler chickens in British Columbia.", 101st Annual Meeting of the International Association of Food Protection (IAFP 2012), Rhode Island Convention Center, Providence, RI, USA, July 22-25, 2012, Poster ID# 2398. (Poster)

Delaquis, P.J. and Bach, S.J. (2012). "Resistance and sub-lethal damage.", in Gómez-López, V.M. (ed.) - Decontamination of Fresh and Minimally Processed Produce, Wiley - Blackwell, Chapter 4, pp. 77-86.

## 2011

Bach, S.J., Lu, C., Delaquis, P.J., and Toivonen, P.M.A. (2011). "Cutting Romaine lettuce while submerged in sanitizer improves efficacy of sodium hypochlorite.", *The Grower*, 61(5), pp. 20.

Toivonen, P.M.A., Lu, C., Delaquis, P.J., and Bach, S.J. (2011). "Timing of sanitizer application reduces microbial counts on fresh-cut Romaine lettuce.", 2nd ISHS International Conference on Quality Management of Fresh Cut Produce: Convenience Food for a Tasteful Life, Università degli Studi di Torino, Torino, Italy, July 17-21, 2011.

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## Research Publications:

2015

Rasmussen, J.P., Gilroyed, B.H., Reuter, T.R., Badea, A., Eudes, F., Graf, R.J., Laroche, A., Kav, N.N.V., and McAllister, T. A. (2015). "Protein can be taken up by damaged wheat roots and transported to the stem.", *Journal of Plant Biology*, 58(1), pp. 1-7. doi : 10.1007/s12374-014-0258-z

2014

Rasmussen, J.B., Gilroyed, B.H., Reuter, T.R., Badea, A., Eudes, F., Graf, R.J., Laroche, A., Kav, N.N.V., and McAllister, T. A. (2014). "Efficiency of protein as a nitrogen source for wheat and morphological changes in roots exposed to high protein concentrations.", *Canadian Journal of Plant Science*, 94(4), pp. 603-613. doi : 10.4141/cjps2013-187

2013

Graf, R.J., Beres, B.L., Laroche, A., Gaudet, D.A., Eudes, F., Pandeya, R.S., Badea, A., and Randhawa, H.S. (2013). "Emerson hard red winter wheat.", *Canadian Journal of Plant Science*, 93(4), pp. 741-748. doi : 10.4141/CJPS2012-262

Badea, A., Eudes, F., Laroche, A., Graf, R.J., Doshi, K., Amundsen, E.J., Nilsson, D., and Puchalski, B. (2013). "Antimicrobial peptides expressed in wheat reduce susceptibility to *Fusarium* head blight and powdery mildew.", *Canadian Journal of Plant Science*, 93(2), pp. 199-208. doi : 10.4141/CJPS2012-125

Graf, R.J., Beres, B.L., Randhawa, H.S., Gaudet, D.A., Badea, A., Laroche, A., Eudes, F., and Pandeya, R.S. (2013). "AAC Gateway hard red winter wheat.", *Canadian Journal of Plant Science*, 93(3), pp. 541-548. doi : 10.4141/CJPS2012-266

2012

Foroud, N.A., McCormick, S.P., MacMillan, T., Badea, A., Kendra, D.F., Ellis, B.E., and Eudes, F. (2012). "Greenhouse studies reveal increased aggressiveness of emergent Canadian *Fusarium* graminearum chemotypes in wheat.", *Plant Disease*, 96(9), pp. 1271-1279. doi : 10.1094/pdis-10-11-0863-re

2011

Badea, A., Eudes, F., Salmon, D.F., Tuvevsson, S., Vrolijk, A., Larsson, C.-T., Caig, V., Huttner, E., Kilian, A., and Laroche, A. (2011). "Development and assessment of DArT markers in triticale.", *Theoretical and Applied Genetics (TAG)*, 122(8), pp. 1547-1560. doi : 10.1007/s00122-011-1554-3

## Other Science Related Publications:

2014

Tucker, J.R., Feranando, W.G.D., Badea, A., and Legge, W.G. (2014). "Genomic Selection for Improving *Fusarium* Head Blight Resistance and Lowering Deoxynivalenol Accumulation in Two-rowed Barley.", 21st North American Barley Research Workshop, Minneapolis, Minnesota, USA, June 29- July 2, 2014. (Poster)

Badea, A., Zhou, M., and Legge, W.G. (2014). "Preliminary greenhouse evaluation of several barley lines and cultivars for waterlogging tolerance.", 21st North American Barley Research Workshop, Minneapolis, Minnesota, USA, June 29- July 2, 2014. (Poster)

2013

Badea, A., Izydorczyk, M.S., Grant, C.A., Lukow, O.M., Beta, T., and Therrien, M.C. (2013). "Breeding barley for food – progress and future prospects.", 16th Australian Barley Technical Symposium, Melbourne, Australia, September 8-11, 2013, #1, pp. 71. (Poster)

Tucker, J.R., Legge, W.G., Badea, A., and Fetch Jr., T.G. (2013). "Breeding for stem rust (*Puccinia graminis* f. sp. *tritici*) resistance in barley (*Hordeum vulgare*) at the AAFC Brandon Research Centre: Future directions.", Manitoba Regional Meeting of the Canadian Phytopathological Society, Carman, MB, Canada, November 20, 2013. (Poster)

## 2012

Badea, A., Lukow, O.M., and Therrien, M.C. (2012). "The goodness of humble barley – 'Roseland' a new two-row spring hulless food cultivar.", 7th Canadian Barley Symposium, Calgary, AB, Canada, July 8-10, 2012, pp. 33. (Poster)

Badea, A., Block, H.C., Iwaasa, A.D., McLeod, G.J., and Therrien, M.C. (2012). "An innovative approach in extended swath-grazing waxy forage barley.", 7th Canadian Barley Symposium, Calgary, AB, Canada, July 8-10, 2012, pp. 32. (Poster)

Rasmussen, J.D., Gilroyed, B.H., Reuter, T.R., Badea, A., Eudes, F., Graf, R.J., Laroche, A., Kav, N.N.V., and McAllister, T. A. (2012). "The uptake of functional proteins and infectious prions into major crop plants.", PrP Canada 2012 & Protein Folding Disease Conference, Toronto, Ontario, Canada, June 25-27, 2012, #64, pp. 122. (Poster)

## 2011

Badea, A., Thurston, G., Simmonds, J.A., Frick, M., and Laroche, A. (2011). "Expression of an endoglucanase enzyme in corn and triticale: an alternative system for improving cellulosic biofuel extraction.", Plant & Animal Genome XIX Conference, Town & Country Convention Center, San Diego, CA, USA, January 15-19, 2011, P699, pp. 201. (Poster)

# Bailey, Karen L., Ph.D.

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## Research Publications:

2015

Hubbard, M., Hynes, R.K., and Bailey, K.L. (2015). "Impact of macrocicidins, produced by *Phoma macrostoma*, on carotenoid profiles of plants.", *Biological Control*, 89, pp. 11-22. doi : 10.1016/j.biocontrol.2015.04.017

2014

Hubbard, M., Hynes, R.K., Erlandson, M.A., and Bailey, K.L. (2014). "The biochemistry behind biopesticide efficacy.", *Sustainable Chemical Processes*, 2(Article 18). doi : 10.1186/s40508-014-0018-x

2013

Evans, H.C., Seier, M.K., Derby, J.-A., Falk, S., and Bailey, K.L. (2013). "Tracing the origins of White Tip disease of *Cirsium arvense* and its causal agent, *Phoma macrostoma*.", *Weed Research*, 53(1), pp. 42-52. doi : 10.1111/j.1365-3180.2012.00951.x

Bailey, K.L., Falk, S., Derby, J.-A., Melzer, M., and Boland, G.J. (2013). "The effect of fertilizers on the efficacy of the bioherbicide, *Phoma macrostoma*, to control broadleaved weeds in turfgrass.", *Biological Control*, 65(1), pp. 147-151. doi : 10.1016/j.biocontrol.2013.01.003

2012

Bailey, K.L., Derby, J.-A., Boyetchko, S.M., Sawchyn, K., Becker, E., Sumampong, G., Shamoun, S.F., James, D., Masri, S., and Varga, A. (2012). "In vivo studies evaluating commercial biofungicide suppression of blight caused by *Phytophthora ramorum* in selected ornamentals.", *Biocontrol Science and Technology*, 22(11), pp. 1268-1283. doi : 10.1080/09583157.2012.724659

Pitt, W.M., Bailey, K.L., Fu, Y.B., and Peterson, G.W. (2012). "Biological and genetic characterization of *Phoma macrostoma* isolates with bioherbicidal activity.", *Biocontrol Science and Technology*, 22(7), pp. 813-835. doi : 10.1080/09583157.2012.691159

Cripps, M., Bourdôt, G., and Bailey, K.L. (2012). "Plant pathogens as biocontrol agents for *Cirsium arvense* - an answer to Müller and Nentwig.", *NeoBiota*, 13, pp. 31-39. doi : 10.3897/neobiota.13.3137

James, D., Varga, A., Becker, E., Sumampong, G., Bailey, K.L., Elliott, M., Masri, S., and Shamoun, S.F. (2012). "Screening of several disinfectants to assess their efficacy in controlling mycelia growth, sporangia germination, and recovery of viable *Phytophthora ramorum*.", *Crop Protection*, 42(December 2012), pp. 186-192. doi : 10.1016/j.cropro.2012.07.007

2011

Kutcher, H.R., Johnston, A.M., Bailey, K.L., and Malhi, S.S. (2011). "Managing crop losses from plant diseases with foliar fungicides, rotation and tillage on a Black Chernozem in Saskatchewan, Canada.", *Field Crops Research*, 124(2), pp. 205-212. doi : 10.1016/j.fcr.2011.05.018

Bailey, K.L., Pitt, W.M., Leggett, F.L., Sheedy, C., and Derby, J.-A. (2011). "Determining the infection process of *Phoma macrostoma* that leads to bioherbicidal activity on broadleaved weeds.", *Biological Control*, 59(2), pp. 268-276. doi : 10.1016/j.biocontrol.2011.06.019

Bailey, K.L., Pitt, W.M., Falk, S., and Derby, J.-A. (2011). "The effects of *Phoma macrostoma* on nontarget plant and target weed species.", *Biological Control*, 58(3), pp. 379-386. doi : 10.1016/j.biocontrol.2011.06.001

Bailey, K.L. and Falk, S. (2011). "Turning Research on Microbial Bioherbicides into Commercial Products — A *Phoma* Story.", *Pest Technology*, 5(Spec. Issue 1), pp. 73-79.

## Other Science Related Publications:

2014

Hynes, R.K. and Bailey, K.L. (2014). Annual Progress Report on Broadleaved Weed Control in Alfalfa Using the Bioherbicide *Phoma macrostoma*, November 30, 2014. Western Grains Research Foundation, Saskatoon, SK 45 pages. (Report)

2013

Hubbard, M., Bailey, K.L., and Hynes, R.K. (2013). "Delivering *Phoma* to control agricultural weeds.", Alfalfa Seed Commission (Alberta), Brooks, AB, Canada, March 26, 2013. (Presentation)

McClay, A.S., Peng, G., Bailey, K.L., Hynes, R.K., and Hinz, H.L. (2013). "*Tripeurospermum inodorum* (L.) Sch. Bip. (= *Matricaria perforata* Mérat), Scentless Chamomile (Asteraceae).", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, Wallingford, UK.

Watson, A.K. and Bailey, K.L. (2013). "*Taraxacum officinale* (Weber), Dandelion (Asteraceae).", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, Wallingford, UK.

Mason, P.G., De Clerck-Floate, R.A., Erlandson, M.A., and Bailey, K.L. (2013). AAFC National Containment, Biosafety and Biosecurity Committee (NCBB) update for AAFC Biological Control Working Group, 18 October 2013, Guelph, Ontario, 1pp. (Report)

Bailey, K.L., Hynes, R.K., Derby, J.-A., and Hupka, D. (2013). "Bioherbicides for alfalfa seed production: A voyage to the future.", Alfalfa Seed Commission (Alberta), Brooks, AB, Canada, March 26, 2013. (Presentation)

2012

Bailey, K.L. (2012). "Biological Control and the Emerging Biopesticide Market: What is available for Home Gardeners?", - The 2012 Prairie Garden, The Prairie Garden Committee, Winnipeg, MB, Canada, pp. 147-149.

Derby, J.-A., Bailey, K.L., Hynes, R.K., and Hupka, D. (2012). "Timing *Phoma macrostoma* applications to maximize weed control.", 4th Joint Saskatchewan-Alberta Plant Pathology Conference: Mapping and cloning of clubroot resistance genes in Brassica species, Lloydminster, SK, Canada, November 5-7, 2012. (Poster)

Bailey, K.L. and Falk, S. (2012). "An update of the bioherbicide *Phoma macrostoma* and its potential use on sportsfields.", Ontario Turfgrass Symposium, University of Guelph, Guelph, ON, Canada, February 22-23, 2012.

Bailey, K.L. and Falk, S. (2012). "An update of the bioherbicide *Phoma macrostoma* and its future uses in lawn care.", Ontario Turfgrass Symposium: Sport Turf Session, University of Guelph, Guelph, ON, Canada, February 22-23, 2012. (Presentation)

Bailey, K.L. (2012). "Biopesticides in agriculture: can science meet societal demands for greener food production?", Plant Canada 2012 (joint meeting of the Canadian Society of Agronomy (CSA), Canadian Society for Horticultural Science (CSHS), Certified Crop Advisors (CCA), North American Fruit Explorers (NAFEX)): Adapting Crops to Change., University of Saskatchewan, Saskatoon, SK, Canada, July 16-19, 2012. (Presentation)

Falk, S. and Bailey, K.L. (2012). "Advancing *Phoma macrostoma* selective bioherbicide to commercialization.", 244th American Chemical Society (ACS) National Meeting & Exposition, Philadelphia, PA, USA, August 19-23, 2012.

Bailey, K.L., Derby, J.-A., Hynes, R.K., and Hupka, D. (2012). "Bioherbicides for organic food production: a voyage to the future.", 5th Biennial Organic Connections Conference and Trade Show, Conexus Arts Centre, Regina, SK, Canada, November 2-3, 2012. (Presentation)

Bailey, K.L. (2012). "*Phoma macrostoma* technology.", Presentation to employees from MISBY, Regina, SK, Canada, October 30, 2012. (Presentation)

Bailey, K.L. and Falk, S. (2012). "An update of the bioherbicide *Phoma macrostoma* and its future uses in lawn care.", Ontario Turfgrass Symposium: Lawn Care Session, University of Guelph, Guelph, ON, Canada, February 22-23, 2012. (Presentation)

2011

Bailey, K.L., Derby, J.-A., Falk, S., Lombardo, S., Melzer, M., and Boland, G.J. (2011). "Pre-emergent dandelion control in turf with *Phoma macrostoma*.", 4th International Biofumigation & Biopesticides Symposium, Sheraton Cavalier Hotel, Saskatoon, SK, Canada, October 18-21, 2011, pp. 56.

Bailey, K.L. (2011). "*Phoma macrostoma*: The infection process.", Xth International Bioherbicide Group Workshop, Waikoloa Beach Marriott, Waikoloa, HI, USA, September 10, 2011, pp. 13.

Evans, H.C., Seier, M.K., and Bailey, K.L. (2011). "Tracking the origins of white tip disease of *Cirsium arvense*.", Xth International Bioherbicide Group Workshop, Waikoloa Beach Marriott, Waikoloa, HI, USA, September 10, 2011, pp. 12.

Hynes, R.K., Bailey, K.L., Boyetchko, S.M., Erlandson, M.A., Peng, G., and Traquair, J.A. (2011). "Formulation development and delivery of biopesticides.", Canadian Society of Microbiologists (CSM) 61st Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Memorial University of Newfoundland, St. John's, NL, Canada, June 20-23, 2011.

Hynes, R.K., Bailey, K.L., Boyetchko, S.M., Erlandson, M.A., and Peng, G. (2011). "Formulation development and delivery of biopesticides.", Soils and Crops Workshop 2011, Prairieland Park, Saskatoon, SK, Canada, March 15-16, 2011. (Workshop)

Peng, G., Bailey, K.L., Hynes, R.K., and Boyetchko, S.M. (2011). "Bioherbicide R&D - progresses and challenges.", Chinese National Institute of Rice Research, Hongzhou, China, November 11, 2011. (Presentation)

Bailey, K.L. (2011). "Biopesticides as a tool for IPM.", Plant Science 335 Integrated Pest Management, College of Agriculture and Bioresources, University of Saskatchewan, Saskatoon, SK, Canada, September 30, 2011. (Presentation)

Hynes, R.K., Bailey, K.L., Boyetchko, S.M., Erlandson, M.A., Peng, G., and Traquair, J.A. (2011). "Formulation and delivery of biopesticides.", Canadian Society of Microbiologists (CSM) 61st Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Memorial University of Newfoundland, St. John's, NL, Canada, June 20-23, 2011.

Bailey, K.L., Taylor, W.G., and Hynes, R.K. (2011). "Phoma macrostoma: A bioherbicide for broadleaved weed control.", Local meeting of representatives from Saskatchewan organic farming directorates, August 4, 2011. (Presentation)



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## Research Publications:

2013

Baines, D.D.S. and Erb, S.L. (2013). "Characterization of Shiga toxin - producing *Escherichia coli* infections in beef feeder calves and the effectiveness of a prebiotic in alleviating Shiga toxin - producing *Escherichia coli* infections.", *Irish Veterinary Journal*, 66(17), pp. 1-8. doi: 10.1186/2046-0481-66-17

Baines, D.D.S., Sumarah, M.W., Kuldau, G., Juba, J., Mazza, A., and Masson, L. (2013). "Aflatoxin, Fumonisin and Shiga Toxin - Producing *Escherichia coli* Infections in Calves and the Effectiveness of Celmanax®/Dairyman's Choice™ Applications to Eliminate Morbidity and Mortality Losses.", *Toxins*, 5(10), pp. 1872-1895. doi: 10.3390/toxins5101872

2011

Baines, D.D.S., Erb, S.L., Turkington, T.K., Kuldau, G., Juba, J., Sumarah, M.W., Mazza, A., and Masson, E. (2011). "Characterization of Haemorrhagic Enteritis in Dairy Goats and the Effectiveness of Probiotic and Prebiotic Applications in Alleviating Morbidity and Production Losses.", *Fungal Genomics & Biology*, 1:1. doi: 10.4172/fgb.1000102

Baines, D.D.S., Erb, S.L., Turkington, T.K., Kuldau, G., Juba, J., Masson, L., Mazza, A., and Roberts, R. (2011). "Mouldy feed, mycotoxins and Shiga toxin - producing *Escherichia coli* colonization associated with Jejunal Hemorrhage Syndrome in beef cattle.", *BMC Veterinary Research*, 7:24. doi: 10.1186/1746-6148-7-24

Baines, D.D.S., Erb, S.L., Sumarah, M.W., Lowe, R.M.S., Turkington, T.K., Sabau, E., Kuldau, G., Juba, J., Masson, L., Mazza, A., Roberts, R. (2011). "A prebiotic, Celmanax™, decreases *Escherichia coli* O157:H7 colonization of bovine cells and feed-associated cytotoxicity in vitro.", *BMC Research Notes*, 4:110. doi: 10.1186/1756-0500-4-110

## Other Science Related Publications:

2011

Baines, D.D.S. (2011). "Hemorrhagic diseases in ruminants: possible role for prebiotics and probiotics as disease management tools.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.

Baines, D.D.S. et al. (2011). "Hemorrhagic Enteritis in goats: possible role of mycotoxigenic fungi, mycotoxins and STEC infections in the disease complex.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.

Baines, D.D.S. et al. (2011). "Jejunal Hemorrhage Syndrome in cattle: possible role of mycotoxins and STEC infections in the disease complex.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.

# Bakkeren, Augustinus, Ph.D.

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## Research Publications:

2015

Wang, X., McCallum, B.D., Fetch Jr., T.G., Bakkeren, G., and Saville, B.J. (2015). "Sr36- and Sr5-mediated resistance response to *Puccinia graminis* f. sp. *tritici* is associated with callose deposition in wheat guard cells.", *Phytopathology*, 105(6), pp. 728-737. doi: 10.1094/PHYTO-08-14-0213-R

Ali, S. and Bakkeren, G. (2015). "Conversion of BAC clones into binary BAC (BIBAC) vectors and their delivery into basidiomycete fungal cells using *Agrobacterium tumefaciens*.", *Methods in Molecular Biology* (Clifton, N.J.), 1227, pp. 199-215. doi: 10.1007/978-1-4939-1652-8\_9

Panwar, V., McCallum, B.D., and Bakkeren, G. (2015). "A functional genomics method for assaying gene function in phytopathogenic fungi through host-induced gene silencing mediated by Agroinfiltration.", in Mysore, K.S. and Senthil-Kumar, M. - *Methods in Molecular Biology Series*, Springer New York, Chapter 13, pp. 179-189.

2014

Bruce, M., Neugebauer, K.A., Joly, D.L., Migeon, P., Cuomo, C.A., Wang, S.C., Akhunov, E.D., Bakkeren, G., Kolmer, J.A., and Fellers, J.P. (2014). "Using transcription of six *Puccinia triticina* races to identify the effective secretome during infection of wheat.", *Frontiers in Plant Science*, 4(Jan: Article 520), pp. 1-7. doi: 10.3389/fpls.2013.00520

Ali, S., Laurie, J.D., Linning, R., Cervantes-Chávez, J.A., Gaudet, D.A., and Bakkeren, G. (2014). "An Immunity-Triggering Effector from the Barley Smut Fungus *Ustilago hordei* Resides in an Ustilaginaceae-Specific Cluster Bearing Signs of Transposable Element-Assisted Evolution.", *PLoS Pathogens*, 10(7: Article number e1004223). doi: 10.1371/journal.ppat.1004223

Duplessis, S., Bakkeren, G., and Hamelin, R.C. (2014). "Advancing knowledge on biology of rust fungi through genomics.", in Martin, F.M. (ed.) - *Advances in Botanical Research Vol. 70*, Academic Press, Chapter 6, pp. 173-209.

Bakkeren, G. and Valent, B. (2014). "Do pathogen effectors play peek-a-boo?", *Frontiers in Plant Science*, 5(DEC: Article number 731), pp. 2 pages. doi: 10.3389/fpls.2014.00731

2013

Wang, X., McCallum, B.D., Fetch Jr., T.G., Bakkeren, G., Marais, G.F., and Saville, B. (2013). "Comparative microscopic and molecular analysis of Thatcher near-isogenic lines with wheat leaf rust resistance genes Lr2a, Lr3, LrB or Lr9 upon challenge with different *Puccinia triticina* races.", *Plant Pathology*, 62(3), pp. 698-707. doi: 10.1111/j.1365-3059.2012.02660.x

Panwar, V., McCallum, B.D., and Bakkeren, G. (2013). "Endogenous silencing of *Puccinia triticina* pathogenicity genes through in planta-expressed sequences leads to the suppression of rust diseases on wheat.", *Plant Journal*, 73(3), pp. 521-532. doi: 10.1111/tpj.12047

Fellers, J.P., Soltani, B.M., Linning, R., Cuomo, C.A., Szabo, L.J., and Bakkeren, G. (2013). "Conserved loci of leaf and stem rust fungi of wheat share synteny interrupted by lineage-specific influx of repeat elements.", *BMC Genomics*, 14:60. doi: 10.1186/1471-2164-14-60

Panwar, V., McCallum, B.D., and Bakkeren, G. (2013). "Host-induced gene silencing of wheat leaf rust fungus *Puccinia triticina* pathogenicity genes mediated by the Barley stripe mosaic virus.", *Plant Molecular Biology*, 81(6), pp. 595-608. doi: 10.1007/s11103-013-0022-7

Lefebvre, F., Joly, D.L., Labbé, C., Teichmann, B., Linning, R., Belzile, F.J., Bakkeren, G., and Bélanger, R.R. (2013). "The transition from a phytopathogenic smut ancestor to an anamorphic biocontrol agent deciphered by comparative whole genome analysis.", *Plant Cell*, 25(6), pp. 1946-1959. doi: 10.1105/tpc.113.113969

Joly, D.L., Mulock, B.S., Cuomo, C.A., Saville, B.J., McCallum, B.D., and Bakkeren, G. (2013). "Illumina-based genetic linkage map for wheat leaf rust.", 27th American Genetics Society meeting on Fungal Genetics, Asilomar, CA, USA.

Laurie, J.D., Linning, R., Wong, P., and Bakkeren, G. (2013). "Do TE activity and counteracting genome defenses, RNAi and methylation, shape the sex lives of smut fungi?", *Plant Signaling & Behavior*, 8(4), pp. e238531-e238538. doi: 10.4161/psb.23853

2012

Laurie, J.D., Ali, S., Linning, R., Mannhaupt, G., Wong, P., Güldener, U., Münsterkötter, M., Moore, R., Kahmann, R., Bakkeren, G., and Schirawski, J. (2012). "Genome Comparison of Barley and Maize Smut Fungi Reveals Targeted Loss of RNA Silencing Components and Species-Specific Presence of Transposable Elements.", *Plant Cell*, 24(5), pp. 1733-1745. doi : 10.1105/tpc.112.097261

Bakkeren, G., Song, X., Panwar, V., Linning, R., Wang, X., Rampitsch, C., McCallum, B.D., Fellers, J.P., and Saville, B. (2012). "Functional genomic approaches in cereal rusts.", *Canadian Journal of Plant Pathology*, 34(1), pp. 3-12. doi : 10.1080/07060661.2012.664567

Bakkeren, G., Kruzel, E.K., and Hull, C.M. (2012). "Sex and Virulence in Basidiomycete Pathogens.", in Sibley, L.D., Howlett, B.J., and Heitman, J. (eds.) - *Evolution of Virulence in Eukaryotic Microbes*, Wiley - Blackwell, Chapter 23, pp. 437-460.

2011

Xu, J., Linning, R., Fellers, J.P., Dickinson, M., Zhu, W., Antonov, I., Joly, D.L., Donaldson, M.E., Eilam, T., Anikster, Y., Banks, T.W., Munro, S., May, M., Wynhoven, B., Ali, J., McCallum, B.D., Borodovsky, M., Saville, B., and Bakkeren, G. (2011). "Gene discovery in EST sequences from the wheat leaf rust fungus *Puccinia triticina* sexual spores, asexual spores and haustoria, compared to other rust and corn smut fungi.", *BMC Genomics*, 12:161. doi : 10.1186/1471-2164-12-161

Song, X., Rampitsch, C., Soltani, B.M., Mauthe, W.R., Linning, R., Banks, T.W., McCallum, B.D., and Bakkeren, G. (2011). "Proteome analysis of wheat leaf rust fungus, *Puccinia triticina*, infection structures enriched for haustoria.", *Proteomics*, 11(5), pp. 944-963. doi : 10.1002/pmic.201000014

Cervantes-Chávez, J.A., Ali, S., and Bakkeren, G. (2011). "Response to Environmental Stresses, Cell-wall Integrity, and Virulence Are Orchestrated Through the Calcineurin Pathway in *Ustilago hordei*.", *Molecular Plant-Microbe Interactions*, 24(2), pp. 219-232. doi : 10.1094/MPMI-09-10-0202

Ali, S. and Bakkeren, G. (2011). "Fungal and oomycete effectors - strategies to subdue a host.", *Canadian Journal of Plant Pathology*, 33(4), pp. 425-446. doi : 10.1080/07060661.2011.625448

Ali, S. and Bakkeren, G. (2011). "Introduction of large DNA inserts into the barley pathogenic fungus, *Ustilago hordei*, via recombined binary BAC vectors and Agrobacterium-mediated transformation.", *Current Genetics*, 57(1), pp. 63-73. doi : 10.1007/s00294-010-0324-0

## Other Science Related Publications:

2015

Bakkeren, G., Fellers, J.P., Linning, R., Szabo, L.J., Hulbert, S., Chen, X., McCallum, B.D., Wang, X., Hamelin, R.C., Saville, B.J., and Cuomo, C.A. (2015). "Mating-type genes in cereal rust fungi.", 28th Fungal Genetics Conference, Pacific Grove, CA, USA, March 17-22, 2015, Invited oral presentation. (Abstract)

2014

Rampitsch, C., Beimcik, E., Bakkeren, G., Linning, R., Joly, D.L., and McCallum, B.D. (2014). "Quantitative proteomics with custom database searching to reveal differences in the haustorial proteomes of three races of wheat leaf rust, *Puccinia triticina*.", 12th European Conference on Fungal Genetics, Sevilla, Spain, March 2014.

Bakkeren, G. (2014). "RNA Interference Technology: Applications for Agriculture.", 56th Annual Horticulture Growers' Short Course, Abbotsford, BC, Canada, January 30, 2014, Invited lecture & chapter in on-line proceeding. Lower Mainland Horticultural Improvement Association.

Rampitsch, C., Beimcik, E., Günel, A., Bakkeren, G., Linning, R., Joly, D.L., McCallum, B.D., and Fan, T. (2014). "Custom database searching to reveal differences in the haustorial proteomes of three races of wheat leaf rust, *Puccinia triticina*.", Canadian Society of Mass Spectrometry, Montreal, QC, Canada, April 13-16, 2014.

Rampitsch, C., Bakkeren, G., and McCallum, B.D. (2014). "Custom database searching to reveal differences in the haustoria proteomes of three races of wheat leaf rust, *Puccinia triticina*.", 1st Meeting of the International Plant Proteomics Organization, Hamburg, Germany, August 31 - September 4, 2014. (Presentation)

Bélanger, R.R., Lefebvre, F., Joly, D.L., and Bakkeren, G. (2014). "From bad to good fungus: new insights into genetic factors leading to biocontrol lifestyle in fungi.", XVIth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada, July 27-August 1, 2014.

Bakkeren, G., Fellers, J.P., Panwar, V., Joly, D.L., Szabo, L.J., Kolmer, J.A., Hulbert, S., Wang, M., Yin, C., Chen, X., Rampitsch, C., McCallum, B.D., Wang, X., Goldberg, J., Young, S., Hamelin, R.C., Saville, B.J., and Cuomo, C.A. (2014). "Comparative genomics of rust fungi drives research and innovations for crop protection.", 16th conference of the International Society for Molecular Plant-Microbe Interactions, Rhodes, Greece, July 6-10, 2014.

Panwar, V., Jordan, M.C., McCallum, B.D., Fobert, P., and Bakkeren, G. (2014). "Host-induced gene silencing of *Puccinia triticina* genes shows enhanced resistance to leaf rust disease in transgenic wheat plants.", XVI 2014 APS-CPS Joint Meeting, Minneapolis, Minnesota, USA, August 9-13, 2014. (Abstract)

Bakkeren, G., Fellers, J.P., Panwar, V., Joly, D.L., Szabo, L.J., Kolmer, J.A., Hulbert, S., Wang, M., Yin, C., Chen, X., Rampitsch, C., McCallum, B.D., Wang, X., Goldberg, J., Young, S., Hamelin, R.C., Saville, B.J., and Cuomo, C.A. (2014). "Comparative genomics of rust fungi drives research and innovations.", XXII Plant & Animal Genome Conference, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014.

Panwar, V., Kassa, M.T., Bakkeren, G., Fobert, P., Jordan, M.C., McCallum, B.D., and McCartney, C.A. (2014). "VIGS as a powerful genomics resource for identifying host or pathogen gene targets for the control of cereal rust diseases.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

## 2013

Panwar, V. and Bakkeren, G. (2013). "A High Resolution Short Interfering RNA (siRNA) Detection Method from Virus-infected Plants. Bio-Protocol. A web-based protocol database: <http://www.bio-protocol.org/wenzhang.aspx?id=940>". (Publicly accessible database)

Rampitsch, C., Beimcik, E., Bakkeren, G., and Fan, T. (2013). "Comparative proteomics in *Puccinia triticina* using race-specific database searches.", 26th CSMS conference, Lake Louise AB, Canada. (Poster)

Rampitsch, C., Beimcik, E., Günel, A., Bakkeren, G., McCallum, B.D., and Fan, T. (2013). "Comparative proteomics of monoclonal-antibody enriched haustoria from three races of *Puccinia triticina*.", 27th American Genetics Society meeting on Fungal Genetics, Asilomar, CA, USA. (Poster)

## 2012

Panwar, V., McCallum, B.D., and Bakkeren, G. (2012). "Host-expressed in-vivo silencing of fungal pathogenicity genes suppresses disease in the wheat-*Puccinia triticina* leaf rust pathosystem.", 2012 Keystone Symposia on Molecular and Cellular Biology: Gene Silencing by Small RNAs (B1), Fairmont Hotel Vancouver, Vancouver, BC, Canada, February 7-12, 2012. (Poster)

Rampitsch, C., Beimcik, E., Günel, A., Günel, A., Bakkeren, G., McCallum, B.D., and Fan, T. (2012). "The proteome of haustoria from *Puccinia triticina*.", 13th International Cereal Rusts and Powdery Mildews Conference (ICRPMC), Beijing Friendship Hotel, Beijing, China, August 28-31, 2012. (Poster)

Bakkeren, G., Joly, D.L., Wang, X., Thiessen, N., Taylor, G.P., Jackman, S.D., Birol, I., Jones, S., McCallum, B.D., Hamelin, R.C., and others (2012). "Deep-sequencing of multiple race-leaf rust, *Puccinia triticina* genomes and transcriptomes during wheat infection.", 15th International Congress on Molecular Plant-Microbe Interactions (MPMI), Kyoto International Conference Center, Kyoto, Japan, July 29-August 2, 2012. (Poster)

## 2011

Fellers, J.P., Segovia, V., Cuomo, C.A., Bakkeren, G., Huang, L., and Szabo, L.J. (2011). "Applying genomics to identify avirulence proteins in wheat leaf rust, *Puccinia triticina*.", Plant & Animal Genome XIX Conference, Town & Country Convention Center, San Diego, CA, USA, January 15-19, 2011. (Presentation)

Cuomo, C.A., Duplessis, S., Grabherr, M.G., Mauceli, E., Sakthikumar, S., Young, S., Zeng, Q., Bakkeren, G., Chen, X.M., Fellers, J.P., Grigoriev, I.V., Martin, F.N., Martin, F., and Szabo, L.J. (2011). "Comparative Genomic Analysis of Rust Fungi.", Plant & Animal Genome XIX Conference, Town & Country Convention Center, San Diego, CA, USA, January 15-19, 2011, W268. (Presentation)

Wang, X., McCallum, B.D., Fetch Jr., T.G., Bakkeren, G., and Saville, B. (2011). "Leaf extracts from Thatcher wheat inoculated with the avirulent race of *Puccinia triticina* confers race-specific resistance in Thatcher-Lr2a through infiltration.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, pp. 65.

Hamelin, R.C., Bakkeren, G., Saville, B., McCallum, B.D., Fetch Jr., T.G., Wang, X., Joly, D.L., and Tanguay, P. (2011). "Emergence and evolution of forest and cereal rusts.", Quebec Society for Plant Protection Annual Meeting: Exotic and invasive species., Montmagny, QC, Canada, June 2011. (Presentation)

Bakkeren, G., Song, X., Panwar, V., Linning, R., Joly, D.L., Wang, X., Rampitsch, C., McCallum, B.D., Fellers, J.P., and Saville, B. (2011). "Functional genomic approaches for the wheat leaf rust fungus.", North American Rust Workers Meeting (NARW), St. Paul, MN, USA, June 12, 2011. (Presentation)

Wang, X., McCallum, B.D., Fetch Jr., T.G., Bakkeren, G., Marais, G.F., and Saville, B.J. (2011). "Comparative analysis of Thatcher isogenic lines with wheat leaf rust resistance genes Lr2a, Lr3, LrB and Lr9 interacting with different *Puccinia triticina* virulence phenotypes.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011. (Poster)

Bakkeren, G., Song, X., Panwar, V., and Linning, R. (2011). "Functional genomic approaches for the wheat leaf rust fungus.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011.

Wang, X., McCallum, B.D., Fetch Jr., T.G., Bakkeren, G., and Saville, B. (2011). "Leaf extracts from Thatcher inoculated with the avirulent race of *Puccinia triticina* confer race-specific resistance in Thatcher-Lr2a through infiltration.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011. (Poster)

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## Research Publications:

2016

Hussain, M.A., Liu, H., Wang, Q., Zhong, F., Guo, Q., and Balamurugan, S. (2016). "Use of Encapsulated Bacteriophages to Enhance Farm to Fork Food Safety.", *Critical Reviews in Food Science and Nutrition*. doi: 10.1080/10408398.2015.1069729

Balamurugan, S., Ahmed, A.A., Chibeu, A., Gao, A., Koutchma, T., and Strange, P. (2016). "Effect of salt types and concentrations on the high-pressure inactivation of *Listeria monocytogenes* in ground chicken.", *International Journal of Food Microbiology*, 218, pp. 51-56. doi: 10.1016/j.ijfoodmicro.2015.11.010

2015

Ros-Polski, V., Koutchma, T., Xue, S.J., Defelice, C., and Balamurugan, S. (2015). "Effects of high hydrostatic pressure processing parameters and NaCl concentration on the physical properties, texture and quality of white chicken meat.", *Innovative Food Science and Emerging Technologies*, 30, pp. 31-42. doi: 10.1016/j.ifset.2015.04.003

Balamurugan, S., Ahmed, R., and Gao, A. (2015). "Survival of Shiga toxin-producing *Escherichia coli* in broth as influenced by pH, water activity and temperature.", *Letters in Applied Microbiology*, 60(4), pp. 341-346. doi: 10.1111/lam.12375

2013

Balamurugan, S., Ahmed, R., and Chambers, J.R. (2013). "Survival of *Arcobacter butzleri* on vacuum packaged chill stored beef.", *Food Research International*, 52(2), pp. 503-507. doi: 10.1016/j.foodres.2013.01.048

Ahmed, R. and Balamurugan, S. (2013). "Evaluation of three *Arcobacter* selective agars for selective enumeration of *Arcobacter butzleri* in beef.", *Food Research International*, 52(2), pp. 522-525. doi: 10.1016/j.foodres.2013.02.029

Chibeu, A., Agius, L., Gao, A., Sabour, P.M., Kropinski, A.M., and Balamurugan, S. (2013). "Efficacy of bacteriophage LISTEXTMP100 combined with chemical antimicrobials in reducing *Listeria monocytogenes* in cooked turkey and roast beef.", *International Journal of Food Microbiology*, 167(2), pp. 208-214. doi: 10.1016/j.ijfoodmicro.2013.08.018

2011

Balamurugan, S., Nattress, F.M., Baker, L.P., and Dilts, B.D. (2011). "Survival of *Campylobacter jejuni* on beef and pork under vacuum packaged and retail storage conditions: Examination of the role of natural meat microflora on *C. jejuni* survival.", *Food Microbiology*, 28(5), pp. 1003-1010. doi: 10.1016/j.fm.2011.01.012

Yang, X.Q., Balamurugan, S., and Gill, C.O. (2011). "Effects on the development of blown pack spoilage of the initial numbers of *Clostridium estertheticum* spores and *Leuconostoc mesenteroides* on vacuum packed beef.", *Meat Science*, 88(3), pp. 361-367. doi: 10.1016/j.meatsci.2011.01.010

## Other Science Related Publications:

2015

Balamurugan, S., Ahmed, R., Gao, A., and Strange, P. (2015). "Survival of non-O157 STEC and *E. coli* O157:H7 during the manufacture of dry fermented sausages (DFS).", Annual Meeting of the International Association of Food Protection (IAFP 2015), Oregon Convention Center, Portland, OR, USA, July 26-29, 2015.

Balamurugan, S., Leon-Velarde, C.G., and Saleh-Lakha, S. (2015). "Fate of *Salmonella* spp., *E. Coli* O157:H7 and *Listeria monocytogenes* during the manufacture of dry cured Westphalian style ham.", Annual Meeting of the International Association of Food Protection (IAFP 2015), Oregon Convention Center, Portland, OR, USA, July 26-29, 2015.

Balamurugan, S., Ahmed, R., Gao, A., Koutchma, T., and Strange, P. (2015). "Effect of salt concentrations on the high pressure inactivation of *Listeria monocytogenes*.", Annual meeting of the International Association of Food Protection, Portland, OR, USA, July 28, 2015, Invited oral presentation.

## 2013

Chibeu, A., Agius, L., Sabour, P.M., Kropinski, A.M., and Balamurugan, S. (2013). "Efficacy of bacteriophage Listex™ P100 in presence of chemical antimicrobials reducing *Listeria monocytogenes* on roast beef and cooked turkey.", 11th OMAFRA Food Safety Research Forum, Guelph, ON, Canada.

Ahmed, R., Gao, A., and Balamurugan, S. (2013). "Growth and inactivation of Shiga-toxin producing *E. coli* under conditions relevant for fermented sausages.", 11th OMAFRA Food Safety Research Forum, Guelph, ON, Canada.

Chibeu, A., Agius, L., Gao, A., Sabour, P.M., Kropinski, A.M., and Balamurugan, S. (2013). "Effectiveness of bacteriophage Listex™ P100 combined with chemical antimicrobials in reducing *Listeria monocytogenes* on roast beef and cooked turkey.", 20th Biennial Evergreen International Phage Meeting, Olympia, WA, USA.

## 2012

Bakhshi, F., Griffith, M., Balamurugan, S., and Sabour, P.M. (2012). "2-D PAGE identification of g bovine whey proteins inhibiting *Staphylococcus aureus* and bacteriophage K interaction.", 10th OMAFRA Food Safety Research Forum, Guelph, ON, Canada.

Balamurugan, S. and Ahmed, R. (2012). "Survival of *Arcobacter butzleri* on sterile and naturally contaminated vacuum packed beef at refrigerated temperatures.", Canadian Institute of Food Science and Technology 50th National Conference (CIFST), Niagara Falls, ON, Canada, May 27 – 29, 2012.

## 2011

Balamurugan, S., Ponmariappan, S., Du, T., and Mulvey, M. (2011). "Detection and characterization of *Clostridium difficile* spores in a beef cattle feedlot operation.", 61st Annual Conference of Canadian Society of Microbiologists, St. John's, NL, Canada, June 20-23, 2011.

Balamurugan, S. (2011). "Growth temperature associated protein expression and membrane fatty acid composition profiles of *Salmonella enterica* serovar Typhimurium [Journal of Basic Microbiology, 2010 50(6), pp. 507-518] (Erratum).", Journal of Basic Microbiology, 51(2), pp. 230.

Balamurugan, S. and Ponmariappan, S. (2011). "Oxygen tolerance of *Arcobacter butzleri* and its effect on protein expression.", 61st Annual Conference of Canadian Society of Microbiologists, St. John's, NL, Canada, June 20-23, 2011.

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## Research Publications:

2015

Balasubramanian, P.M., Mündel, H.-H., Conner, R.L., Chatterton, S., and Hou, A. (2015). "AAC BlackDiamond2 dry bean.", *Canadian Journal of Plant Science*, 95(2), pp. 437-440. doi: 10.4141/cjps-2014-249

Balasubramanian, P.M., Mündel, H.-H., Chatterton, S., Conner, R.L., and Hou, A. (2015). "AAC Burdett pinto dry bean.", *Canadian Journal of Plant Science*, 95(1), pp. 179-181. doi: 10.4141/cjps-2014-248

Balasubramanian, P.M., Mündel, H.-H., Chatterton, S., Conner, R.L., and Hou, A. (2015). "AAC Whitehorse great northern dry bean.", *Canadian Journal of Plant Science*, 95(1), pp. 175-177. doi: 10.4141/cjps-2014-247

2014

Navabi, A., Balasubramanian, P.M., Pauls, K.P., Bett, K.E., and Hou, A. (2014). "Genetic diversity of the Canadian dry bean varieties released since 1930: A pedigree analysis.", *Crop Science*, 54(3), pp. 993-1003. doi: 10.2135/cropsci2013.04.0210

Akter, Z., Pageni, B.B., Lupwayi, N.Z., and Balasubramanian, P.M. (2014). "Biological nitrogen fixation and nifH gene expression in dry beans (*Phaseolus vulgaris* L.).", *Canadian Journal of Plant Science*, 94(2), pp. 203-212. doi: 10.4141/cjps2013-200

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Navabi, A., Yu, K., and Hou, A. (2014). "Combining resistance to common bacterial blight, anthracnose, and bean common mosaic virus into Manitoba-adapted dry bean (*Phaseolus vulgaris* L.) cultivars.", *Canadian Journal of Plant Science*, 94(2), pp. 405-415. doi: 10.4141/CJPS2013-281

Conner, R.L., Hou, A., Balasubramanian, P.M., McLaren, D.L., Henriquez, M.A., Chang, K.F., and McRae, K.B. (2014). "Reaction of dry bean cultivars grown in western Canada to root rot inoculation.", *Canadian Journal of Plant Science*, 94(7), pp. 1219-1230. doi: 10.4141/CJPS2013-416

Khanal, R., Burt, A.J., Woodrow, L., Balasubramanian, P.M., and Navabi, A. (2014). "Genotypic association of parameters commonly used to predict canning quality of dry bean.", *Crop Science*, 54(6), pp. 2564-2573. doi: 10.2135/cropsci2014.02.0113

Henriquez, M.A., McLaren, D.L., Conner, R.L., Balasubramanian, P.M., Chang, K.F., Hwang, S.F., and Strelkov, S.E. (2014). "First report of *Fusarium cuneirostrum* causing root rot disease in dry bean (*Phaseolus vulgaris*) in Canada.", *Plant Disease*, 98(2), pp. 278. doi: 10.1094/PDIS-05-13-0553-PDN

Balasubramanian, P.M., Conner, R.L., McLaren, D.L., Chatterton, S., and Hou, A. (2014). "Partial resistance to white mould in dry bean.", *Canadian Journal of Plant Science*, 94(4), pp. 683-691. doi: 10.4141/cjps2013-312

2013

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Yu, K., and Hou, A. (2013). "Marker-assisted dissection of anthracnose resistance in the dry bean cultivar 'Morden003'", *Canadian Journal of Plant Science*, 93(6), pp. 1115-1123. doi: 10.4141/CJPS2013-085

2012

Chen, Y.-Y., Conner, R.L., Gillard, C.L., McLaren, D.L., Boland, G.J., Balasubramanian, P.M., Stasolla, C., Zhou, Q.-X., Hwang, S.F., Chang, K.F., and Babcock, C. (2012). "A quantitative real-time PCR assay for detection of *Colletotrichum lindemuthianum* in navy bean seeds.", *Plant Pathology*. doi: 10.1111/j.1365-3059.2012.02692.x

Balasubramanian, P.M., Mündel, H.-H., Conner, R.L., and Hou, A. (2012). "AAC Tundra great northern dry bean.", *Canadian Journal of Plant Science*, 92(7), pp. 1403-1405. doi: 10.4141/cjps2012-066

2011

Hou, A., Balasubramanian, P.M., Conner, R.L., Park, S.J., Yu, K., Kiehn, F.A., and Navabi, A. (2011). "Portage common bean.", *Canadian Journal of Plant Science*, 91(3), pp. 523-525. doi: 10.4141/cjps2010-015



Balasubramanian, P.M., Hou, A., Conner, R.L., Kiehn, F.A., and Mündel, H.-H. (2011). "Carman Black dry bean.", *Canadian Journal of Plant Science*, 91(3), pp. 519-521. doi : 10.4141/cjps2010-005

## Other Science Related Publications:

2015

Henriquez, M.A., McLaren, D.L., Conner, R.L., Balasubramanian, P.M., Chang, K.F., Hwang, S.F., Strelkov, S.E., Gossen, B.D., and Penner, W.C. (2015). "Soybean root rot and phytophthora rot in Manitoba, Canada.", *Canadian Journal of Plant Pathology*, 37, pp. 247. (Abstract)

Balasubramanian, P.M., Kader, K.A., and Chatterton, S. (2015). "Effect of irrigation and plant canopy architecture on white mold development in dry bean.", *Bean Improvement Cooperatives 2015*, Niagara Falls, ON, Canada, November 1-4, 2015. (Abstract)

2014

Conner, R.L., Hou, A., Balasubramanian, P.M., McLaren, D.L., Henriquez, M.A., Chang, K.F., and McRae, K.B. (2014). "Reactions of dry bean cultivars from western Canada to root rot.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014. (Poster)

Henriquez, M.A., McLaren, D.L., Conner, R.L., Balasubramanian, P.M., Chang, K.F., Hwang, S.F., and Gossen, B.D. (2014). "Soybean root rot and Phytophthora rot in Manitoba, Canada.", CPS Regional Meeting, Morden, MB, Canada, December 4, 2014. (Abstract)

Lamey, F.J., Li, L., Pearson, D.C., Blackshaw, R.E., and Balasubramanian, P.M. (2014). "Conservation management practices and rotations for irrigated dry bean production in southern Alberta.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

Chatterton, S., Balasubramanian, P.M., Erickson, R.S., Bowness, R.T., and Harding, M.W. (2014). "Pea root rot in Alberta: surveys and pathogen identification.", 35th Meeting of the Plant Pathology Society of Alberta, Canmore, AB, Canada, October 27-29, 2014. (Abstract)

Chatterton, S., Balasubramanian, P.M., McLaren, D.L., Conner, R.L., and Howard, R.J. (2014). "Race structure of *Pseudomonas syringae* pv. *phaseolicola* from dry bean fields on the Canadian prairies.", *Annual Report of the Bean Improvement Cooperative (BIC)*, 57, pp. 147-148.

Chatterton, S., Balasubramanian, P.M., and Erickson, R.S. (2014). "Irrigation and cultivar interactions effect development of white mold of bean.", 35th Meeting of the Plant Pathology Society of Alberta, Canmore, AB, Canada, October 2014.

Henriquez, M.A., McLaren, D.L., Conner, R.L., Balasubramanian, P.M., Chang, K.F., Hwang, S.F., Strelkov, S.E., and Gossen, B.D. (2014). "Fusarium species from soybean in Manitoba.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014. (Abstract)

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Navabi, A., Yu, K., and Hou, A. (2014). "Combining resistance to common bacterial blight, anthracnose and bean common mosaic virus in dry bean.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014, Presentation. (Poster)

McLaren, D.L., Henriquez, M.A., Conner, R.L., Balasubramanian, P.M., Chang, K.F., Hwang, S.F., Strelkov, S.E., and Gossen, B.D. (2014). "Fusarium species isolated from dry bean and field pea in Manitoba: Identification, pathogenicity and prognosis.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014. (Abstract)

McLaren, D.L., Henriquez, M.A., Conner, R.L., Mohr, R.M., Balasubramanian, P.M., and Chang, K.F. (2014). "The root of the problem: Fusarium and Phytophthora in Manitoba soybean fields.", *Canadian Association of Agri-Retailers (CAAR) Crop Management Forum*, Brandon, MB, Canada, November 18, 2014. (Abstract)

2013

Hou, A., Conner, R.L., Balasubramanian, P.M., and Boersma, J.G. (2013). "Blackbean (*Phaseolus vulgaris* L.) germplasm rich in anthracnose resistance.", *Bean Improvement Cooperatives*, Portland, OR, USA, October 28-30, 2013. (Poster)

McLaren, D.L., Henriquez, M.A., Conner, R.L., Balasubramanian, P.M., and Chang, K.F. (2013). "Root rot of pulses in Manitoba.", *Manitoba Special Crops 7th Symposium*, Victoria Inn and Convention Centre, Winnipeg, MB, Canada, February 6-7, 2013.

2012

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., Regitnig, P.J., and Balasubramanian, P.M. (2012). "Irrigated crop rotation research: Findings from the Vauxhall rotation study over 12 years (2000-11).", 2012 Irrigated Crop Production Update Conference, Lethbridge, AB, Canada, January 31-February 1, 2012. (Abstract)

Balasubramanian, P.M., Chatterton, S., Hou, A., Conner, R.L., McLaren, D.L., Navabi, A., Pauls, K.P., and Bett, K.E. (2012). "Dry bean improvement on the prairies for high yield, disease resistance and seed quality.", Pulse Science Cluster Scientific Meeting 2012, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 5-6, 2012.

Henriquez, M.A., McLaren, D.L., Conner, R.L., Balasubramanian, P.M., and Chang, K.F. (2012). "Fusarium species from dry bean and field pea in Manitoba.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, pp. 6.

Balasubramanian, P.M., Conner, R.L., McLaren, D.L., Chatterton, S., and Hou, A. (2012). "Development of dry bean cultivars with resistance to white mold. Oral presentation.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, Oral presentation.

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., and Balasubramanian, P.M. (2012). "Irrigated dry bean response to cropping history and soil management practices in southern Alberta.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Abstract)

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Navabi, A., Yu, K., and Hou, A. (2012). "Pyramiding resistance to common bacterial blight, anthracnose and bean common mosaic virus in dry bean.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, Poster.

Henriquez, M.A., McLaren, D.L., Conner, R.L., Balasubramanian, P.M., and Chang, K.F. (2012). "Root rot pathogens in dry bean and field pea fields in Manitoba.", Canadian Phytopathological Society (CPS) Manitoba Regional 2012 Meeting, Brandon, MB, Canada, November 29, 2012, Published in: Can. J. Plant Pathol. (2013), 35(2), pp. 270.

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Yu, K., and Hou, A. (2012). "Molecular marker-assisted dissection of anthracnose resistance in the common dry bean cultivar, 'morden003'.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, Poster.

2011

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., Regitnig, P.J., and Balasubramanian, P.M. (2011). "Dry bean performance in the Vauxhall irrigated rotation study over 12 growing seasons (2000-11).", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011. (Abstract)

Balasubramanian, P.M. and Torgunrud, S.M. (2011). "Taking the pulse of Canada's pea, lentil, dry bean and chickpea industry.", published by Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC), 2 pages. (Factsheet)

Balasubramanian, P.M. and Torgunrud, S.M. (2011). "List of Researchers working on Pulse Crops.", published by Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC). (Factsheet)

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Gillard, C.L., and Hou, A. (2011). "Evaluation of dry bean lines for resistance to common bacterial blight.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

Hou, A., Conner, R.L., and Balasubramanian, P.M. (2011). "Dry bean breeding research.", Pulse Beat, 2011(64), pp. 38.

Balasubramanian, P.M., Hou, A., Conner, R.L., McLaren, D.L., Navabi, A., and Pauls, K.P. (2011). "Improvement of dry bean on the prairies for high yield, disease resistance and seed quality.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011.

Aker, Z., Lupwayi, N.Z., and Balasubramanian, P.M. (2011). "Nitrogen-use efficiency and biological nitrogen fixation of dry beans.", Biennial Meeting of the Bean Improvement Cooperative and North American Pulse Improvement Association (BIC/NAPIA 2011), Verdanza Hotel, San Juan, Puerto Rico, October 30-November 2, 2011. (Abstract)

Aker, Z., Lupwayi, N.Z., and Balasubramanian, P.M. (2011). "Nitrogen-use efficiency and biological nitrogen fixation of dry beans.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011. (Abstract)

Aker, Z., Lupwayi, N.Z., and Balasubramanian, P.M. (2011). "Nitrogen-use efficiency and biological nitrogen fixation of dry beans.", 49th Annual Alberta Soil Science Workshop, Ramada Inn, Edmonton, AB, Canada, February 14-16, 2012. (Abstract)

Yu, K., Navabi, A., Hou, A., and Balasubramanian, P.M. (2011). "An update on the molecular development and marker-assisted selection in AAFC bean breeding programs.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011.

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## Research Publications:

2015

Durunna, O.N., Baron, V.S., Scott, S.L., Robins, C.D., Khakbazan, M., and Block, H.C. (2015). "Effects of resting perennial pastures during the sensitive pre-dormancy period in western manitoba: Pasture productivity and beef cattle performance.", *Canadian Journal of Animal Science*, 95(2), pp. 129-141. doi : 10.4141/CJAS-2014-046

Turner, T.D., Aalhus, J.L., Mapiye, C., Rolland, D.C., Larsen, I.L., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R (2015). "Effects of diets supplemented with sunflower or flax seeds on quality and fatty acid profile of hamburgers made with perirenal or subcutaneous fat.", *Meat Science*, 99, pp. 123-131. doi : 10.1016/j.meatsci.2014.08.006

Messerli, J., Bertrand, A., Bourassa, J., Bélanger, G., Castonguay, Y., Tremblay, G.F., Baron, V.S., and Séguin, P. (2015). "Performance of Low-Cost Open-Top Chambers to Study Long-Term Effects of Carbon Dioxide and Climate under Field Conditions.", *Agronomy Journal*, 107(3), pp. 916-920. doi : 10.2134/agnonj14.0571

Doce, R.R., Baron, V.S., and Dick, A.C. (2015). "Estimating swath-grazed carrying capacity from plot-scale data.", *Canadian Journal of Plant Science*, 95(4), pp. 647-651. doi : 10.4141/cjps-2014-353

Manafiazar, G., Basarab, J.A., Baron, V.S., McKeown, L.E., Doce, R.R., Swift, M.-L., Undi, M., Wittenberg, K.M., and Ominski, K.H. (2015). "Effect of post-weaning residual feed intake classification on grazed grass intake and performance in pregnant beef heifers.", *Canadian Journal of Animal Science*, 95(3), pp. 369-381. doi : 10.4141/CJAS-2014-184

Akanno, E.C., Plastow, G., Fitzsimmons, C.J., Miller, S.P., Baron, V.S., Ominski, K.H., and Basarab, J.A. (2015). "Genome-wide association for heifer reproduction and calf performance traits in beef cattle.", *Genome*, 58(12), pp. 549-557. doi : 10.1139/gen-2015-0031

Mapiye, C., Vahmani, P., Aalhus, J.L., Rolland, D.C., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R (2015). "Fatty acid composition of beef steers as affected by diet and fat depot.", *South African Journal of Animal Sciences*, 45(4), pp. 386-394.

2014

Mapiye, C., Turner, T.D., Basarab, J.A., Baron, V.S., Aalhus, J.L., and Dugan, M.E.R (2014). "Subcutaneous fatty acid composition of steers finished as weanlings or yearlings with and without growth promotants.", *Journal of Animal Science and Biotechnology*, 4(41: Article 41). doi : 10.1186/2049-1891-4-41

Bonesmo, H., Baron, V.S., Young, D.G., Bélanger, G., and Jing, Q. (2014). "Adapting the CATIMO grass model to meadow bromegrass grown in western Canada.", *Canadian Journal of Plant Science*, 94(1), pp. 61-71. doi : 10.4141/CJPS2013-183

Jing, Q., Bélanger, G., Qian, B., and Baron, V.S. (2014). "Timothy yield and nutritive value with a three-harvest system under the projected future climate in Canada.", *Canadian Journal of Plant Science*, 94(2), pp. 213-222. doi : 10.4141/CJPS2013-279

Mapiye, C., Aalhus, J.L., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, G.S., Proctor, S.D., and Dugan, M.E.R (2014). "Types of oilseed and adipose tissue influence the composition and relationships of polyunsaturated fatty acid biohydrogenation products in steers fed a grass hay diet.", *Lipids*, 49(3), pp. 275-286. doi : 10.1007/s11745-013-3876-1

Mapiye, C., Aalhus, J.L., Turner, T.D., Vahmani, P., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R (2014). "Inclusion of sunflower seed and wheat dried distillers' grains with solubles in a red clover silage-based diet enhances steers performance, meat quality and fatty acid profiles.", *Animal*, 8(12), pp. 1999-2010. doi : 10.1017/S1751731114001955

Baron, V.S., Doce, R.R., Basarab, J.A., and Dick, A.C. (2014). "Swath grazing triticale and corn compared to barley and a traditional winter feeding method in central Alberta.", *Canadian Journal of Plant Science*, 94(7), pp. 1125-1137. doi : 10.4141/CJPS2013-412

2013

Jégo, G., Bélanger, G., Tremblay, G.F., Jing, Q., and Baron, V.S. (2013). "Calibration and performance evaluation of the STICS crop model for simulating timothy growth and nutritive value.", *Field Crops Research*, 151, pp. 65-77. doi : 10.1016/j.fcr.2013.07.003

Jing, Q., Bélanger, G., Qian, B., and Baron, V.S. (2013). "Timothy Yield and Nutritive Value under Climate Change in Canada.", *Agronomy Journal*, 105(6), pp. 1683-1694. doi : 10.2134/agronj2013.0195

Mapiye, C., Turner, T.D., Rolland, D., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R. (2013). "Adipose tissue and muscle fatty acid profiles of steers fed red clover silage with and without flaxseed.", *Livestock Science*, 151(1), pp. 11-20. doi : 10.1016/j.livsci.2012.10.021

Jing, Q., Bélanger, G., Baron, V.S., Bonesmo, H., and Virkajärvi, P. (2013). "Simulating the Nutritive Value of Timothy Summer Regrowth.", *Agronomy Journal*, 105(3), pp. 563-572. doi : 10.2134/agronj2012.0331

Gilmanov, T.G., Wylie, B.K., Tieszen, L.L., Meyers, T.P., Baron, V.S., Bernacchi, C.J., Billesbach, D.P., Burba, G.G., Fischer, M.L., Glenn, A.J., Hanan, N.P., Hatfield, J.L., Heuer, M.W., Hollinger, S.E., Howard, D.M., Matamala, R., Preuger, J.H., Tenuta, M., and Young, D.G. (2013). "CO<sub>2</sub> uptake and ecophysiological parameters of the grain crops of midcontinent North America: Estimates from flux tower measurements.", *Agriculture, Ecosystems and Environment*, 164, pp. 162-175. doi : 10.1016/j.agee.2012.09.017

Mapiye, C., Dugan, M.E.R., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Aalhus, J.L. (2013). "Erythrocytes assayed early ante mortem can predict adipose tissue and muscle trans-18:1 isomeric profiles of steers fed red clover silage supplemented with flaxseed.", *Canadian Journal of Animal Science*, 93(1), pp. 149-153. doi : 10.4141/CJAS2012-054

López-Campos, Ó., Aalhus, J.L., Okine, E.K., Baron, V.S., and Basarab, J.A. (2013). "Effects of calf and yearling production systems and growth promotants on production and profitability.", *Canadian Journal of Animal Science*, 93(1), pp. 171-184. doi : 10.4141/CJAS2012-035

Basarab, J.A., Beauchemin, K.A., Baron, V.S., Ominski, K.H., Guan, L.L., Miller, S.P., and Crowley, J.J. (2013). "Reducing GHG emissions through genetic improvement for feed efficiency: effects on economically important traits and enteric methane production.", *Animal*, 7(S2), pp. 305-315. doi : 10.1017/S1751731113000888

2012

Mapiye, C., Dugan, M.E.R., Juárez, M., Basarab, J.A., Baron, V.S., Turner, T.D., Yang, X.Q., Aldai, N., and Aalhus, J.L. (2012). "Influence of  $\alpha$ -tocopherol supplementation on trans-18:1 and conjugated linoleic acid profiles in beef from steers fed a barley-based diet.", *Animal*, 6(11), pp. 1888-1896. doi : 10.1017/S1751731112000730

Jing, Q., Bélanger, G., Baron, V.S., Bonesmo, H., Virkajärvi, P., and Young, D.G. (2012). "Regrowth simulation of the perennial grass timothy.", *Ecological Modelling*, 232, pp. 64-77. doi : 10.1016/j.ecolmodel.2012.02.016

Durunna, O.N., Colazo, M.G., Ambrose, D.J., McCartney, D.H., Baron, V.S., and Basarab, J.A. (2012). "Evidence of residual feed intake reranking in crossbred replacement heifers.", *Journal of Animal Science*, 90(3), pp. 734-741. doi : 10.2527/jas.2011-4264

Juárez, M., Basarab, J.A., Baron, V.S., Valera, M., Larsen, I.L., and Aalhus, J.L. (2012). "Quantifying the relative contribution of ante- and post-mortem factors to the variability in beef texture.", *Animal*, 6(11), pp. 1878-1887. doi : 10.1017/s1751731112000572

Basarab, J.A., Baron, V.S., López-Campos, Ó., Aalhus, J.L., Haugen-Kozyra, K., and Okine, E.K. (2012). "Greenhouse gas emissions from calf- and yearling-fed beef production systems, with and without the use of growth promotants.", *Animals*, 2(2), pp. 195-220. doi : 10.3390/ani2020195

Baron, V.S., Aasen, A., Oba, M., Dick, A.C., Salmon, D.F., Basarab, J.A., and Stevenson, F.C. (2012). "Swath-Grazing Potential for Small-Grain Species with a Delayed Planting Date.", *Agronomy Journal*, 104(2), pp. 393-404. doi : 10.2134/agronj2011.0234

López-Campos, Ó., Basarab, J.A., Baron, V.S., Aalhus, J.L., and Juárez, M. (2012). "Reduced age at slaughter in youthful beef cattle: effects on carcass merit traits.", *Canadian Journal of Animal Science*, 92(4), pp. 449-463. doi : 10.4141/CJAS2012-014

Juárez, M., Dugan, M.E.R., Aldai, N., Basarab, J.A., Baron, V.S., McAllister, T.A., and Aalhus, J.L. (2012). "Beef quality attributes as affected by increasing the intramuscular levels of vitamin E and omega-3 fatty acids.", *Meat Science*, 90(3), pp. 764-769. doi : 10.1016/j.meatsci.2011.11.010

2011

Juárez, M., Dugan, M.E.R., Aalhus, J.L., Aldai, N., Basarab, J.A., Baron, V.S., and McAllister, T.A. (2011). "Effects of vitamin E and flaxseed on rumen-derived fatty acid intermediates in beef intramuscular fat.", *Meat Science*, 88(3), pp. 434-440. doi : 10.1016/j.meatsci.2011.01.023

Basarab, J.A., Colazo, M.G., Ambrose, D.J., Novak, S., McCartney, D.H., and Baron, V.S. (2011). "Residual feed intake adjusted for backfat thickness and feeding frequency is independent of fertility in beef heifers.", *Canadian Journal of Animal Science*, 91(4), pp. 573-584. doi : 10.4141/cjas2011-010

Nassu, R.T., Dugan, M.E.R, Juárez, M., Basarab, J.A., Baron, V.S., and Aalhus, J.L. (2011). "Effect of  $\alpha$ -tocopherol tissue levels on beef quality.", *Animal*, 5(12), pp. 2010-2018. doi : 10.1017/S1751731111001182

Jing, Q., Bélanger, G., Baron, V.S., and Bonesmo, H. (2011). "Modeling the biomass and harvest index dynamics of timothy.", *Agronomy Journal*, 103(5), pp. 1397-1404. doi : 10.2134/agronj2011.0095

## Other Science Related Publications:

### 2015

Basarab, J.A., Baron, V.S., McKeown, L.E., Juárez, M., Larsen, I.L., Akanno, E.C., Stothard, P., Plastow, G., and Aalhus, J.L. (2015). "Relationships between feed efficiency, carcass quality and meat quality in longissimus steaks from slaughter heifers and steers.", 2nd Symposium of Animal Evaluation and Meat Quality in Pirassununga/SP/Brazil, September 21, 2015.

Alemu, A.W., Little, S.M., Hao, X., Iwaasa, A.D., Baron, V.S., Chai, L.L., Janzen, H.H., Beauchemin, K.A., Thompson, D., and Kröbel, R. (2015). "Application of life cycle assessment approach to beef production systems in the Canadian prairies with regard to environmental impact and energy use efficiency.", LCA Conference XV - A bright green future, Vancouver, Canada, October 6-8, 2015, Presentation.

Baron, V.S., Lemke, R.L., Young, D.G., Harker, K.N., O'Donovan, J.T., and Flesch, T.K. (2015). "Ecosystem carbon balance of field-scale canola and barley in central Alberta.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. (Poster)

### 2014

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Baron, V.S., Blackshaw, R.E., Hall, L.M., Johnson, E.N., Willenborg, C.J., Shirliffe, S.J., Gulden, R.H., Kobler, J.F., and Pageau, D. (2014). "Delaying herbicide resistance with integrated wild oat (*Avena fatua*) management.", 2014 Weed Science Society of America (WSSA) and the Canadian Weed Science Society (CWSS) Annual Meeting, Vancouver, B.C., Canada, February 3-6, 2014. (Abstract)

Baron, V.S. (2014). "Swath grazing a winter feeding option for beef cattle. Youtube video. Agriculture and Agri-Food Canada. <http://www.youtube.com/watchTV=RLKGhGy>."

Mapiye, C., Aalhus, J.L., Vahmani, P., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Procor, S.D., and Dugan, M.E.R (2014). "Subcutaneous biohydrogenation product profiles of steers fed forage-based diets with sunflower seed and wheat dried distillers' grains with soubles.", ICoMST, Uruguay, August, 2015. (Abstract)

Baron, V.S. (2014). "Swath Grazing. Nov. 20, 2014."

Baron, V.S. (2014). "Forage-beef research.", Lacombe Research Centre, October 29, 2014. (Presentation)

Baron, V.S. (2014). "Forage-Beef Research, AAFC Cow-Calf-Forage Centre, Alberta Forage-Beef Centre, Lacombe Research Centre, AAFC.", Invited talk at Samuel Noble Research Foundation, Ardmore, OK, USA, October 7, 2014. (Presentation)

Baron, V.S., Doce, R.R., Basarab, J.A., Juskiw, P.E., and Kuipers, A. (2014). Innovative swath grazing/increasing forage research capacity. Applied Research partnerships. P. 19-20 in Annual Report 2013-14 Grey Wooded Forage Assoc., Rocky Mountain House, AB. (Report)

Sehn, C., Basarab, J.A., Baron, V.S., and Aalhus, J.L. (2014). "Exploring new frontiers. The Lacombe Research centre.", in Kostiuik, B. (ed.) - Today's Angus Advantage, pp. 55-56.

Iwaasa, A.D., Baron, V.S., Lemke, R.L., Wang, H., Kröbel, R., Schellenberg, M.P., and McConkey, B.G. (2014). "AGGP Cropping System-Grassland Research and Extension: Semiarid Ecoregion.", AGGP cropping system – grassland research and extension: Semiarid Ecoregion, AAFC-Saskatoon, Saskatoon, Canada, March 20, 2014.

### 2013

Jégo, G., Bélanger, G., Tremblay, G.F., Jing, Q., and Baron, V.S. (2013). "Performance du modèle STICS pour simuler la croissance et la valeur nutritive de la fléole des prés.", Demi-journée d'information scientifique sur les fourrages 2013, Victoriaville, QC, Canada, February 14, 2013, pp. 27-31.

Ullenboom, T.R., Crow, G.H., Basarab, J.A., Wittenberg, K.M., Baron, V.S., and Ominski, K.H. (2013). "Residual feed intake, enteric methane and carbon dioxide emissions in growing beef bulls.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O21-GS, pp. 11.

Mapiye, C., Turner, T.D., Basarab, J.A., Baron, V.S., Aalhus, J.L., and Dugan, M.E.R (2013). "Subcutaneous fatty acid composition of calf- and yearling-fed steers with and without growth promotants.", World Conference on Animal Production (11th WCAP), Beijing, China, October 15-20, 2013. (Abstract)

Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Effects of feeding flaxseed or sunflower-seed in high forage diets on biohydrogenation intermediates in adipose tissues of yearling steers.", ADSA-ASAS Joint Annual Meeting, Indianapolis, USA, July 2013. (Abstract)

Turner, T.D., Mapiye, C., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Lopez-Campos, O., López-Campos, O., Aalhus, J.L., and Dugan, F.M. (2013). "Inclusion of perirenal fat to enhance the bioactive fatty acid content of hamburger.", 2013, Banff, Alberta, Canada, June 18-20, 2013.

Baron, V.S. (2013). "Reduce winter feeding costs through swath grazing and use of new varieties.", Lacombe AAFC-ARD Field day, June 25, 2013. (Presentation)

Doce, R.R., Baron, V.S., Basarab, J.A., Juskiw, P.E., and Swift, M.-L. (2013). "The validity of field-scale estimated carrying capacity from plot-scale data for swath grazing systems.", CFGA Annual meeting, Olds, AB, Canada, December 8-11, 2013. (Poster)

Baron, V.S. (2013). Extended grazing research at Lacombe research Centre. August 21, 2013. (Report)

Kielen, A. and Baron, V.S. (2013). "Researcher eye new varieties to boost the savings from swath grazing.", Alberta Farmer Express, 10(17), pp. 11.

Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Beef production and quality of yearling steers fed high-forage diets with flaxseed or sunflower-seed.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P29, pp. 37. (Poster)

Juskiw, P.E., Swift, M.-L., Baron, V.S., Doce, R.R., and Nyachiro, J.M. (2013). "New tools for breeding forage barley.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013, Canadian Soc. Agron: 177-178. (Poster)

Turner, T.D., Aalhus, J.L., Mapiye, C., Rolland, D.C., Larsen, I.L., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R (2013). "Enriching hamburger with PUFA biohydrogenation products by supplementing steers fed high forage diets with either flaxseed or sunflower seed: Effects of adipose tissue source on palatability and fatty acid composition.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P20, pp. 32. (Poster)

Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Effects of feeding flaxseed and sunflower seed diets in high forage diets on biohydrogenation intermediates in adipose tissues of yearling steers.", ADSA-ASAS Joint Annual Meeting, Indianapolis, USA, July 2013. (Abstract)

Baron, V.S. (2013). "Where are we at with swath grazing. Youtube video <https://www.youtube.com/watch?v=GeQcMjTRoko>."

Thompson, S., Ullenboom, T.R., Crow, G.H., Basarab, J.A., Wittenberg, K.M., Baron, V.S., Fitzsimmons, C.J., and Ominski, K.H. (2013). "Repeated measures of residual feed intake in growing beef bulls fed forage and grain based diets.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P13, pp. 29. (Poster)

Baron, V.S., Doce, R.R., Swift, M.-L., Aljarrah, M., Juskiw, P.E., and Basarab, J.A. (2013). "Use of triticale as an annual forage source.", Saskatchewan Beef Industry Conference Saskatoon, SK, Saskatoon, SK, Canada, January 23, 2013. (Presentation)

Thompson, S., Schaefer, A.L., Crow, G.H., Basarab, J.A., Colyn, J.J., Wittenberg, K.M., Baron, V.S., Fitzsimmons, C.J., and Ominski, K.H. (2013). "Predicting residual feed intake in beef bulls by measuring radiated heat loss through infrared thermography.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O20-GS, pp. 11.

Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Composition of biohydrogenation intermediates in intramuscular fat of yearling steers fed forage-based diets with supplemental flaxseed or sunflower-seed.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P28, pp. 36. (Poster)

Furber, D. and Baron, V.S. (2013). "Tighten up with triticale.", Canadian Cattlemen, 2013(April), pp. 22-25.

2012

Baron, V.S. (2012). "Review of Environmental Issues facing the beef industry in Alberta.", Lacombe, AB, Canada, May 17, 2012. (Presentation)

Mapiye, C., Dugan, M.E.R., Juárez, M., Basarab, J.A., Baron, V.S., Turner, T.D., Yang, X.Q., Aldai, N., and Aalhus, J.L. (2012). "Effect of vitamin E inclusion on trans-18:1 isomers in subcutaneous fat of steers fed a high-barley grain diet.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012.

López-Campos, Ó., Juárez, M., Baron, V.S., Aalhus, J.L., Okine, E.K., Haugen-Kozyra, K., and Basarab, J.A. (2012). "Reducing age at harvest: toward maximizing efficiency in beef production.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012, Paper 326.

Mapiye, C., Dugan, M.E.R., Turner, T.D., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., and Aalhus, J.L. (2012). "Relationships of trans-18:1 isomers between red blood cells and beef tissues in steers fed red clover silage with/without flaxseed.", 58th International Congress of Meat Science and Technology, Montreal, Canada, August 12-17, 2012.

## 2011

Lemke, R.L., Iwaasa, A.D., Baron, V.S., Farrell, R.E., and Schoenau, J.J. (2011). "Quantifying nitrous oxide emissions resulting from beef cattle urine and dung on semiarid pasture.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Baron, V.S., Lemke, R.L., Basarab, J.A., and Iwaasa, A.D. (2011). "Root, residue and removal-C and -N pools compared to above ground production for forage-based management practices.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011, Abstract 67442. (Abstract)

Basarab, J.A., Baron, V.S., López-Campos, Ó., Aalhus, J.L., Haugen-Kozyra, K., and Okine, E.K. (2011). Greenhouse gas emissions from calf- and yearling-fed beef production systems, with and without the use of growth promotants. Full Report for Alberta Livestock and Meat Agency (ALMA) Ltd., Edmonton, AB. (Report)

López-Campos, Ó., Robertson, W.M., Aalhus, J.L., Larsen, I.L., Baron, V.S., Juárez, M., Uttaro, B., Okine, E.K., and Basarab, J.A. (2011). "Effect of production system and implant strategies on steer performance and carcass traits.", Canadian Meat Science Association Annual Meeting, Halifax, NS, Canada, May 4-6, 2011, published in 2011 Annual Meeting Poster Session Abstracts, pp. 17. (Poster)

Nassu, R.T., Dugan, M.E.R., Juárez, M., Basarab, J.A., Baron, V.S., and Aalhus, J.L. (2011). "Beef quality of animals fed different levels of vitamin E.", 57th International Congress of Meat Science and Technology (ICoMST), Ghent, Belgium, August 7-12, 2011.

Baron, V.S. (2011). "What about yield?", Alberta Forage Industry Network (AFIN) Annual General Meeting, Lacombe, AB, Canada, March 15, 2011. (Presentation)

Juárez, M., Basarab, J.A., Baron, V.S., López-Campos, Ó., Valera, M., and Aalhus, J.L. (2011). "Ante- and post-mortem factors affecting Canadian beef: Relative contribution of carcass and meat quality.", Livestock Gentec's 2nd Annual Conference: Addressing the Gap Between Discovery and Profitable Adoption, Edmonton, AB, Canada, October 19-20, 2011.

Baron, V.S., Basarab, J.A., and Aalhus, J.L. (2011). Forage-Beef Research and Extension Vision. Document requested by John Knapp, Deputy Minister, AARD, Alberta, Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC).

Juárez, M., Basarab, J.A., Baron, V.S., López-Campos, Ó., Valera, M., and Aalhus, J.L. (2011). "Relative contribution of ante- and post-mortem factors to Canadian beef carcass and meat quality.", 57th International Congress of Meat Science and Technology (ICoMST), Ghent, Belgium, August 7-12, 2011, P 318.

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## Research Publications:

2015

Baum, B.R., Edwards, T., and Johnson, D.A. (2015). "Diversity within the genus *Elymus* (Poaceae: Triticeae) II: analyses of variation within 5S nrDNA restrict membership in the genus to species with StH genomes.", *Molecular Genetics and Genomics*. doi : 10.1007/s00438-015-1096-5

2014

Yan, H., Baum, B.R., Zhou, P., Zhao, J., Wei, Y.-M., Ren, C.Z., Xiong, F., Liu, G., Zhong, L., Zhao, G., and Peng, Y.-Y. (2014). "Phylogenetic analysis of the genus *Avena* based on chloroplast intergenic spacer psbA-trnH and single-copy nuclear gene *Acc1*.", *Genome*, 57(5), pp. 267-277. doi : 10.1139/gen-2014-0075

Baum, B.R., Edwards, T., and Johnson, D.A. (2014). "Diversity within the genus *Elymus* (Poaceae: Triticeae) as investigated by the analysis of the nr5S rDNA variation in species with St and H haplotypes.", *Molecular Genetics and Genomics*, 290(1), pp. 329-342. doi : 10.1007/s00438-014-0907-4

Baum, B.R., Edwards, T., and Johnson, D.A. (2014). "What does the nr5S DNA multigene family tell us about the genomic relationship between *Dasypyrum breviaristatum* and *D. villosum* (Triticeae: Poaceae)?" *Molecular Genetics and Genomics*, 289(4), pp. 553-565. doi : 10.1007/s00438-014-0825-5

Yan, H., Baum, B.R., Zhou, P., Zhao, J., Wei, Y.-M., Ren, C.Z., Xiong, F., Liu, G., Zhong, L., Zhao, G., and Peng, Y.-Y. (2014). "Genetic diversity of seed storage proteins in diploid, tetraploid and hexaploid *Avena* species.", *Israel Journal of Ecology and Evolution*. doi : 10.1080/15659801.2014.949114

2013

Mahelka, V., Kopecký, D., and Baum, B.R. (2013). "Contrasting patterns of evolution of 45S and 5S rDNA families uncover new aspects in the genome constitution of the agronomically important grass *Thinopyrum intermedium* (Triticeae).", *Molecular Biology and Evolution*, 30(9), pp. 2065-2086. doi : 10.1093/molbev/mst106

2012

Petchsri, S., Boonkerd, T., and Baum, B.R. (2012). "Phenetic study of the *Microsorium punctatum* complex (Polypodiaceae).", *ScienceAsia*, 38(1), pp. 1-12. doi : 10.2306/scienceasia1513-1874.2012.38.001

Baum, B.R. and Bailey, L.G. (2012). "Genetic diversity in the Red wild einkorn: *T. urartu* Gandilyan (Poaceae: Triticeae).", *Genetic Resources and Crop Evolution*, 60(1), pp. 77-87. doi : 10.1007/s10722-012-9817-7

Baum, B.R., Edwards, T., Ponomareva, E., and Johnson, D.A. (2012). "Are the Great Plains wildrye (*Elymus canadensis*) and the Siberian wildrye (*Elymus sibiricus*) conspecific? A study based on the nuclear 5S rDNA sequences.", *Botany*, 90(6), pp. 407-421. doi : 10.1139/B2012-013

Baum, B.R., Edwards, T., Mamuti, M., and Johnson, D.A. (2012). "Phylogenetic relationships among the polyploid and diploid *Aegilops* species inferred from the nuclear 5S rDNA sequences (Poaceae: Triticeae).", *Genome*, 55(3), pp. 177-193. doi : 10.1139/G2012-006

2011

Baum, B.R., Yang, J.L., Yen, C., and Agafonov, A.V. (2011). "A taxonomic synopsis of the genus *Campeiochloa* Drobov.", *Journal of Systematics and Evolution*, 49(2), pp. 146-159. doi : 10.1111/j.1759-6831.2010.00106.x

Reid, L.M., Xiang, K., Zhu, X., Baum, B.R., and Molnar, S.J. (2011). "Genetic diversity analysis of 119 Canadian maize inbred lines based on pedigree and simple sequence repeat markers.", *Canadian Journal of Plant Science*, 91(4), pp. 651-661. doi : 10.4141/cjps10198

## Other Science Related Publications:



## 2012

Pietrzak, L.N., Neves, E., Matwin, S., Baum, B.R., Parisien, I.D., and Gale, J. (2012). "Nonlinear quality modeling of Eastern Canadian winter wheat.", 2012 International Annual Meeting of the American Association of Cereal Chemists (AACC), Hollywood, FL, USA, September 30-October 3, 2012, Published in: Supplement Cereal Food World, 57(4) A65. (Abstract)

Baum, B.R. (2012). "A taxonomist's view on genomic authentication.", in Sucher, N.J., Hennell, J.R., and Carles, M.C. (eds.) - Plant DNA Fingerprinting and Barcoding: Methods and Protocols. Series: Methods in Molecular Biology. Vol. 862, Humana Press Inc, USA.

Baum, B.R. and Smith, J.P. Jr. (2012). "Avena Oats.", in Baldwin, B.G., Goldman, D.H., Keil, D.J., Patterson, R., and Rosatti, T.J. (eds.) - The Jepson Manual: Vascular Plants of California, 2nd Edition, University of California Press, USA.

## 2011

Baum, B.R. (2011). "New method to test whether the DNA sequence of two or more genes can be concatenated prior to the calculation to infer phylogenetic relationships.", Sichuan Agricultural University, Chengdu, Sichuan, China, October 21, 2011. (Presentation)

Baum, B.R. and Johnson, D.A. (2011). "Application of cophylogenetic tools to gene sets.", 15th Evolutionary Biology Meeting, Marseilles, Marseilles, France, September 27-30, 2011, published in Book of Abstracts: 173, pp. 204, Poster #47. (Presentation)

Baum, B.R. and Johnson, D.A. (2011). "Application of cophylogenetic tools to gene sets.", BioSystematics Berlin 2011, Berlin, Germany, February 21-27, 2011, published in Borsch, T., Giere, P., Hoffmann, J., Jahn, R., Löhne, C., Nordt, B., Ohl, M. (eds.) Biosystematics 2011, Berlin, Programme and Abstracts, 434, Talk S46. (Presentation)

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## Research Publications:

2016

Chai, L.L., Kröbel, R., Macdonald, D.J., Bittman, S., Beauchemin, K.A., Janzen, H.H., McGinn, S.M., and VanderZaag, A.C. (2016). "An ecoregion-specific ammonia emissions inventory of Ontario dairy farming: Mitigation potential of diet and manure management practices.", *Atmospheric Environment*, 126, pp. 1-14. doi: 10.1016/j.atmosenv.2015.11.030

2015

Ribeiro Jr, G.O., Gonçalves, L., Pereira, L.G.R., Chaves, A.V., Wang, Y., Beauchemin, K.A., and McAllister, T.A. (2015). "Effect of fibrolytic enzymes added to a *Andropogon gayanus* grass silage-concentrate diet on rumen fermentation in batch cultures and the artificial rumen (Rusitec).", *Animal*, 9(7), pp. 1153-1162. doi: 10.1017/S1751731115000221

Gilroyed, B.H., Li, C.L., Reuter, T.R., Beauchemin, K.A., Hao, X., and McAllister, T.A. (2015). "Influence of distiller's grains and condensed tannins in the diet of feedlot cattle on biohydrogen production from cattle manure.", *International Journal of Hydrogen Energy*, 40(18), pp. 6050-6058. doi: 10.1016/j.ijhydene.2013.07.014

Romero-Pérez, G.A., Okine, E.K., Guan, L.L., Duval, S., Kindermann, M., and Beauchemin, K.A. (2015). "Effects of 3-nitrooxypropanol on methane production using the rumen simulation technique (Rusitec).", *Animal Feed Science and Technology*, 209, pp. 98-109. doi: 10.1016/j.anifeedsci.2015.09.002

Jiao, J., Li, X., Beauchemin, K.A., Tan, Z.L., Tang, S.X., and Zhou, C.S. (2015). "Rumen development process in goats as affected by supplemental feeding v. Grazing: Age-related anatomic development, functional achievement and microbial colonisation.", *British Journal of Nutrition*, 113(6), pp. 888-900. doi: 10.1017/S0007114514004413

He, Z.X., Yang, L.Y., Yang, W.-Z., Beauchemin, K.A., Tang, S.X., Huang, J.Y., Zhou, C.S., Han, X.F., Wang, M., Kang, J.H., Odongo, N.E., and Tan, Z.L. (2015). "Efficacy of exogenous xylanases for improving in vitro fermentation of forages.", *Journal of Agricultural Science*, 153(3), pp. 538-553. doi: 10.1017/S0021859614000860

Alazzeah, A.Y., Smith, A.H., Beauchemin, K.A., Meale, S.J., and McAllister, T.A. (2015). "Supplementing *Propionibacterium acidipropionici* P169 does not affect methane production or volatile fatty acid profiles of different diets in in vitro rumen cultures from heifers.", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 64(3), pp. 170-177. doi: 10.1080/09064702.2014.988746

Sheppard, S.C., Bittman, S., Donohoe, G., Flaten, D.N., Wittenberg, K.M., Small, J.A., Berthiaume, R.R., McAllister, T.A., Beauchemin, K.A., McKinnon, J.J., Amiro, B.D., MacDonald, D., Mattos, F., and Ominski, K.H. (2015). "Beef cattle husbandry practices across ecoregions of Canada in 2011.", *Canadian Journal of Animal Science*, 95(2), pp. 305-321. doi: 10.4141/CJAS-2014-158

He, Z.X., He, M.L., Zhao, Y.L., Xu, L., Walker, N.D., Beauchemin, K.A., McAllister, T.A., and Yang, W.-Z. (2015). "Effect of wheat dried distillers grains and enzyme supplementation on growth rates, feed conversion ratio and beef fatty acid profile in feedlot steers.", *Animal*, 9(10), pp. 1740-1746. doi: 10.1017/S1751731115000944

Lynch, J.P., Baah, J., and Beauchemin, K.A. (2015). "Conservation, fiber digestibility, and nutritive value of corn harvested at 2 cutting heights and ensiled with fibrolytic enzymes, either alone or with a ferulic acid esterase-producing inoculant.", *Journal of Dairy Science (JDS)*, 98(2), pp. 1214-1224. doi: 10.3168/jds.2014-8768

Aboagye, I.A., Lynch, J.P., Church, J.S., Baah, J., and Beauchemin, K.A. (2015). "Digestibility and growth performance of sheep fed alfalfa hay treated with fibrolytic enzymes and a ferulic acid esterase producing bacterial additive.", *Animal Feed Science and Technology*, 203, pp. 53-66. doi: 10.1016/j.anifeedsci.2015.02.010

Kouazounde, J.B., Jin, L., Assogba, F.M., Ayedoun, M.A., Wang, Y., Beauchemin, K.A., McAllister, T.A., and Gbenou, J.D. (2015). "Effects of essential oils from medicinal plants acclimated to Benin on in vitro ruminal fermentation of *Andropogon gayanus* grass.", *Journal of the Science of Food and Agriculture*, 95(5), pp. 1031-1038. doi: 10.1002/jsfa.6785

Wang, Z., He, Z.X., Beauchemin, K.A., Tang, S.X., Zhou, C.S., Han, X.F., Wang, M., Kang, J.H., Odongo, N.E., and Tan, Z.L. (2015). "Comparison of two live *Bacillus* species as feed additives for improving in vitro fermentation of cereal straws.", *Animal Science Journal*. doi: 10.1111/asj.12346

Vyas, D., Alazzech, A.Y., McGinn, S.M., McAllister, T.A., Harstad, O.M., Holo, H., and Beauchemin, K.A. (2015). "Enteric methane emissions in response to ruminal inoculation of *Propionibacterium* strains in beef cattle fed a mixed diet.", *Animal Production Science*, 118, pp. 989-997. doi: 10.1071/AN14801

Lynch, J.P., Jin, L., Church, J.S., Baah, J., and Beauchemin, K.A. (2015). "Fibrolitic enzymes and a ferulic acid esterase - producing bacterial additive applied to alfalfa hay at baling: Effects on fibre digestibility, chemical composition and conservation characteristics.", *Grass and Forage Science*, 70(1), pp. 85-93. doi: 10.1111/gfs.12093

Storlien, T.M., Prestløkken, E., Beauchemin, K.A., McAllister, T.A., Iwaasa, A.D., and Harstad, O.M. (2015). "Supplementation with crushed rapeseed causes reduction of methane emissions from lactating dairy cows on pasture.", *Animal Production Science*. doi: 10.1071/AN15287

Kouazounde, J.B., Gbenou, J.D., He, M.L., Jardim, T., Jin, L., Wang, Y., Beauchemin, K.A., and McAllister, T.A. (2015). "Effects of essential oils from african basil on fermentation of andropogon gayanus grass in the artificial rumen (RUSITEC).", *Canadian Journal of Animal Science*, 95(3), pp. 425-431. doi: 10.4141/CJAS-2014-189

He, Z.X., Sun, Z., Beauchemin, K.A., Yang, W.-Z., Tang, S.X., Zhou, C.S., Han, X.F., Wang, M., Kang, J.H., and Tan, Z.L. (2015). "Effect of protein or energy restriction during late gestation on hormonal and metabolic status in pregnant goats and postnatal male offspring.", *Animal*. doi: 10.1017/S1751731115001147

Hünerberg, M., Beauchemin, K.A., McGinn, S.M., Entz, T., Okine, E.K., McAllister, T.A., and Harstad, O.M. (2015). "Impact of ruminal pH on enteric methane emissions.", *Journal of Animal Science*, 93(4), pp. 1760-1766. doi: 10.2527/jas.2014-8469

## 2014

Mohammed, R., Hünerberg, M., McAllister, T.A., and Beauchemin, K.A. (2014). "Characterization of ruminal temperature and its relationship with ruminal pH in beef heifers fed growing and finishing diets.", *Journal of Animal Science*, 92(10), pp. 4650-4660. doi: 10.2527/jas.2014-7859

Haisan, J., Sun, Y., Guan, L.L., Beauchemin, K.A., Iwaasa, A.D., Duval, S., Barre da, D.R., and Oba, M. (2014). "The effects of feeding 3-nitrooxypropanol on methane emissions and productivity of Holstein cows in mid lactation.", *Journal of Dairy Science (JDS)*, 97(5), pp. 3110-3119. doi: 10.3168/jds.2013-7834

Hünerberg, M., Little, S.M., Beauchemin, K.A., McGinn, S.M., O'Connor, D., Okine, E.K., Harstad, O.M., Kröbel, R., and McAllister, T.A. (2014). "Feeding high concentrations of corn dried distillers' grains decreases methane, but increases nitrous oxide emissions from beef cattle production.", *Agricultural Systems*, 127, pp. 19-27. doi: 10.1016/j.agsy.2014.01.005

Vyas, D., McGeough, E.J., McGinn, S.M., McAllister, T.A., and Beauchemin, K.A. (2014). "Effect of *Propionibacterium* spp. on ruminal fermentation, nutrient digestibility, and methane emissions in beef heifers fed a high-forage diet.", *Journal of Animal Science*, 92(5), pp. 2192-2201. doi: 10.2527/jas.2013-7492

McGinn, S.M., Beauchemin, K.A., Coates, T., and McGeough, E.J. (2014). "Cattle methane emission and pasture carbon dioxide balance of a grazed grassland.", *Journal of Environmental Quality*, 43(3), pp. 820-828. doi: 10.2134/jeq2013.09.0371

Lynch, J.P., Jin, L., Lara, E.C., Baah, J., and Beauchemin, K.A. (2014). "The effect of exogenous fibrolitic enzymes and a ferulic acid esterase-producing inoculant on the fibre degradability, chemical composition and conservation characteristics of alfalfa silage.", *Animal Feed Science and Technology*, 193, pp. 21-31. doi: 10.1016/j.anifeedsci.2014.03.013

He, Z.X., Sun, Z.H., Yang, W.-Z., Beauchemin, K.A., Tang, S.X., Zhou, C.S., Han, X.F., Wang, M., Kang, J.H., and Tan, Z.L. (2014). "Effects of maternal protein or energy restriction during late gestation on immune status and responses to lipopolysaccharide challenge in postnatal young goats.", *Journal of Animal Science*, 92(11), pp. 4856-4864. doi: 10.2527/jas.2014-7904

Castillo-Lopez, E., Wiese, B.I., Hendrick, S., McKinnon, J.J., McAllister, T.A., Beauchemin, K.A., and Penner, G.B. (2014). "Incidence, prevalence, severity, and risk factors for ruminal acidosis in feedlot steers during backgrounding, diet transition, and finishing.", *Journal of Animal Science*, 92(7), pp. 3053-3063. doi: 10.2527/jas.2014-7599

Xu, L., Jin, Y., He, M.L., Li, C., Beauchemin, K.A., and Yang, W.-Z. (2014). "Effects of increasing levels of corn dried distillers grains with solubles and monensin on ruminal biohydrogenation and duodenal flows of fatty acids in beef heifers fed high-grain diets.", *Journal of Animal Science*, 92(3), pp. 1089-1098. doi: 10.2527/jas.2013-6668

Dong, R.L., Zhao, G.Y., Chai, L.L., and Beauchemin, K.A. (2014). "Prediction of urinary and fecal nitrogen excretion by beef cattle.", *Journal of Animal Science*, 92(10), pp. 4669-4681. doi: 10.2527/jas.2014-8000

Storlien, T.M., Volden, H., Almøy, T., Beauchemin, K.A., McAllister, T.A., and Harstad, O.M. (2014). "Prediction of enteric methane production from dairy cows.", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 64(2), pp. 98-109. doi: 10.1080/09064702.2014.959553

Li, S., Yuan, K., Mamedova, L.K., Penner, G.B., Oba, M., Beauchemin, K.A., and Bradford, B.J. (2014). "High-grain diets suppress ruminal tissue abundance of angiotensin-like protein 4 in cattle.", *Journal of Animal Science*, 92(9), pp. 4077-4085. doi: 10.2527/jas.2013-7316

Moya, D., Holtshausen, L., Marti, S., Gibb, D.J., McAllister, T.A., Beauchemin, K.A., and Schwartzkopf-Genswein, K.S.G. (2014). "Feeding behavior and ruminal pH of corn silage, barley grain, and corn dried distillers' grain offered in a total mixed ration or in a free-choice diet to beef cattle.", *Journal of Animal Science*, 92(8), pp. 3526-3536. doi: 10.2527/jas.2013-7224

Ellis, J.L., Dijkstra, J., Bannink, A., Kebreab, E., Archibeque, S., Benchaar, C., Beauchemin, K.A., Nkrumah, J.D., and France, J. (2014). "Improving the prediction of methane production and representation of rumen fermentation for finishing beef cattle within a mechanistic model.", *Canadian Journal of Animal Science*, 94(3), pp. 509-524. doi: 10.4141/cjas2013-192

DeVries, T.J., Schwaiger, T., Beauchemin, K.A., and Penner, G.B. (2014). "Impact of severity of ruminal acidosis on feed-sorting behaviour of beef cattle.", *Animal Production Science*, 54(9), pp. 1238-1242. doi: 10.1071/AN14227

Nanon, A., Suksombat, W., Beauchemin, K.A., and Yang, W.-Z. (2014). "Short Communication: Assessment of lemongrass oil supplementation in a dairy diet on *in vitro* ruminal fermentation characteristics using the rumen simulation technique.", *Canadian Journal of Animal Science*, 94(4), pp. 731-736. doi: 10.4141/CJAS-2014-019

Romero-Pérez, G.A., Okine, E.K., McGinn, S.M., Guan, L.L., Oba, M., Duval, S., Kindermann, M., and Beauchemin, K.A. (2014). "The potential of 3-nitrooxypropanol to lower enteric methane emissions from beef cattle.", *Journal of Animal Science*, 92(10), pp. 4682-4693. doi: 10.2527/jas.2014-7573

Li, Y.L., Beauchemin, K.A., McAllister, T.A., and Yang, W.-Z. (2014). "Intakes and excretion route of nitrogen, phosphorous and sulfur by finishing beef heifers fed increasing levels of wheat dried distillers grains with soluble to substitute for barley grain and barley silage.", *Livestock Science*, 170, pp. 43-52. doi: 10.1016/j.livsci.2014.09.020

Vyas, D., Uwizeye, A., Yang, W.-Z., and Beauchemin, K.A. (2014). "Importance of yeast viability for reducing the effects of ruminal acidosis in beef heifers during and following an imposed acidosis challenge.", *Animal Feed Science and Technology*, 197, pp. 103-113. doi: 10.1016/j.anifeedsci.2014.09.004

Meale, S.J., Beauchemin, K.A., Hristov, A.N., Chaves, A.V., and McAllister, T.A. (2014). "Opportunities and challenges in using exogenous enzymes to improve ruminant production (Board-invited review).", *Journal of Animal Science*, 92(2), pp. 427-442. doi: 10.2527/jas.2013-6869

Lynch, J.P., Prema, D., Van Hamme, J.D., Church, J.S., and Beauchemin, K.A. (2014). "Fiber degradability, chemical composition and conservation characteristics of alfalfa haylage ensiled with exogenous fibrolytic enzymes and a ferulic acid esterase-producing inoculant.", *Canadian Journal of Animal Science*, 94(4), pp. 697-704. doi: 10.4141/CJAS-2014-086

Vyas, D., McGeough, E.J., McGinn, S.M., McAllister, T.A., and Beauchemin, K.A. (2014). "Effects of *Propionibacterium* strains on ruminal fermentation, nutrient digestibility and methane emissions in beef cattle fed a corn grain finishing diet.", *Animal*, 8(11), pp. 1807-1815. doi: 10.1017/S1751731114001657

Chai, L.L., Kröbel, R., Janzen, H.H., Beauchemin, K.A., McGinn, S.M., Bittman, S., Atia, A., Edeogu, I., MacDonald, D., and Dong, R.L. (2014). "A regional mass balance model based on total ammoniacal nitrogen for estimating ammonia emissions from beef cattle in Alberta Canada.", *Atmospheric Environment*, 92, pp. 292-302. doi: 10.1016/j.atmosenv.2014.04.037

Vyas, D., Uwizeye, A., Mohammed, R., Yang, W.-Z., Walker, N.D., and Beauchemin, K.A. (2014). "The effects of active dried and killed dried yeast on subacute ruminal acidosis, ruminal fermentation, and nutrient digestibility in beef heifers.", *Journal of Animal Science*, 92(2), pp. 724-732. doi: 10.2527/jas.2013-7072

Mohammed, R., Brink, G.E., Stevenson, D.M., Neumann, A.P., Beauchemin, K.A., Suen, G., and Weimer, P.J. (2014). "Bacterial communities in the rumen of Holstein heifers differ when fed orchardgrass as pasture vs. hay.", *Frontiers in Microbiology*, 5(DEC: Article number 689). doi: 10.3389/fmicb.2014.00689

Lee, C. and Beauchemin, K.A. (2014). "A review of feeding supplementary nitrate to ruminant animals: Nitrate toxicity, methane emissions, and production performance.", *Canadian Journal of Animal Science*, 94(4), pp. 557-570.

## 2013

Zhou, M., Hünnerberg, M., Beauchemin, K.A., McAllister, T.A., Okine, E.K., and Guan, L.L. (2013). "Individuality of ruminal methanogen/protozoa populations in beef cattle fed diets containing dried distillers' grain with solubles.", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 62(4), pp. 273-288. doi: 10.1080/09064702.2013.788206

Meale, S.J., McAllister, T.A., Beauchemin, K.A., Harstad, O.M., and Chaves, A.V. (2013). "Strategies to reduce greenhouse gases from ruminant livestock", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 62(4), pp. 199-121. doi: 10.1080/09064702.2013.770916

Alazeh, A.Y., Sultana, H., Beauchemin, K.A., Wang, Y., Holo, H., Harstad, O.M., and McAllister, T.A. (2013). "Using Strains of *Propionibacteria* to Mitigate Methane Emissions *In vitro*.", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 62(4), pp. 263-272. doi: 10.1080/09064702.2013.773056

- Holtshausen, L., Schwartzkopf-Genswein, K.S.G., and Beauchemin, K.A. (2013). "Short Communication: Ruminant pH profile and feeding behaviour of feedlot cattle transitioning from a high-forage to a high-concentrate diet.", *Canadian Journal of Animal Science*, 93, pp. 529-533. doi : 10.4141/CJAS2013-073
- Petri, R.M., Schwaiger, T., Penner, G.B., Beauchemin, K.A., and Forster, R.J. (2013). "Characterization of the core rumen microbiome in cattle during transition from forage to concentrate as well as during and after an acidotic challenge.", *PLoS ONE*, 8(e83424). doi : 10.1371/journal.pone.0083424
- Kröbel, R., Janzen, H.H., Beauchemin, K.A., Bonesmo, H., Little, S.M., and McAllister, T.A. (2013). "A proposed approach to estimate and reduce the environmental impact from whole farms.", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 62(4), pp. 225-232. doi : 10.1080/09064702.2013.770912
- Bonesmo, H., Beauchemin, K.A., Harstad, O.M., and Skjelvåg, A.O. (2013). "Greenhouse gas emission intensities of grass silage based dairy and beef production: A systems analysis of Norwegian farms.", *Livestock Science*, 152(2-3), pp. 239-252. doi : 10.1016/j.livsci.2012.12.016
- He, Z.X., Wu, D.Q., Sun, Z.H., Tan, Z.L., Qiao, J.Y., Ran, T., Tang, S.X., Zhou, C.S., Han, X.F., Wang, M., Kang, J.H., and Beauchemin, K.A. (2013). "Protein or energy restriction during late gestation alters fetal growth and visceral organ mass: An evidence of intrauterine programming in goats.", *Animal Reproduction Science*, 137(3-4), pp. 177-182. doi : 10.1016/j.anireprosci.2013.01.005
- Hünerberg, M., McGinn, S.M., Beauchemin, K.A., Okine, E.K., Harstad, O.M., and McAllister, T.A. (2013). "Effect of dried distillers' grains plus solubles on enteric methane emissions and nitrogen excretion from growing beef cattle.", *Journal of Animal Science*, 91(6), pp. 2846-2857. doi : 10.2527/jas.2012-5564
- Koenig, K.M. and Beauchemin, K.A. (2013). "Nitrogen metabolism and route of excretion in beef feedlot cattle fed barley-based backgrounding diets varying in protein concentration and rumen degradability.", *Journal of Animal Science*, 91(5), pp. 2295-2309. doi : 10.2527/jas.2012-5652
- Basarab, J.A., Beauchemin, K.A., Baron, V.S., Ominski, K.H., Guan, L.L., Miller, S.P., and Crowley, J.J. (2013). "Reducing GHG emissions through genetic improvement for feed efficiency: effects on economically important traits and enteric methane production.", *Animal*, 7(S2), pp. 305-315. doi : 10.1017/S1751731113000888
- Koenig, K.M., McGinn, S.M., and Beauchemin, K.A. (2013). "Ammonia emissions and performance of backgrounding and finishing beef feedlot cattle fed barley-based diets varying in dietary crude protein concentration and rumen degradability.", *Journal of Animal Science*, 91(5), pp. 2278-2294. doi : 10.2527/jas2012-5651
- Goldhawk, C.A., Schwartzkopf-Genswein, K.S.G., and Beauchemin, K.A. (2013). "Validation of rumination collars for beef cattle. Technical Note.", *Journal of Animal Science*, 91(6), pp. 2858-2862. doi : 10.2527/jas.2012-5908
- Yang, W.-Z., Xu, L., Li, C., and Beauchemin, K.A. (2013). "Effects of supplemental canola meal and various types of distillers' grain on growth performance of backgrounded steers.", *Canadian Journal of Animal Science*, 93(2), pp. 281-286. doi : 10.4141/CJAS2012-146
- Chung, Y.-H., McGeough, E.J., Acharya, S.N., McAllister, T.A., McGinn, S.M., Harstad, O.M., and Beauchemin, K.A. (2013). "Enteric methane emission, diet digestibility and nitrogen excretion from beef heifers fed sainfoin or alfalfa.", *Journal of Animal Science*, 91(10), pp. 4861-4874. doi : 10.2527/jas.2013-6498
- Petri, R.M., Schwaiger, T., Penner, G.B., Beauchemin, K.A., Forster, R.J., McKinnon, J.J., and McAllister, T.A. (2013). "Characterization of the core rumen microbiome in cattle during transition from forage to concentrate as well as during and after an acidotic challenge.", *PLoS ONE*, 8(12), pp. e83424.
- Petri, R.M., Schwaiger, T., Penner, G.B., Beauchemin, K.A., Forster, R.J., McKinnon, J.J., and McAllister, T.A. (2013). "Changes in the Rumen Epimicrobial Bacterial Diversity of Beef Cattle as Affected by Diet and Induced Ruminant Acidosis.", *Applied and Environmental Microbiology*, 79(12), pp. 3744-3755. doi : 10.1128/AEM.03983-12
- Beauchemin, K.A. and Koenig, K.M. (2013). "Nitrogen metabolism and route of excretion in beef feedlot cattle fed barley-based finishing diets varying in protein concentration and rumen degradability.", *Journal of Animal Science*, 91(5), pp. 2310-2320. doi : 10.2527/jas2012-5653
- Hünerberg, M., McGinn, S.M., Beauchemin, K.A., Okine, E.K., Harstad, O.M., and McAllister, T.A. (2013). "Effect of dried distillers' grains with solubles on enteric methane emissions and nitrogen excretion from finishing beef cattle.", *Canadian Journal of Animal Science*, 93(3), pp. 373-385. doi : 10.4141/CJAS2012-151
- Li, Y., Li, C.L., Beauchemin, K.A., and Yang, W.-Z. (2013). "Effects of a commercial blend of essential oils and monensin in a high-grain diet containing wheat distillers' grain on in vitro fermentation.", *Canadian Journal of Animal Science*, 93(3), pp. 387-398. doi : 10.4141/CJAS2013-028

2012

- He, M.L., Yang, W.-Z., Dugan, M.E.R., Beauchemin, K.A., McKinnon, J.J., and McAllister, T.A. (2012). "Substitution of wheat dried distillers' grains with solubles for barley silage and barley grain in a finishing diet increases polyunsaturated fatty acids including linoleic and alpha-linolenic acids in beef.", *Animal Feed Science and Technology*, 175(3-4), pp. 114-120. doi : 10.1016/j.anifeedsci.2012.05.009

Avila-Stagno, J., Chaves, A.V., He, M.L., Harstad, O.M., Beauchemin, K.A., McGinn, S.M., and McAllister, T.A. (2012). "Effects of increasing concentrations of glycerol in concentrate diets on nutrient digestibility, methane emissions, growth, fatty acid profiles and carcass traits of lambs.", *Journal of Animal Science*, 91(2), pp. 829-837. doi : 10.2527/jas.2012-5215

Hünerberg, M., Beauchemin, K.A., Okine, E.K., Holtshausen, L., McGinn, S.M., Harstad, O.M., and McAllister, T.A. (2012). "In vitro production of methane with increasing levels of corn or wheat based dried distillers' grains with solubles in a barley silage based diet.", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 62(4), pp. 289-294. doi : 10.1080/09064702.2013.773057

He, Z.X., Sun, Z.H., Tan, Z.L., Tang, S.X., Zhou, C.S., Han, X.F., Wang, M., Wu, D.Q., Kang, J.H., and Beauchemin, K.A. (2012). "Effects of maternal protein or energy restriction during late gestation on antioxidation status of plasma and immune tissues in postnatal goats.", *Journal of Animal Science*, 90(12), pp. 4319-4326. doi : 10.2527/jas.2012-5088

Mohammed, R., Stevenson, D.M., Weimer, P.J., Penner, G.B., and Beauchemin, K.A. (2012). "Individual animal variability in ruminal bacterial communities and ruminal acidosis in primiparous Holstein cows during the periparturient period.", *Journal of Dairy Science (JDS)*, 95(11), pp. 6716-6730. doi : 10.3168/jds.2012-5772

McGeough, E.J., Little, S.M., Janzen, H.H., McAllister, T.A., McGinn, S.M., and Beauchemin, K.A. (2012). "Life-cycle assessment of greenhouse gas emissions from dairy production in eastern Canada: A case study.", *Journal of Dairy Science (JDS)*, 95(9), pp. 5164-5175. doi : 10.3168/jds.2011-5229

Geraci, J.I., Garciarena, A.D., Gagliostro, G.A., Beauchemin, K.A., and Colombatto, D. (2012). "Plant extracts containing cinnamaldehyde, eugenol and capsi-cum oleoresin added to feedlot cattle diets: Ruminal environment, short term intake pattern and animal performance.", *Animal Feed Science and Technology*, 176(1-4), pp. 123-130. doi : 10.1016/j.anifeedsci.2012.07.015

Tymensen, L.D., Beauchemin, K.A., and McAllister, T.A. (2012). "Structures of free-living and protozoa-associated methanogen communities in the bovine rumen differ according to comparative analysis of 16S rRNA and mcrA genes.", *Microbiology*, 158(7), pp. 1808-1817. doi : 10.1099/mic.0.057984-0

He, Z.X., Tan, Z.L., Sun, Z.H., Beauchemin, K.A., Tang, S.X., Han, X.F., Wang, M., and Wu, D.Q. (2012). "Unchanged interleukin 6 level of protein and energy restricted goats during late gestation: the role of elevated blood nitric oxide.", *Journal of Endocrinology*, 213, pp. 59-65. doi : 10.1530/JOE-11-0442

Doepel, L., Montgomery, J.E., Beauchemin, K.A., King, J.R., and Acharya, S.N. (2012). "Ruminal degradability and whole-tract digestibility of protein and fibre fractions in fenugreek haylage.", *Canadian Journal of Animal Science*, 92(2), pp. 211-217. doi : 10.4141/CJAS2011-101

Li, Y.L., He, M.L., Li, C., Forster, R.J., Beauchemin, K.A., and Yang, W.-Z. (2012). "Effects of wheat dried distillers' grains with solubles and cinnamaldehyde on in vitro fermentation and protein degradation using the Rusitec technique.", *Archives of Animal Nutrition*, 66(2), pp. 131-148. doi : 10.1080/1745039X.2012.656479

Li, C.L., Li, J.-Q., Beauchemin, K.A., and Yang, W.-Z. (2012). "Forage proportion and particle length affects the supply of amino acids in lactating dairy cows.", *Journal of Dairy Science (JDS)*, 95(5), pp. 2685-2696. doi : 10.3168/jds.2011-5210

Chung, Y.-H., Zhou, M., Holtshausen, L., Alexander, T.W., McAllister, T.A., Guan, L.L., Oba, M., and Beauchemin, K.A. (2012). "A fibrolytic enzyme additive for lactating Holstein cow diets: Ruminal fermentation, rumen microbial populations, and enteric methane emissions.", *Journal of Dairy Science (JDS)*, 95(3), pp. 1419-1427. doi : 10.3168/jds.2011-4552

Beauchemin, K.A., Coates, T., Farr, B., and McGinn, S.M. (2012). "Can the sulphur hexafluoride tracer gas technique be used to accurately measure enteric methane production from ruminally cannulated cattle? Technical Note.", *Journal of Animal Science*, 90(8), pp. 2727-2732. doi : 10.2527/jas.2011-4681

McGinn, S.M. and Beauchemin, K.A. (2012). "Dairy Farm Methane Emissions Using a Dispersion Model.", *Journal of Environmental Quality*, 41(1), pp. 73-79. doi : 10.2134/jeq2011.0266

Mohammed, R., Stevenson, D.M., Beauchemin, K.A., Muck, R.E., and Weimer, P.J. (2012). "Changes in ruminal bacterial community composition following feeding of alfalfa ensiled with a lactic acid bacterial inoculant.", *Journal of Dairy Science (JDS)*, 95(1), pp. 328-339. doi : 10.3168/jds.2011-4492

Li, C., Li, J.-Q., Yang, W.-Z., and Beauchemin, K.A. (2012). "Ruminal and intestinal amino acid digestion of distiller's grain vary with grain source and milling process.", *Animal Feed Science and Technology*, 175(3-4), pp. 121-130. doi : 10.1016/j.anifeedsci.2012.05.011

Holtshausen, L., Liestøl, S.H.-O., Nes, S.K., Beauchemin, K.A., Harstad, O.M., and McAllister, T.A. (2012). "Effect of maturity at harvest on in vitro methane production from ensiled grass.", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 62(1), pp. 40-45. doi : 10.1080/09064702.2012.671846

- He, M.L., Chung, Y.-H., McAllister, T.A., Beauchemin, K.A., Mir, P.S., Aalhus, J.L., and Dugan, M.E.R (2011). "Inclusion of Flaxseed in Hay- and Barley Silage Diets Increases Alpha-Linolenic Acid in Cow Plasma Independent of Forage Type.", *Lipids*, 46(7), pp. 577-585. doi: 10.1007/s11745-011-3534-4
- Holtshausen, L., Chung, Y.-H., Gerardo-Cuervo, H., Oba, M., and Beauchemin, K.A. (2011). "Improved milk production efficiency in early lactation dairy cattle with dietary addition of a developmental fibrolytic enzyme additive.", *Journal of Dairy Science (JDS)*, 94(2), pp. 899-907. doi: 10.3168/jds.2010-3573
- Li, Y.L., McAllister, T.A., Beauchemin, K.A., He, M.L., McKinnon, J.J., and Yang, W.-Z. (2011). "Substitution of wheat dried distillers' grains with solubles for barley grain or barley silage in feedlot cattle diets: intake, digestibility and ruminal fermentation.", *Journal of Animal Science*, 89(8), pp. 2491-2501. doi: 10.2527/jas.2010-3418
- Hao, X., Benke, M.B., Li, C.L., Lamey, F.J., Beauchemin, K.A., and McAllister, T.A. (2011). "Nitrogen transformations and greenhouse gas emissions during composting of manure from cattle fed diets containing corn dried distillers grains with soluble and condensed tannins.", *Animal Feed Science and Technology*, 166-167, pp. 539-549. doi: 10.1016/j.anifeedsci.2011.04.038
- Chung, Y.-H., Walker, N.D., McGinn, S.M., and Beauchemin, K.A. (2011). "Differing effects of 2 active dried yeast (*Saccharomyces cerevisiae*) strains on ruminal acidosis and methane production in nonlactating dairy cows.", *Journal of Dairy Science (JDS)*, 94(5), pp. 2431-2439. doi: 10.3168/jds.2010-3277
- Grainger, C. and Beauchemin, K.A. (2011). "Can enteric methane emissions from ruminants be lowered without lowering their production?", *Animal Feed Science and Technology*, 166-167, pp. 308-320. doi: 10.1016/j.anifeedsci.2011.04.021
- Yang, H.E., Son, Y.S., and Beauchemin, K.A. (2011). "Effects of exogenous enzymes on ruminal fermentation and degradability of alfalfa hay and rice straw.", *Asian-Australasian Journal of Animal Science*, 24(1), pp. 56-64.
- McAllister, T.A., Beauchemin, K.A., McGinn, S.M., Hao, X., and Robinson, P.H. (2011). "Greenhouse gases in animal agriculture-Finding a balance between food production and emissions.", *Animal Feed Science and Technology*, 166-167, pp. 1-6. doi: 10.1016/j.anifeedsci.2011.04.057
- Chung, Y.-H., He, M.L., McGinn, S.M., McAllister, T.A., and Beauchemin, K.A. (2011). "Linseed suppresses enteric methane emissions from cattle fed barley silage, but not from those fed grass hay.", *Animal Feed Science and Technology*, 166-167, pp. 321-329. doi: 10.1016/j.anifeedsci.2011.04.022
- Holtshausen, L., Beauchemin, K.A., Schwartzkopf-Genswein, K.S.G., González, L.A., McAllister, T.A., and Gibb, D.J. (2011). "Performance, feeding behaviour and rumen pH profile of beef cattle fed corn silage in combination with barley grain, corn or wheat distillers' grain or wheat middlings.", *Canadian Journal of Animal Science*, 91(4), pp. 703-710. doi: 10.4141/CJAS2011-037
- Avila, J.S., Chaves, A.V., Hernandez-Calva, L.M., Beauchemin, K.A., McGinn, S.M., Wang, Y., Harstad, O.M., and McAllister, T.A. (2011). "Effects of replacing barley grain in feedlot diets with increasing levels of glycerol on in vitro fermentation and methane production.", *Animal Feed Science and Technology*, 166-167, pp. 265-268. doi: 10.1016/j.anifeedsci.2011.04.016
- Su, R., Munns, K., Beauchemin, K.A., Schwartzkopf-Genswein, K.S.G., Jin-Quan, L., Topp, E., and Sharma, R. (2011). "Effect of backgrounding and transition diets on fecal concentration and strain types of commensal *Escherichia coli* in beef cattle.", *Canadian Journal of Animal Science*, 91(3), pp. 449-458. doi: 10.4141/cjas2010-034
- Koenig, K.M. and Beauchemin, K.A. (2011). "Optimum extent of barley grain processing and barley silage proportion in feedlot cattle diets: Growth, feed efficiency, and fecal characteristics.", *Canadian Journal of Animal Science*, 91(3), pp. 411-422. doi: 10.4141/CJAS2010-039
- Mohammed, R., McGinn, S.M., and Beauchemin, K.A. (2011). "Prediction of enteric methane output from milk fatty acid concentrations and rumen fermentation parameters in dairy cows fed sunflower, flax, or canola seeds.", *Journal of Dairy Science (JDS)*, 94(12), pp. 6057-6068. doi: 10.3168/jds.2011-4369
- Yang, W.-Z., Li, Y.L., McAllister, T.A., McKinnon, J.J., and Beauchemin, K.A. (2011). "Wheat distillers grains in feedlot cattle diets: feeding behavior, growth performance, carcass characteristics, and blood metabolites.", *Journal of Animal Science*, 90(4), pp. 1301-1310. doi: 10.2527/jas.2011-4372
- Walter, L.J., McAllister, T.A., Yang, W.-Z., Beauchemin, K.A., He, M.L., and McKinnon, J.J. (2011). "Comparison of wheat or corn dried distillers grains with solubles on rumen fermentation and nutrient digestibility by feedlot heifers.", *Journal of Animal Science*, 90(4), pp. 1291-1300. doi: 10.2527/jas.2011-3844
- Zhou, M., Chung, Y.-H., Beauchemin, K.A., Holtshausen, L., Oba, M., McAllister, T.A., and Guan, L.L. (2011). "Relationship between rumen methanogens and methane production in dairy cows fed diets supplemented with a feed enzyme additive.", *Journal of Applied Microbiology*, 111(5), pp. 1148-1158. doi: 10.1111/j.1365-2672.2011.05126.x
- DeVries, T.J., Holtshausen, L., Oba, M., and Beauchemin, K.A. (2011). "Effect of parity and stage of lactation on feed sorting behavior of lactating dairy cows.", *Journal of Dairy Science (JDS)*, 94(8), pp. 4039-4045. doi: 10.3168/jds.2011-4264

McAllister, T.A., Beauchemin, K.A., Alazeh, A.Y., Baah, J., Teather, R.M., and Stanford, K.I.M. (2011). "The use of direct fed microbialsto mitigate pathogensand enhance production in cattle."

Mohammed, R., Zhou, M., Koenig, K.M., Beauchemin, K.A., and Guan, L.L. (2011). "Evaluation of rumen methanogen diversity in cattle fed diets containing dry com distillersgrainsand condensed tanninsusing PCR-DGGE and qRT-PCR analyses.", *Animal Feed Science and Technology*, 166-167, pp. 122-131. doi : 10.1016/j.anifeedsci.2011.04.061

Beauchemin, K.A., Janzen, H.H., McAllister, T.A., and McGinn, S.M. (2011). "Mitigation of greenhouse gasemissionsfrom beef production in western Canada - Evaluation using farm-based life cycle assessment.", *Animal Feed Science and Technology*, 166-167, pp. 663-677. doi : 10.1016/j.anifeedsci.2011.04.047

Moya, D., Mazzenga, A., Holtshausen, L., Cozzi, G., González, L.A., Calsamiglia, S., Gibb, D.J., McAllister, T.A., Beauchemin, K.A., and Schwartzkopf-Genswein, K.S.G. (2011). "Feeding behavior and ruminal acidosis in beef cattle offered a total mixed ration or dietary componentsseparately.", *Journal of Animal Science*, 89(2), pp. 520-530. doi : 10.2527/jas.2010-3045

## Other Science Related Publications:

### 2015

Chai, L.L., Kröbel, R., Beauchemin, K.A., Macdonald, D.J., Janzen, H.H., McGinn, S.M., and Bittman, S. (2015). "Greenhouse gases and ammonia emissions from grazing beef cattle in Alberta and Ontario Canada.", *Canadian Society for Bioengineering Conference/CSBE/SCGAB 2015 Annual Conference*, Edmonton, AB, Canada, July 5-8, 2015, Presentation.

Alemu, A.W., Little, S.M., Hao, X., Iwaasa, A.D., Baron, V.S., Chai, L.L., Janzen, H.H., Beauchemin, K.A., Thompson, D., and Kröbel, R. (2015). "Application of life cycle assessment approach to beef production systems in the Canadian prairies with regard to environmental impact and energy use efficiency.", *LCA Conference XV - A bright green future*, Vancouver, Canada, October 6-8, 2015, Presentation.

Little, S.M., Beauchemin, K.A., Benchaar, C., Chai, L.L., Janzen, H.H., Kröbel, R., McGeough, E.J., and VanderZaag, A.C. (2015). "Demonstrating the effect of diet on the carbon footprint of a Canadian dairy scenario using whole-systemsanalysisand the Holos model: com silage vs. alfalfasilage.", *LCA Conference XV - A bright green future*, Vancouver, Canada, October 6-8, 2015, Presentation.

Chai, L.L., Kröbel, R., Macdonald, D.J., Bittman, S., Beauchemin, K.A., Janzen, H.H., and McGinn, S.M. (2015). "Developing nitrogen lossfractionsfor beef and dairy cattle manure storage systems in Canadian ecoregions: a comparison between West and East.", *Canadian Society for Bioengineering Conference/CSBE/SCGAB 2015 Annual Conference*, Edmonton, AB, Canada, July 5-8, 2015.

Kröbel, R., Janzen, H.H., Ellert, B.H., Beauchemin, K.A., and McAllister, T.A. (2015). "Agriculture is neither the culprit nor the solution to Climate Change.", "Our Common Future under Climate Change" Conference, Paris, France, July 7-10, 2015. (Poster)

### 2014

Jancewicz, L.J., Penner, G.A., Swift, M.-L., McKinnon, J.J., Beauchemin, K.A., and McAllister, T.A. (2014). "Diurnal variation in the excretion of fecal nutrients and lignin and nutrient digestibility from cattle offered barley based backgrounding and finishing diets, fed once or twice per day.", *51st Annual Meeting of the Brazilian Society of Animal Science*, Sergipe, Brazil, July 29-Aug 1, 2014.

Vyas, D., Alazeh, A.Y., McGinn, S.M., Harstad, O.M., Holo, H., McAllister, T.A., and Beauchemin, K.A. (2014). "Efficacy of Propionibacterium strains in mitigating methane emissions from beef heifers fed a high forage diet.", *ADSA-ASAS 2014 Joint Annual Meeting*, Kansas City, MO, USA, July 20-24, 2014.

He, Z.X., He, M.L., Zhao, Y., Walker, N.D., Beauchemin, K.A., McAllister, T.A., and Yang, W.-Z. (2014). "Supplementing beef cattle finishing diets containing wheat distillers grain with feed enzymes to decrease the ratio of n-6/n-3 fatty acids in meat.", *Journal of Dairy Science (JDS)*, 97(E-Suppl.1), pp. 453. (Abstract)

Sheppard, S.C., Bittman, S., Donohoe, G., Flaten, D.N., Wittenberg, K.M., Small, J.A., Berthiaume, R.R., McAllister, T.A., Beauchemin, K.A., McKinnon, J.J., and Ominski, K.H. (2014). "A new farm survey of beef management practices in Canada.", *Canadian Society of Soil Science Annual Meetings*, Banff, AB, Canada, May 4-7, 2014. (Abstract)

He, Z., He, M.L., Walker, N.D., Beauchemin, K.A., McAllister, T.A., and Yang, W. (2014). "Supplementing beef cattle finishing diets containing wheat distillers grain with feed enzymes to decrease the ratio of n-6/n-3 fatty acids in meat.", *ADSA-ASAS 2014 Joint Annual Meeting*, Kansas City, MO, USA, July 20-24, 2014.

### 2013

Vyas, D., McGeough, E.J., McGinn, S.M., McAllister, T.A., Beauchemin, K.A., and Smith, A.H. (2013). "Methane emissions in response to various Propionibacterium strains in beef heifers fed a high grain diet.", *CSAS-CMSA Joint Annual Meeting*, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P46, pp. 44. (Poster)



- Goldhawk, C.A., Schwartzkopf-Genswein, K.S.G., and Beauchemin, K.A. (2013). "Validation of rumination collars for beef cattle.", Joint meeting of the Canadian Society of Animal Science and Canadian Meat Science Association, Banff, AB, Canada, June 17-20, 2013.
- Vyas, D., McGeough, E.J., McGinn, S.M., McAllister, T.A., Smith, A.H., and Beauchemin, K.A. (2013). "Methane emissions in response to various *Propionibacterium* strains in beef heifers fed high forage diet.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P47, pp. 45. (Poster)
- Jin, L., Lynch, J.P., Duniere, L., Wang, Y., Baah, J., Beauchemin, K.A., and McAllister, T.A. (2013). "Ensiling properties of whole crop barley and intercropped barley-oat-spring triticale.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P63, pp. 51. (Poster)
- Jin, L., Lynch, J.P., Duniere, L., Wang, Y., Baah, J., Beauchemin, K.A., and McAllister, T.A. (2013). "Effect of inoculant containing *L. buchneri* on ensiling fermentation of whole barley crop.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P64, pp. 51. (Poster)
- Jancewicz, L.J., Penner, G.B., Swift, M.-L., McKinnon, J.J., Beauchemin, K.A., and McAllister, T.A. (2013). "Accuracy of Predicting Feed Efficiency from the Starch Concentration in the Feces of Feedlot Cattle.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P69-GS, pp. 54. (Poster)
- Beauchemin, K.A., Schwartzkopf-Genswein, K.S.G., and Goldhawk, C.A. (2013). "Validation of Rumination Collars for Beef Cattle.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O12-GS, pp. 7.
- Hünerberg, M., Little, S.M., Beauchemin, K.A., McGinn, S.M., Harstad, O.M., Okine, E.K., and McAllister, T.A. (2013). "Farm-based life cycle assessment of greenhouse gas emissions from beef cattle fed dried distillers' grains plus solubles.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P43-GS, pp. 43. (Poster)
- Lynch, J.P., Jin, L., Lara, E.C., Church, J.S., Baah, J., and Beauchemin, K.A. (2013). "The ensilage dynamics and nutritive value of alfalfa silage produced using fibrolytic enzymes and a silage inoculant.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P22, pp. 33. (Poster)
- Escobar, C., Beauchemin, K.A., and Oba, M. (2013). "Use of Principal Component Analysis to investigate relationships between methane emissions and nutrient composition of diets of beef cattle.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P41-GS, pp. 42. (Poster)
- Yang, W.-Z., Xu, L., Li, C.L., and Beauchemin, K.A. (2013). "Effects of protein sources on growth performance of backgrounded steers.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P44, pp. 43. (Poster)
- Romero-Pérez, G.A., Beauchemin, K.A., McGinn, S.M., Okine, E.K., Guan, L.L., Oba, M., and Duval, S. (2013). "The potential of 3-nitrooxypropanol to lower enteric methane emissions from beef cattle.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O01-GS, pp. 3.
- Koenig, K.M., McGinn, S.M., and Beauchemin, K.A. (2013). "Feeding tannins to reduce ammonia emissions from feedlot cattle fed high protein finishing diets containing corn distillers grains.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P56, pp. 48. (Poster)
- Little, S.M., Beauchemin, K.A., Janzen, H.H., Kröbel, R., and Maclean, K. (2013). "Holos - Methodology & Algorithms for Version 2.0.", AAFC Lethbridge, Lethbridge, AB, March 21, 2013. (Presentation)
- Chai, L.L., Kröbel, R., Janzen, H.H., Beauchemin, K.A., McGinn, S.M., Bittman, S., Atia, A., and Edeogu, I. (2013). "A mass balance model based on total ammoniacal nitrogen for estimating ammonia volatilization from beef cattle manure management in Alberta in Canada.", ASABE Annual International Meeting, Kansas City, MO, USA, July 21-24, 2013, paper #: 1596572.
- Koenig, K.M., Beauchemin, K.A., and Yang, W.-Z. (2013). "Processing feed grains: factors affecting the effectiveness of grain processing for beef and dairy cattle production.", 34th Western Nutrition Conference – Processing, Performance & Profits, Saskatoon, SK, Canada, September 24-26, 2013, pp. 62-73.
- Koenig, K.M., Beauchemin, K.A., and Yang, W.-Z. (2013). "Processing Feed Grains: Factors Affecting the Effectiveness of Grain Processing for Beef and Dairy Cattle Production.", Western Nutrition Conference, Saskatoon, SK, Canada, September 24-26, 2013.
- McGeough, E.J., Little, S.M., Janzen, H.H., McAllister, T.A., McGinn, S.M., and Beauchemin, K.A. (2013). "Greenhouse gas emissions from dairying in Eastern Canada – Effects of varying dairy cow replacement rate.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P42, pp. 42. (Poster)
- Jancewicz, L.J., Swift, M.-L., Penner, G.B., McKinnon, J.J., Beauchemin, K.A., and McAllister, T.A. (2013). "Using Near-Infrared Spectroscopy to Predict the Relationship Between Fecal Starch Concentration and Feed Efficiency for Feedlot Cattle.", Joint ADSA-ASAS Annual Meeting 2013, Indianapolis, Indiana, USA, July 8-12, 2013.

Yang, W.-Z., Li, C., and Beauchemin, K.A. (2013). "Protein source affects growth performance of backgrounded steers.", *Prairie Post - Bull Breeders*(February 2012), pp. A11.

2012

Hünerberg, M., McAllister, T.A., Beauchemin, K.A., McGinn, S.M., Harstad, O.M., and Okine, E.K. (2012). "Effect of dried distillers' grains with solubles on enteric methane emissions and nitrogen excretion from finishing beef cattle.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

McGeough, E.J., Little, S.M., Janzen, H.H., McAllister, T.A., McGinn, S.M., and Beauchemin, K.A. (2012). "Life-cycle assessment of greenhouse gas emissions from dairy production in Eastern Canada: A case study.", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012, Oral Presentation.

McGeough, E.J., Chung, Y.-H., Beauchemin, K.A., McGinn, S.M., Harstad, O.M., and McAllister, T.A. (2012). "Methane emissions and diet digestibility from sheep offered diets varying in fat content and nutritive value", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012. (Poster)

Zhou, M., Hünerberg, M., Beauchemin, K.A., McAllister, T.A., Okine, E.K., and Guan, L.L. (2012). "Comparison of animal and dietary effects on ruminal methanogens and their association with protozoa in beef cattle.", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012. (Poster)

Zhou, M., Hünerberg, M., Beauchemin, K.A., McAllister, T.A., Okine, E.K., and Guan, L.L. (2012). "Comparison of animal and dietary effects on ruminal methanogens and their association with protozoa in beef cattle.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

Li, C., Li, J.-Q., Beauchemin, K.A., and Yang, W.-Z. (2012). "Ruminal degradability, duodenal flow and intestinal digestibility of protein from canola meal or corn and wheat distillers grains in growing beef heifers.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, Published in: *Journal of Dairy Science (JDS)*, 95 (Suppl. 2), pp. 361 (Abstract).

Li, C., Li, J.-Q., and Beauchemin, K.A. (2012). "In vitro intestinal amino acid digestibility of distillers grains varies with grain source and milling process.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012.

Li, C., Li, J.-Q., Beauchemin, K.A., and Yang, W.-Z. (2012). "In vitro intestinal amino acid digestibility of distillers grains varies with grain source and milling process.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, Published in: *Journal of Animal Science*, 90(Suppl. 3), pp. 593. (Abstract).

Alazeh, A.Y., McAllister, T.A., Beauchemin, K.A., Wang, Y., Holo, H., and Harstad, O.M. (2012). "Potential of Propionibacteria to Mitigate Methane In Vitro.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

Chung, Y.-H., He, M.L., McGinn, S.M., McAllister, T.A., and Beauchemin, K.A. (2012). "Methane suppressing effect of flaxseed in diets containing hay or silage.", *Journal of Animal Science*, 88(Suppl. 2), pp. 871-872 (#1136). (Abstract)

Avila, J.S., Meale, S.J., McAllister, T.A., He, M.L., Harstad, O.M., Beauchemin, K.A., McGinn, S.M., and Chaves, A.V. (2012). "Effect of replacing barley grain with glycerol in feedlot diets on nutrient digestibility, methane emissions, growth, fatty acid profiles and carcass traits of lambs.", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012. (Poster)

Hünerberg, M., McAllister, T.A., Beauchemin, K.A., and Okine, E.K. (2012). "Effect of dried distillers' grains plus solubles on enteric methane emissions and nitrogen excretion from finishing beef cattle.", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012. (Poster)

Hünerberg, M., McAllister, T.A., McGinn, S.M., Beauchemin, K.A., and Okine, E.K. (2012). "Use of dried distillers' grains with soluble to reduce enteric methane emissions from growing beef cattle.", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012. (Poster)

Storlien, T.M., Harstad, O.M., Almøy, T., Volden, H., Beauchemin, K.A., and McAllister, T.A. (2012). "Prediction of enteric methane production from dairy cows.", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012. (Poster)

Hünerberg, M., Holtshausen, L., McAllister, T.A., Beauchemin, K.A., and Okine, E.K. (2012). "In vitro methane production from increasing levels of corn- or wheat-based dried distillers grains with solubles.", *Journal of Animal Science*, 88(Suppl. 2), pp. 425 (#T361). (Abstract)

Avila, J.S., Meale, S.J., McAllister, T.A., He, M.L., Harstad, O.M., Beauchemin, K.A., McGinn, S.M., and Chaves, A.V. (2012). "Effect of replacing barley grain with glycerol in feedlot diets on nutrient digestibility, methane emissions, growth, fatty acid profiles and carcass traits of lambs.", *Journal of Animal Science*, 90(Suppl. 3). (Abstract)

Storlien, T.M., Beauchemin, K.A., McAllister, T.A., Prestløy, E., Helberg, A., Galmeus, D., and Harstad, O.M. (2012). "The effect of including rape seed in the concentrate on enteric methane production from dairy cows on pasture.", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012. (Poster)

McGeough, E.J., Chung, Y.-H., Beauchemin, K.A., McGinn, S.M., and McAllister, T.A. (2012). "Methane emissions and diet digestibility for sheep offered diets varying in fat content and forage quality.", *Journal of Animal Science*, 90(Suppl. 3), pp. 129-130 (#M352). (Abstract)

Alazeh, A.Y., Sultana, H., McAllister, T.A., Beauchemin, K.A., Wang, Y., Holo, H., and Harstad, O.M. (2012). "In Vitro Methane Mitigation by Different Strains of Propionibacteria.", NJF Nordic Association of Agricultural Scientists: Seminar no. 453., Climate and Pollution Agency (KLIF), Oslo, Norway, November 5-6, 2012. (Presentation)

Beauchemin, K.A. and McGeough, E.J. (2012). "Life cycle assessment - A holistic approach to assessing greenhouse gas emissions from beef and dairy production.", *Revista Argentina de Producción Animal*, 32, pp. 69-76.

Petri, R.M., Schwaiger, T., Penner, G.B., Beauchemin, K.A., Forster, R.J., McKinnon, J.J., and McAllister, T.A. (2012). "From Forage to Grain: Community Structures of Rumen Epithelial Bacteria in Cattle.", General Meeting of the American Society for Microbiology, San Francisco, California, USA, June 16-19, 2012.

## 2011

Beauchemin, K.A., McGeough, E.J., Little, S.M., Janzen, H.H., McAllister, T.A., McGinn, S.M., and Maclean, K. (2011). "GHG modelling activities: an overview.", Seminar on Greenhouse Gases from Agriculture, Norwegian University of Life Sciences, Norway, June 29, 2011. (Presentation)

Beauchemin, K.A., McGeough, E.J., and Janzen, H.H. (2011). "Life cycle assessment - A holistic approach to assessing greenhouse gas emissions from beef and dairy production.", 1st Joint meeting of the American Society of Animal Science and the Association Argentina de Producción Animal, Mar del Plata, Argentina, October 4-7, 2011. (Presentation)

Beauchemin, K.A., McGeough, E.J., Little, S.M., Janzen, H.H., McAllister, T.A., McGinn, S.M., and Maclean, K. (2011). "The HolosModel: reflections on progress and future plans.", Norway, June 2011. (Presentation)

McGeough, E.J. and Beauchemin, K.A. (2011). "Measuring up.", *Milk Producer*, 2011(November 2011), pp. 34-37.

Hünerberg, M., McAllister, T.A., McGinn, S.M., Beauchemin, K.A., and Okine, E.K. (2011). "Effect of dried distillers' grains with soluble on enteric methane emissions from finishing beef cattle.", 32nd Western Nutrition Conference: Quality from Complexity, Crowne Plaza Chateau Lacombe, Edmonton, AB, Canada, September 14-15, 2011.

Koenig, K.M., Beauchemin, K.A., and McGinn, S.M. (2011). "Feeding tannins to reduce nitrogen losses from feedlot cattle fed high protein diets containing distillers grains 1. Animal performance and plasma urea nitrogen.", *Journal of Dairy Science (JDS)*, 94(E-Suppl. 1), pp. 111. (Abstract)

Koenig, K.M., Beauchemin, K.A., and McGinn, S.M. (2011). "Feeding tannins to reduce nitrogen losses from feedlot cattle fed high protein diets containing distillers grains 2. Nutrient digestibility and route of nitrogen excretion.", *Journal of Dairy Science (JDS)*, 94(E-Suppl. 1), pp. 111. (Abstract)

Koenig, K.M., Beauchemin, K.A., and McGinn, S.M. (2011). "Feeding tannins to reduce nitrogen losses from feedlot cattle fed high protein diets containing distillers grains 2. Nutrient digestibility and route of nitrogen excretion.", ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 11-14, 2011. (Poster)

Yang, W.-Z., McAllister, T.A., and Beauchemin, K.A. (2011). "Use of wheat-based dried distillers grains studied?", *Prairie Post - Bull Breeders*, 2011, pp. A8.

Yang, W.-Z., Li, Y.L., McAllister, T.A., and Beauchemin, K.A. (2011). "The use of wheat-based dried distillers grains as a source of energy and roughage in finishing rations.", Open House & Field Day at the Lethbridge Research Centre 2011, Lethbridge, AB, Canada, July 20, 2011.

Koenig, K.M., Beauchemin, K.A., and McGinn, S.M. (2011). "Feeding tannins to reduce nitrogen losses from feedlot cattle fed high protein diets containing distillers grains 1. Animal performance and plasma urea nitrogen.", ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 11-14, 2011. (Poster)

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## Research Publications:

2015

Beaulieu, F., Cuerrier, A., Filion, V.J., Saleem, A., and Arnason, J.T. (2015). "A gall mite, *Aceria rhodiolae* (Acari: Eriophyidae), altering the phytochemistry of a medicinal plant, *Rhodiola rosea* (Crassulaceae), in the Canadian Arctic.", *Journal of Natural History*, pp. 1-27. doi: 10.1080/00222933.2015.1103910

2014

Beaulieu, F. and Knee, W. (2014). "Plant-feeding mites of the Canadian Prairies.", in Carcamo, H.A. and Giberson, D.J. (eds.) - *Arthropods of Canadian Grasslands (Vol. 3): Biodiversity of and Systematics Part 1*, Biological Survey of Canada (BSC), Chapter 3, pp. 29-72.

Chetverikov, P., Beaulieu, F., Beliavskaia, A.Y., Rautian, M.S., and Sukhareva, S.I. (2014). "Redescription of an early-derivative mite, *Pentasetacus araucariae* (Eriophyoidea, Phytoptidae), and new hypotheses on the eriophyoid reproductive anatomy.", *Experimental and Applied Acarology*, 63(2), pp. 123-155. doi: 10.1007/s10493-014-9774-2

Kazemi, S., Rajaei, A., and Beaulieu, F. (2014). "Two new species of *Gaeolaelaps* (Acari: Mesostigmata: Laelapidae) from Iran, with a revised generic concept and notes on significant morphological characters in the genus.", *Zootaxa*, 3861(6), pp. 501-530. doi: 10.11646/zootaxa.3861.6.1

2013

Knee, W., Forbes, M.R., and Beaulieu, F. (2013). "Diversity and host use of mites (Acari: Mesostigmata, Oribatida) phoretic on bark beetles (Coleoptera: Scolytinae): global generalists, local specialists?", *Annals of the Entomological Society of America*, 106(3), pp. 339-350. doi: 10.1603/AN12092

2012

Chetverikov, P., Beaulieu, F., Cvrković, T., Vidović, B., and Petanović, R.U. (2012). "Oziella sibirica (Acari: Eriophyoidea: Phytoptidae), a new eriophyoid mite species described using confocal microscopy, COI barcoding and 3D surface reconstruction.", *Zootaxa*, 3560, pp. 41-60.

Knee, W., Beaulieu, F., Skevington, J.H., Kelso, S., Cognato, A.I., and Forbes, M.R. (2012). "Species boundaries and host range of tortoise mites (Uropodoidea) phoretic on bark beetles (Scolytinae), using morphometric and molecular markers.", *PLoS ONE*, 7(10, Article No. e47243). doi: 10.1371/journal.pone.0047243

Knee, W., Hartzenberg, T., Forbes, M.R., and Beaulieu, F. (2012). "The natural history of mites (Acari: Mesostigmata) associated with the white-spotted sawyer beetle (Coleoptera: Cerambycidae): diversity, phenology, host attachment, and sex bias.", *Canadian Entomologist*, 144(5), pp. 711-719. doi: 10.4039/tce.2012.57

Knee, W., Beaulieu, F., Skevington, J.H., Kelso, S., and Forbes, M.R. (2012). "Cryptic species of mites (Uropodoidea: Urobovella spp.) associated with burying beetles (Silphidae: Nicrophorus): The collapse of a host generalist revealed by molecular and morphological analyses.", *Molecular Phylogenetics and Evolution*, 65(1), pp. 276-286. doi: 10.1016/j.ympev.2012.06.013

Patankar, R., Beaulieu, F., Smith, S.M., and Thomas, S.C. (2012). "The life history of a gall-inducing mite: summer phenology, predation and influence of gall morphology in a sugar maple canopy.", *Agricultural and Forest Entomology*, 14(3), pp. 251-259. doi: 10.1111/j.1461-9563.2011.00563.x

Beaulieu, F. (2012). "Saproxyls in predatory mites? Mesostigmata in decaying log habitats vs. litter in a wet eucalypt forest, Tasmania, Australia.", *International Journal of Acarology*, 38(4), pp. 313-323. doi: 10.1080/01647954.2011.647072

2011

Beaulieu, F., Dowling, A.P.G., Klompen, H., de Moraes, G.J., and Walter, D.E. (2011). "Superorder Parasitiformes Reuter, 1909.", *Zootaxa*, 3148, pp. 123-128.

## Other Science Related Publications:

2014

Beaulieu, F. (2014). Morphological Identification of Spider Mites (Tetranychidae) Affecting Imported Fruits. NAPPO diagnostic protocol. 34 pp. <http://www.nappo.org/en/data/files/download/Protocols/DP%2003%20Tetranychidae-e.pdf>. (Report)

Beaulieu, F. and Knee, W. (2014). "Plant-feeders in Canada: tackling a poorly understood diversity using morphology and genetic diagnostic tools.", XIVth International Congress of Acarology, Kyoto, Japan, July, 2104, Oral presentation.

2013

Lumley, L., Beaulieu, F., Behan-Pelletier, V.M., Knee, W., Lindquist, E.E., Mark, M., Proctor, H.C., and Walter, D.E. (2013). "The Status of Systematic Knowledge of the Acari of Canada: Tickin' Away with Some Mitey Progress.", Newsletter of the Biological Survey of Canada (Terrestrial Arthropods), 32(2), pp. 23-37. (Newsletter)

Lumley, L., Beaulieu, F., Behan-Pelletier, V.M., Knee, W., Lindquist, E.E., Mark, M., Proctor, H.C., and Walter, D.E. (2013). "The Status of Systematic Knowledge of the Acari of Canada: Tickin' Away with Some Mitey Progress.", Newsletter of the Biological Survey of Canada (Terrestrial Arthropods), 32(2), pp. 23-37. (Newsletter)

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## Research Publications:

2015

Beckie, H.J. and Hall, L.M. (2015). "The biological and agronomic (Non) sense of ex-ante coexistence measures.", *Crop Science*, 55(5), pp. 2215-2224. doi: 10.2135/cropsci2015.02.0105

Owen, M.D.K., Beckie, H.J., Leeson, J.Y., Norsworthy, J.K., and Steckel, L.E. (2015). "Integrated pest management and weed management in the United States and Canada.", *Pest Management Science*, 71(3), pp. 357-376. doi: 10.1002/ps.3928

Beckie, H.J., Gulden, R.H., Shaikh, N., Johnson, E.N., Willenborg, C.J., Brenzil, C.A., Shirriff, S.W., Lozinski, C., and Ford, G. (2015). "Glyphosate-resistant kochia (*Kochia scoparia* L. Schrad.) in Saskatchewan and Manitoba.", *Canadian Journal of Plant Science*, 95(2), pp. 345-349. doi: 10.4141/CJPS-2014-328

2014

Beckie, H.J., Johnson, E.N., Leeson, J.Y., Shirriff, S., and Kapiniak, A. (2014). "Selection and evolution of Acetyl-CoA carboxylase (ACC)-inhibitor resistance in wild oat (*Avena fatua* L.) in a long-term alternative cropping systems study.", *Canadian Journal of Plant Science*, 94(4), pp. 727-731. doi: 10.4141/CJPS2013-361

Leeson, J.Y. and Beckie, H.J. (2014). "Experiences with integrated weed management and pesticide use in the Canadian prairies.", in Peshin, R. and Pimentel, D. (eds.) - *Integrated Pest Management: Experiences with Implementation, Global Overview, Vol.4*, Springer Netherlands, Chapter 8, pp. 201-219.

Hall, L.M., Beckie, H.J., Low, R., Shirriff, S.W., Blackshaw, R.E., Kimmel, N., and Neeser, C. (2014). "Survey of glyphosate-resistant kochia (*Kochia scoparia* L. Schrad.) in Alberta.", *Canadian Journal of Plant Science*, 94(1), pp. 127-130. doi: 10.4141/CJPS2013-204

Tidemann, B.D., Hall, L.M., Johnson, E.N., Beckie, H.J., Sapsford, K.L., Willenborg, C.J., and Raatz, L.L. (2014). "Additive efficacy of soil-applied pyroxasulfone and sulfentrazone combinations.", *Canadian Journal of Plant Science*, 94(7), pp. 1245-1253. doi: 10.4141/CJPS-2014-124

Beckie, H.J. and Hall, L.M. (2014). "Genetically-modified herbicide-resistant (GMHR) crops a two-edged sword? An Americas perspective on development and effect on weed management.", *Crop Protection*, 66, pp. 40-45. doi: 10.1016/j.cropro.2014.08.014

Shaner, D.L. and Beckie, H.J. (2014). "The future for weed control and technology.", *Pest Management Science*, 70(9), pp. 1329-1339. doi: 10.1002/ps.3706

Tidemann, B.D., Hall, L.M., Johnson, E.N., Beckie, H.J., Sapsford, K.L., and Raatz, L.L. (2014). "Efficacy of fall- and spring-applied pyroxasulfone for herbicide-resistant weeds in field pea.", *Weed Technology*, 28(2), pp. 351-360. doi: 10.1614/WT-D-13-00140.1

Beckie, H.J., Sikkema, P.H., Soltani, N., Blackshaw, R.E., and Johnson, E.N. (2014). "Environmental impact of glyphosate-resistant weeds in Canada.", *Weed Science*, 62(2), pp. 385-392. doi: 10.1614/WS-D-13-00093.1

Burton, N., Shirriff, S., and Beckie, H.J. (2014). "Response of glyphosate-resistant kochia (*Kochia scoparia* L. Schrad.) to alternative herbicides.", *Canadian Journal of Plant Science*, 94(8), pp. 1407-1411. doi: 10.4141/CJPS-2014-179

Pratchler, J., Shirriff, S., and Beckie, H.J. (2014). "Quicktest for qualitative detection of glyphosate-resistant kochia (*Kochia scoparia* L. Schrad.)", *Canadian Journal of Plant Science*, 94(8), pp. 1413-1417. doi: 10.4141/cjps-2014-180

Ward, S.M., Cousens, R.D., Bagavathiannan, M.V., Bamey, J.N., Beckie, H.J., and others (2014). "Agricultural weed research: a critique and two proposals.", *Weed Science*, 62(4), pp. 672-678. doi: 10.1614/WS-D-13-00161.1

Tozzi, E., Beckie, H.J., Weiss, R.M., González-Andújar, J.L., Storkey, J., Cici, S.Z.H., and Van Acker, R.C. (2014). "Seed germination response to temperature for a range of international populations of *Conyza canadensis*.", *Weed Research*, 54(2), pp. 178-185. doi: 10.1111/wre.12065

## 2013

Beckie, H.J., Blackshaw, R.E., Low, R., Hall, L.M., Sauder, I.C.A., Martin, S.L., Brandt, R.N., and Shirriff, S. (2013). "Glyphosate- and acetolactate synthase inhibitor-resistant kochia (*Kochia scoparia*) in Western Canada.", *Weed Science*, 61(2), pp. 310-318. doi: 10.1614/WS-D-12-00140.1

Séguin-Swartz, G.T., Beckie, H.J., Warwick, S.I., Roslinsky, V., Nettleton, J.A., Johnson, E.N., and Falk, K.C. (2013). "Pollen-mediated gene flow between glyphosate-resistant *Brassica napus* and *B. juncea* and *B. carinata* (mustard) crops under large-scale field conditions in Saskatchewan.", *Canadian Journal of Plant Science*, 93(6), pp. 1083-1087. doi: 10.4141/cjps2013-129

Busi, R., Vila-Aiub, M.M., Beckie, H.J., Gaines, T.A., Goggin, D.E., Kaundun, S.S., Lacoste, M., Neve, P., Nissen, S.J., Norsworthy, J.K., Renton, M., Shaner, D.L., Tranel, P.J., Wright, T., Yu, Q., and Powles, S.B. (2013). "Herbicide-resistant weeds: From research and knowledge to future needs.", *Evolutionary Applications*, 6(8), pp. 1218-1221. doi: 10.1111/eva.12098

Légère, A., Stevenson, F.C., Beckie, H.J., Warwick, S.I., Johnson, E.N., Hrynewich, B.L., and Lozinski, C. (2013). "Growth characterization of kochia (*Kochia scoparia*) with substitutions at Pro<sub>197</sub> or Trp<sub>574</sub> conferring resistance to acetolactate synthase-inhibiting herbicides.", *Weed Science*, 61(2), pp. 267-276. doi: 10.1614/WS-D-12-00116.1

Beckie, H.J., Lozinski, C., Shirriff, S., and Brenzil, C.A. (2013). "Herbicide-resistant weeds in the Canadian prairies: 2007 to 2011.", *Weed Technology*, 27(1), pp. 171-183. doi: 10.1614/wt-d-12-00095.1

## 2012

Beckie, H.J., Francis, A., and Hall, L.M. (2012). "The Biology of Canadian Weeds. 27. *Avena fatua* L. (updated).", *Canadian Journal of Plant Science*, 92(7), pp. 1329-1357. doi: 10.4141/cjps2012-005

Beckie, H.J., Warwick, S.I., and Sauder, I.C.A. (2012). "Acetolactate Synthase (ALS) Inhibitor-Resistant Wild Buckwheat (*Polygonum convolvulus*) in Alberta.", *Weed Technology*, 26(1), pp. 156-160. doi: 10.1614/WT-D-11-00096.1

Beckie, H.J., Warwick, S.I., Sauder, I.C.A., Kelln, G.M., and Lozinski, C. (2012). "Acetolactate Synthase Inhibitor-Resistant False Cleavers (*Galium spurium*) in Western Canada.", *Weed Technology*, 26(1), pp. 151-155. doi: 10.1614/WT-D-11-00075.1

Beckie, H.J. and Shirriff, S. (2012). "Site-specific wild oat (*Avena fatua* L.) management.", *Canadian Journal of Plant Science*, 92(5), pp. 923-931. doi: 10.4141/cjps2012-007

Beckie, H.J., Warwick, S.I., and Sauder, I.C.A. (2012). "Basis for Herbicide Resistance in Canadian Populations of Wild Oat (*Avena fatua*).", *Weed Science*, 60(1), pp. 10-18. doi: 10.1614/WS-D-11-00110.1

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Beckie, H.J., Mallory-Smith, C., and Maxwell, B.D. (2012). "Our view.", *Weed Science*, 60(2), pp. 143-144. doi: 10.1614/WS-D-11-00177.1

Beckie, H.J., Johnson, E.N., and Légère, A. (2012). "Negative cross-resistance of acetolactate synthase inhibitor-resistant kochia (*Kochia scoparia*) to protoporphyrinogen oxidase and hydroxyphenylpyruvate dioxygenase-inhibiting herbicides.", *Weed Technology*, 26(3), pp. 570-574. doi: 10.1614/WT-D-12-00020.1

Beckie, H.J. and Tardif, F.J. (2012). "Herbicide cross resistance in weeds.", *Crop Protection*, 35, pp. 15-28. doi: 10.1016/j.cropro.2011.12.018

## 2011

Beckie, H.J., Warwick, S.I., Sauder, I.C.A., Lozinski, C., and Shirriff, S.W. (2011). "Occurrence and molecular characterization of acetolactate synthase (ALS) inhibitor-resistant kochia (*Kochia scoparia*) in western Canada.", *Weed Technology*, 25(1), pp. 170-175. doi: 10.1614/wt-d-10-00067.1

Beckie, H.J., Warwick, S.I., Sauder, I.C.A., Hall, L.M., Harker, K.N., and Lozinski, C. (2011). "Pollen-mediated gene flow in commercial fields of spring wheat in Western Canada.", *Crop Science*, 51(1), pp. 306-313. doi: 10.2135/cropsci2010.03.0176

Beckie, H.J. (2011). "Herbicide-resistant weed management: focus on glyphosate.", *Pest Management Science*, 67(9), pp. 1037-1048. doi: 10.1002/ps.2195

Beckie, H.J., Harker, K.N., Hall, L.M., Holm, F.A., and Gulden, R.H. (2011). "Risk assessment of glyphosate resistance in western Canada.", *Weed Technology*, 25(1), pp. 159-164. doi: 10.1614/wt-d-10-00080.1

## Other Science Related Publications:

2014

Beckie, H.J., Gulden, R.H., Shaikh, N., Johnson, E.N., Willenborg, C.J., Brenzil, C.A., Shirriff, S.W., Lozinski, C., and Ford, G. (2014). "Glyphosate-resistant kochia in Saskatchewan and Manitoba.", 68th Annual Meeting of the Canadian Weed Science Society - Société canadienne de malherbiologie, Montreal, QC, Canada, November 17-20, 2014. (Abstract)

Beckie, H.J., Hall, L.M., Low, R., Blackshaw, R.E., Kimmel, N., and Shirriff, S.W. (2014). "Survey of glyphosate-resistant kochia in western Canada.", 2014 Weed Science Society of America (WSSA) and the Canadian Weed Science Society (CWSS) Annual Meeting, Vancouver, B.C., Canada, February 3-6, 2014. (Abstract)

Clements, D.R., Beckie, H.J., Hall, L.M., Nurse, R.E., Simard, M.-J., Raatz, L.L., and Alexander, B.C.S. (2014). "Quantifying the relative invasive potential of genetically modified crops using demographic analysis.", 2014 WSSA/CWSS Annual Meeting, Vancouver, B.C., Canada, February 3-6, 2014. (Abstract)

Séguin-Swartz, G.T., Beckie, H.J., Warwick, S.I., Rosinsky, V., Nettleton, J.A., Johnson, E.N., and Falk, K. C. (2014). "Pollen-mediated gene flow between glyphosate-resistant Brassica napus canola and B. juncea and B. carinata mustard crops under large-scale field conditions in Saskatchewan.", 2014 WSSA/CWSS Annual Meeting, Vancouver, B.C., Canada, February 3-6, 2014. (Abstract)

Beckie, H.J., Johnson, E.N., Leeson, J.Y., Shirriff, S.W., and Kapiniak, A. (2014). "Evolution of acetyl-CoA carboxylase (ACC)-inhibitor resistance in wild oat (*Avena fatua*) in a long-term alternative cropping systems study.", 2014 Weed Science Society of America (WSSA) and the Canadian Weed Science Society (CWSS) Annual Meeting, Vancouver, B.C., Canada, February 3-6, 2014. (Abstract)

Pratchler, J., Shirriff, S., and Beckie, H.J. (2014). "Quicktests: glyphosate-resistant kochia and pinoxaden-resistant grass weeds.", 2014 CWSS Annual Meeting, Montreal, QC, Canada, November 17-20, 2014. (Abstract)

Benedict, L., Sauder, C.A., James, T., Beckie, H.J., and Martin, S.L. (2014). "Is there a cost to glyphosate resistance in kochia?", 2014 CWSS Annual Meeting, Montreal, QC, Canada, November 17-20, 2014. (Abstract)

Blackshaw, R.E., Torbiak, A., Hall, L.M., and Beckie, H.J. (2014). "Glyphosate-resistant kochia (*Kochia scoparia* (L.) Schrad.) management.", 2014 CWSS Annual Meeting, Montreal, QC, Canada, November 17-20, 2014. (Abstract)

Hall, L.M., Alexander, B.C.S., Beckie, H.J., Simard, M.-J., Clements, D.R., Nurse, R.E., and Lewis, M. (2014). "There is more to fitness than fecundity: invasiveness of GM crops.", Crop Sci. Soc. Amer., Long Beach, CA, USA, November, 2014. (Abstract)

Hall, L.M., Alexander, B.C.S., Beckie, H.J., Simard, M.-J., Clements, D.R., Nurse, R.E., and Lewis, M. (2014). "There is more to fitness than fecundity: demographic analysis to evaluate genetically modified crops.", ISBGMO, South Africa, November 2014. (Abstract)

Beckie, H.J. (2014). "Management of HT crops: the Canadian experience.", Herbicide tolerant crops in the EU: Strengthening the economic and environmental impact assessment, Paris, France, December 15-16, 2014. (Abstract)

Leeson, J.Y. and Beckie, H.J. (2014). "State of integrated weed management and pesticide use in the Canadian prairies.", 2014 WSSA/CWSS Annual Meeting, Vancouver, B.C., Canada, February 3-6, 2014. (Abstract)

2012

Beckie, H.J. (2012). "Glyphosate Resistant Weeds.", 24th Annual Conference of the Saskatchewan Soil Conservation Association (SSCA), Saskatoon Inn, Saskatoon, SK, Canada, January 11, 2012.

Sapsford, K.L., Willenborg, C.J., Johnson, E.N., and Beckie, H.J. (2012). "Group 2 (ALS) resistant cleavers (*Galium aparine* / *Galium spurium*) control in field peas (*Pisum sp.*).", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, pp. 57. (Poster)

Johnson, E.N., Beckie, H.J., Hall, L.M., Schoenau, J.J., Willenborg, C.J., Sapsford, K.L., and Vandenberg, A. (2012). "Minor Use and New Herbicides.", FarmTech 2012, Edmonton, AB, Canada, January 24-26, 2012. (Presentation)

Alexander, B.C.S., Beckie, H.J., Simard, M.-J., Nurse, R.E., Clements, D.R., and Hall, L.M. (2012). "Quantification of invasiveness in crops using demographic analysis.", 2nd International Symposium on Biosafety of Genetically Modified Organisms (ISBGMO12), St Louis, Missouri, USA, September, 2012. (Abstract)

Beckie, H.J., Weiss, R.M., Olfert, O.O., and Leeson, J.Y. (2012). "Range Expansion of Kochia (*Kochia scoparia*) in North America under a Changing Climate.", Topics in Canadian Weed Science, 8, pp. 33-46.

Johnson, E.N., Hall, L.M., Latumus, B.D., Beckie, H.J., Sapsford, K.L., and Willenborg, C.J. (2012). "Pyroxasulfone application timing and efficacy on cleavers (*Galium aparine*) and wild oats (*Avena fatua*).", Canadian Weed Science Society 66th Annual Meeting, Fairmont Hotel, Winnipeg, MB, Canada, November 12-15, 2012, pp. 18. (Abstract)

Johnson, E.N., Beckie, H.J., Hall, L.M., Latumus, B.D., Willenborg, C.J., Sapsford, K.L., Schoenau, G.J., and Smizigielski, A.M. (2012). "The potential for Group 15 herbicides in managing herbicide resistant weeds in pulses.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, pp. 30.



Johnson, E.N., Beckie, H.J., Willenborg, C.J., Sapsford, K.L., Vandenberg, A., Schoenau, J.J., Hall, L.M., and Latumus, B.D. (2012). "Progress in managing herbicide resistance in pulse crops.", Pulse Science Cluster Scientific Meeting 2012, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 5, 2012. (Presentation)

Johnson, E.N., Beckie, H.J., Willenborg, C.J., and Sapsford, K.L. (2012). "Progress in managing herbicide resistant weed in lentil.", 65th Annual Meeting of the Western Society of Weed Science, Peppermill Resort, Reno, NV, USA, March 12-15, 2012. (Abstract)

Latumus, B.D., Hall, L.M., Johnson, E.N., Beckie, H.J., Sapsford, K.L., Willenborg, C.J., and Raatz, L.L. (2012). "Pyroxasulone and sulfentrazone efficacy on cleavers (*Galium aparine*) and wild oats (*Avena fatua*).", Pulse Science Cluster Scientific Meeting 2012, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 5, 2012. (Presentation)

Johnson, E.N., Beckie, H.J., Hall, L.M., Schoenau, J.J., Willenborg, C.J., Sapsford, K.L., and Vandenberg, A. (2012). "Progress in managing herbicide resistant weeds in pulses.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011. (Abstract)

Olfert, O.O., Weiss, R.M., Turkington, T.K., Beckie, H.J., and Kriticos, D.J. (2012). "Bioclimatic approach to assessing the potential impact of climate change on representative crop pests in North America.", *Topics in Canadian Weed Science*, 8, pp. 47-70.

Johnson, E.N., Beckie, H.J., Hall, L.M., Schoenau, J.J., Willenborg, C.J., Sapsford, K.L., and Vandenberg, A. (2012). "Progress in Managing Herbicide Resistant Weeds in Pulse Crops.", Pulse Days 2012, Saskatoon, SK, Canada, January 10, 2012. (Presentation)

## 2011

Beckie, H.J., Warwick, S.I., Johnson, E.N., and Falk, K.C. (2011). "Gene flow between canola and mustard in Saskatchewan, Canada.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 58. (Poster)

Johnson, E.N., Beckie, H.J., Hall, L.M., Schoenau, J.J., Willenborg, C.J., and Sapsford, K.L. (2011). "Progress in Managing Herbicide Resistant Weeds in Pulse Crops.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 48-49. (Abstract)

Beckie, H.J., Warwick, S.I., Sauder, I.C.A., Kelln, G.M., and Lozinski, C. (2011). "Acetolactate synthase (ALS) inhibitor-resistant false cleavers (*Galium spurium*) in western Canada.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 47. (Abstract)

Johnson, E.N., Beckie, H.J., Hall, L.M., Schoenau, J.J., Willenborg, C.J., Sapsford, K.L., and Vandenberg, A. (2011). "Progress in managing herbicide resistant weeds in pulses.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011.

Beckie, H.J., Lozinski, C., and Shirriff, S. (2011). "Susceptible Wild Oat (*Avena fatua*) Endangered in Manitoba.", 51st Annual Meeting of the Weed Science Society of America (WSSA), Hilton Portland & Executive Tower Hotel, Portland, OR, USA, February 7-10, 2011. (Poster)

Légère, A., Beckie, H.J., Hrynewich, B.L., Lozinski, C., Johnson, E.N., Warwick, S.I., and Stevenson, C. (2011). "Kochia with ALS (AHAS) Mutations: More on the Manitoba Conundrum.", 51st Meeting Weed Science Society of America, Hilton Portland & Executive Tower Hotel, Portland, OR, USA, February 7-10, 2011. (Presentation)

Beckie, H.J., Harker, K.N., Hall, L.M., Holm, F.A., and Gulden, R.H. (2011). "Risk Assessment of Glyphosate Resistance in Western Canada.", 51st Meeting Weed Science Society of America, Hilton Portland & Executive Tower Hotel, Portland, OR, USA, February 7-10, 2011, pp. 64. (Presentation)

Johnson, E.N., Beckie, H.J., Holm, F.A., Sapsford, K.L., and Vandenberg, A. (2011). "Weed control challenges in pulses in 2011.", Pulse Days 2011, Saskatoon, SK, Canada, January 11, 2011. (Presentation)

Beckie, H.J., Warwick, S.I., Sauder, I.C.A., Kelln, G.M., and Lozinski, C. (2011). "Acetolactate synthase (ALS) inhibitor-resistant false cleavers (*Galium spurium*) in western Canada.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 59. (Poster)

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## Research Publications:

2015

Mimee, B., Duceppe, M.-O., Véronneau, P.-Y., Lafond-Lapalme, J., Jean, M., Belzile, F.J., and Bélair, G. (2015). "A new method for studying population genetics of cyst nematodes based on Pool-Seq and genomewide allele frequency analysis.", *Molecular Ecology Resources*, 15(6), pp. 1356-1365. doi: 10.1111/1755-0998.12412

Ali, S., Magne, M., Chen, S., Côté, O., Stare, B.G., Obradovic, N., Jamshaid, L., Wang, X., Bélair, G., and Moffett, P. (2015). "Analysis of Putative Apoplastic Effectors from the Nematode, *Globodera rostochiensis*, and Identification of an Expansin-Like Protein That Can Induce and Suppress Host Defenses.", *PLoS ONE*, pp. 1-23. doi: 10.1371/journal.pone.0115042

Ali, S., Magne, M., Chen, S., Obradovic, N., Jamshaid, L., Wang, X., Bélair, G., and Moffett, P. (2015). "Analysis of *Globodera rostochiensis* effectors reveals conserved functions of SPRYSEC proteins in suppressing and eliciting plant immune responses.", *Frontiers in Plant Science*, 6(AUG: Article number 623), pp. 1-10. doi: 10.3389/fpls.2015.00623

2014

Mimee, B., Andersen, R., Bélair, G., Vanasse, A., and Rott, M. (2014). "Impact of quarantine procedures on weed biodiversity and abundance: Implications for the management of the golden potato cyst nematode, *Globodera rostochiensis*.", *Crop Protection*, 55, pp. 21-27. doi: 10.1016/j.cropro.2013.10.003

Mimee, B., Peng, H., Popovic, V., Yu, Q., Duceppe, M.-O., Tetreault, M.P., and Bélair, G. (2014). "First report of soybean cyst nematode (*Heterodera glycines* Ichinohe) on soybean in the province of Quebec, Canada.", *Plant Disease*, 98(3), pp. 429. doi: 10.1094/PDIS-07-13-0782-PDN (Abstract)

2013

Bélair, G., Mimee, B., Duceppe, M.-O., and Miller, S.A. (2013). "First report of the root-lesion nematode, *Pratylenchus alleni* associated with damage on soybean in Quebec, Canada.", *Plant Disease*, 97(2), pp. 292. doi: 10.1094/PDIS-03-12-0309-PDN

Boucher, A.C., Mimee, B., Montary, J., Bardou-Valette, S., Bélair, G., Moffett, P., and Grenier, É. (2013). "Genetic diversity of the golden potato cyst nematode *Globodera rostochiensis* and determination of the origin of populations in Quebec, Canada.", *Molecular Phylogenetics and Evolution*, 69(1), pp. 75-82. doi: 10.1016/j.ympev.2013.05.020

2011

Bélair, G., Dauphinais, N., and Jobin, G. (2011). "Soil amendments with *Streptomyces lydicus* WYEC108 and chitin against the northern rootknot nematode, *Meloidogyne hapla* Chitwood, on tomato.", *Russian Journal of Nematology*, 19(1), pp. 93-100.

## Other Science Related Publications:

2014

Mimee, B., Véronneau, P.-Y., Duceppe, M.-O., Jean, M., O'Donoghue, L.S., Belzile, F.J., and Bélair, G. (2014). "Nématodes à kyste : comment la génomique et les nouvelles technologies nous permettront de proposer des outils de gestion adaptés.", *Congrès annuel de la Société de Protection des Plantes du Québec (SPPQ) à St-Marc-sur-Richelieu, QC, Canada. Résumé publié dans Phytoprotection.*

Mimee, B., Véronneau, P.-Y., Duceppe, M.-O., Jean, M., Belzile, F.J., and Bélair, G. (2014). "A new method for studying population genetics of cyst nematodes based on genotyping by sequencing.", *6th International Congress of Nematology, Cape Town, South Africa.*

## 2013

Boucher, A.C., Mimee, B., Montarry, J., Bardou-Valette, S., Bélair, G., Moffett, P., Grenier, É., and others (2013). "New information on the historical introduction of the golden nematode in North America.", Congrès annuel du Potato Association of America (PAA), Québec, QC, Canada, July 28 - August 1, 2013.

Bélair, G., Mimee, B., and others (2013). "Update on the efficacy of various management strategies of *Globodera rostochiensis* in Quebec, Canada.", Congrès annuel de l'Organization of Nematologists of Tropical America (ONTA), La Serena, Chile, October 20-25, 2013.

Bélair, G., Mimee, B., Andersen, R., Vanasse, A., and others (2013). "Impact des mauvaises herbes dans la gestion du nématode doré au Québec.", Congrès annuel de la Société de Protection des Plantes du Québec (SPPQ), Québec, QC, Canada, du 5 au 6 juin 2013.

Boucher, A.C., Mimee, B., Montarry, J., Bardou-Valette, S., Bélair, G., Moffett, P., Grenier, É., and others (2013). "The golden nematode *Globodera rostochiensis*: inferring the origin of populations introduced in Quebec, Canada through its worldwide genetic structure.", International symposium on crop protection (ISCP), Ghent, Belgium, Proceedings of the 65th International symposium on crop protection ISSN 1379-1176 Ghent University (Abstract).

Mimee, B., Véronneau, P.-Y., Jean, M., Duceppe, M.-O., Bélair, G., Belzile, F.J., and others (2013). "Can we link the different pathotypes of the golden cyst nematode *Globodera rostochiensis* to genotype using single nucleotide polymorphism (SNP) markers?", Congrès annuel de l'Organization of Nematologists of Tropical America (ONTA), La Serena, Chile, October 20-25, 2013.

## 2012

Ali, S., Magne, M., Côté, O., Mimee, B., Bélair, G., Moffett, P., and others (2012). "Effectomics of the phytopathogenic nematode, *Globodera rostochiensis*.", Congrès annuel de la International Society for Molecular Plant-Microbe Interactions (IS-MPMI), Kyoto, Japan.

Bélair, G. and Mimee, B. (2012). "Field damage caused by *Pratylenchus alleni* on soybean in Quebec, Canada.", *Journal of Nematology*, 44(4), pp. 447-502. (Abstract)

Bélair, G., Mimee, B., Miller, S.S., and Miller, S.S. (2012). "Découverte de *Pratylenchus alleni* dans le soya au Québec, une manifestation des changements climatiques?", *Phytoprotection*, 93, pp. 19-24. (Abstract)

Boucher, A.C., Bélair, G., Mimee, B., Moffett, P., and Grenier, É. (2012). "Développement de marqueurs microsatellites et structure génétique des populations de *Globodera rostochiensis* au Québec.", Congrès de la Société de protection des plantes du Québec (SPPQ), Hôtel Plaza Valleyfield, Salaberry-de-valleyfield, QC, Canada, June 5-6, 2012.

Boucher, A.C., Mimee, B., Montarry, J., Bélair, G., Moffett, P., and Grenier, É. (2012). "Genetic structure of golden nematode populations from Quebec, Canada, with the use of new microsatellite markers.", 51st Annual Meeting Society of Nematologists, Savannah, GA, USA, August 12-15, 2012, Published in: *Journal of Nematology*, 44 (4), pp. 447-502. (Poster)

Mimee, B. and Bélair, G. (2012). "Life cycle of *Globodera rostochiensis* in Québec, Canada.", 51st Annual Meeting Society of Nematologists, Savannah, GA, USA, August 12-15, 2012. (Poster)

## 2011

Mimee, B., Bélair, G., and Boivin, G. (2011). "*Bradydema listronoti*, a new nematode parasite of the carrot weevil *Listronotus oregonensis*.", *Journal of Nematology*, 43(3-4), pp. 223-297. (Abstract)

Bélair, G. and Simard, L. (2011). "Rotation des cultures pour la gestion du nématode doré *Globodera rostochiensis* au Québec.", Réunion annuelle conjointe Société de Protection des Plantes du Québec (SPPQ-SEQ), Montmagny, QC, Canada, June 14-15, 2011.

Bélair, G., Simard, L., and Mimee, B. (2011). "Crop rotation for the management of the golden nematode *Globodera rostochiensis* in Canada.", Society of Nematologists 50th Anniversary Meeting, Corvallis, OR, USA, July 17-20, 2011. (Poster)

Bélair, G., Simard, L., and Mimee, B. (2011). "Crop rotation for the management of the golden nematode *Globodera rostochiensis* in Canada.", Society of Nematologists 50th Anniversary Meeting, Corvallis, OR, USA, July 17-20, 2011, pp. 51.

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## **Research Publications:**

2013

Adebayo, O., Bélanger, A., and Khanizadeh, S. (2013). "Variable inhibitory activities of essential oils of three *Monarda* species on the growth of *Botrytis cinerea*", *Canadian Journal of Plant Science*, 93(6), pp. 987-995. doi : 10.4141/CJPS2013-044

Piva, A., Bertrand, A., Bélanger, A., Castonguay, F.W., and Séguin, P. (2013). "Growth and physiological response of timothy to elevated carbon dioxide and temperature under contrasted nitrogen fertilization.", *Crop Science*, 53(2), pp. 704-715. doi : 10.2135/cropsci2012.07.0436

Adebayo, O., Dang, T., Bélanger, A., and Khanizadeh, S. (2013). "Antifungal Studies of Selected Essential Oils and a Commercial Formulation against *Botrytis cinerea*.", *Journal of Food Research*, 2(1), pp. 217-226. doi : 10.5539/xxx.v2n1p

## **Other Science Related Publications:**

2013

Bélanger, A. (2013). "Huiles essentielles et plantes aromatiques: mieux les connaître pour mieux s'en servir.", *Semaine de l'agriculture, de l'alimentation et de la consommation (SAAC)*, Québec City, QC, Canada, January 18-20, 2013.

2012

Bélanger, A. (2012). "Antifungal activities of essential oils against *Botrytis cinerea*.", 43rd International Symposium of Essential Oils (ISEO 2012), Lisbon, Portugal, September 5-8, 2012.

2011

Bélanger, A. (2011). "Antimicrobial Activity of a Disinfectant made from Essential Oils and Plant Extracts.", *Congrès International des Plantes Aromatiques et Médicinales (CIPAM)*, Cagliari, Italy, April 13-15, 2011.

# Bélanger, Gilles, Ph.D.

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## Research Publications:

2015

Dos Passos Bernardes, A., Tremblay, G.F., Bélanger, G., Brégar, A., Séguin, P., and Vanasse, A. (2015). "Sugar Yield of Sweet Pearl Millet and Sweet Sorghum as Influenced by Harvest Dates and Delays Between Biomass Chopping and Pressing.", *BioEnergy Research*, 8(1), pp. 100-108. doi: 10.1007/s12155-014-9504-y

Bélanger, G., Rochette, P., Chantigny, M.H., Ziadi, N., Angers, D.A., Charbonneau, É., Pellerin, D., and Liang, C. (2015). "Nitrogen availability from dairy cow dung and urine applied to forage grasses in eastern Canada.", *Canadian Journal of Plant Science*, 95(1), pp. 55-65. doi: 10.4141/CJPS-2014-039

Dos Passos Bernardes, A., Tremblay, G.F., Bélanger, G., Seguin, P., Brégar, A., and Vanasse, A. (2015). "Bagasse silage from sweet pearl millet and sweet sorghum as influenced by harvest dates and delays between biomass chopping and pressing.", *BioEnergy Research*. doi: 10.1007/s12155-015-9666-2

Jégo, G., Rotz, C.A., Bélanger, G., Tremblay, G.F., Charbonneau, É., and Pellerin, D. (2015). "Simulating forage crop production in a northern climate with the Integrated Farm System Model.", *Canadian Journal of Plant Science*, 95(4), pp. 745-757. doi: 10.4141/cjps-2014-375

Bélanger, G., Ziadi, N., Pageau, D., Grant, C.A., Lafond, J., and Nyiraneza, J. (2015). "Shoot Growth, Phosphorus–Nitrogen Relationships, and Yield of Canola in Response to Mineral Phosphorus Fertilization.", *Agronomy Journal*, 107(4), pp. 1458-1464. doi: 10.2134/agronj15.0050

Messerli, J., Bertrand, A., Bourassa, J., Bélanger, G., Castonguay, Y., Tremblay, G.F., Baron, V.S., and Séguin, P. (2015). "Performance of Low-Cost Open-Top Chambers to Study Long-Term Effects of Carbon Dioxide and Climate under Field Conditions.", *Agronomy Journal*, 107(3), pp. 916-920. doi: 10.2134/agronj14.0571

Bélanger, G., Ziadi, N., Pageau, D., Grant, C.A., Högnäsbacka, M., Virkajärvi, P., Hu, Z.Y., Lu, J., Lafond, J., and Nyiraneza, J. (2015). "A Model of Critical Phosphorus Concentration in the Shoot Biomass of Wheat.", *Agronomy Journal*, 107(3), pp. 963-970. doi: 10.2134/agronj14.0451

Tremblay, G.F., Bélanger, G., Lajeunesse, J., Chouinard, P.Y., and Charbonneau, É. (2015). "Timothy response to increasing rates of selenium fertilizer in eastern Canada.", *Agronomy Journal*, 107(1), pp. 211-220. doi: 10.2134/agronj14.0397

Messiga, A.J., Ziadi, N., Jouany, C., Virkajärvi, P., Suomela, R., Sinaj, S., Bélanger, G., Stroia, C., and Morel, C. (2015). "Soil test phosphorus and cumulative phosphorus budgets in fertilized grassland.", *AMBIO*, 44(2), pp. 252-262. doi: 10.1007/s13280-015-0628-x

2014

Bonesmo, H., Baron, V.S., Young, D.G., Bélanger, G., and Jing, Q. (2014). "Adapting the CATIMO grass model to meadow bromegrass grown in western Canada.", *Canadian Journal of Plant Science*, 94(1), pp. 61-71. doi: 10.4141/CJPS2013-183

Kirwan, L., Connolly, J., Brophy, C., Baadshaug, O.H., Bélanger, G., Black, A., Camus, T., Collins, R.P., Čop, J., Delgado, I., De Vliegher, A., Elgersma, A., Frankow-Lindberg, B.E., Golinski, P., Grieu, P., Gustavsson, A.-M., Helgadóttir, A., Höglind, M., Huguenin-Elie, O., Jørgensen, M., Kadziuliene, Z., Lunnan, T., Lüscher, A., Kurki, P., Porqueddu, C., Sebastià, M.T., Thumm, U., Walmsley, D., and Finn, J.A. (2014). "The Agrodiversity Experiment: three years of data from a multisite study in intensively managed grasslands (Ecological Archives E095-232).", *Ecology*, 95(9), pp. 2680.

Bélanger, G., Castonguay, Y., and Lajeunesse, J. (2014). "Benefits of mixing timothy with alfalfa for forage yield, nutritive value, and weed suppression in northern environments.", *Canadian Journal of Plant Science*, 94(1), pp. 51-60. doi: 10.4141/CJPS2013-228

Jing, Q., Bélanger, G., Qian, B., and Baron, V.S. (2014). "Timothy yield and nutritive value with a three-harvest system under the projected future climate in Canada.", *Canadian Journal of Plant Science*, 94(2), pp. 213-222. doi: 10.4141/CJPS2013-279

Bertrand, A., Piva, A., Tremblay, G.F., Bélanger, G., Castonguay, Y., and Séguin, P. (2014). "Elevated CO<sub>2</sub> and Temperature Affect the Composition and in vitro Degradability of Timothy Roots.", *Crop Science*, 54(6), pp. 2893-2902. doi: 10.2135/cropsci2014.04.0317

Morel, C., Ziadi, N., Messiga, A.J., Bélanger, G., Denoroy, P., Jeangros, B., Jouany, C., Fardeau, J.-C., Mollier, A., Parent, L.-É., Proix, N., Rabeharisoa, L., and Sinaj, S. (2014). "Modeling of phosphorus dynamics in contrasting agroecosystems using long-term field experiments.", *Canadian Journal of Soil Science*, 94(4), pp. 377-387. doi: 10.4141/CJSS2013-024

Messiga, A.J., Ziadi, N., Bélanger, G., and Morel, C. (2014). "Relationship between soil phosphorus and phosphorus budget in grass sward with varying nitrogen applications.", *Soil Science Society of America Journal*, 78(4), pp. 1481-1488. doi : 10.2136/sssaj2013.05.0200

Rochette, P., Chantigny, M.H., Ziadi, N., Angers, D.A., Bélanger, G., Charbonneau, É., Pellerin, D., Liang, C., and Bertrand, N. (2014). "Soil Nitrous Oxide Emissions Following Deposition of Dairy Cow Excreta in Eastern Canada.", *Journal of Environmental Quality*, 43(3), pp. 829-841. doi : 10.2134/jeq2013.11.0474

Thivierge, M.-N., Chantigny, M.H., Bélanger, G., Séguin, P., Bertrand, A., and Vanasse, A. (2014). "Response to Nitrogen of Sweet Pearl Millet and Sweet Sorghum Grown for Ethanol in Eastern Canada.", *BioEnergy Research*. doi : 10.1007/s12155-014-9558-x

Messiga, A.J., Ba, Y., Ziadi, N., Bélanger, G., and Lafond, J. (2014). "Assessing the depletion of soil P following sequential extractions with Mehlich-3 and Olsen solutions.", *Archives of Agronomy and Soil Science*, 60(10), pp. 1445-1458. doi : 10.1080/03650340.2014.884709

Simili da Silva, M., Tremblay, G.F., Bélanger, G., Lajeunesse, J., Papadopoulos, Y.A., Fillmore, S.A.E., and Jobim, C.C. (2014). "Forage energy to protein ratio of several legume-grass complex mixtures.", *Animal Feed Science and Technology*, 188, pp. 17-27. doi : 10.1016/j.anifeeds.2013.11.006

Tremblay, G.F., Morin, C., Bélanger, G., Bertrand, A., Castonguay, Y., Berthiaume, R.R., and Allard, G. (2014). "Silage Fermentation of PM- and AM-Cut Alfalfa Wilting in Wide and Narrow Swaths", *Crop Science*, 54(1), pp. 439-452. doi : 10.2135/cropsci2013.07.0443

Sturludóttir, E., Brophy, C., Bélanger, G., Gustavsson, A.-M., Jørgensen, M., Lunnan, T., and Helgadóttir, Á. (2014). "Benefits of mixing grasses and legumes for herbage yield and nutritive value in Northern Europe and Canada.", *Grass and Forage Science*, 69(2), pp. 229-240. doi : 10.1111/gfs.12037

Jégo, G., Chantigny, M.H., Pattey, E., Bélanger, G., Rochette, P., Vanasse, A., and Goyer, C. (2014). "Improved snow-cover model for multi-annual simulations with the STICS crop model under cold, humid continental climates.", *Agricultural and Forest Meteorology*, 195-196, pp. 38-51. doi : 10.1016/j.agrformet.2014.05.002

Brito, A.F., Tremblay, G.F., Bertrand, A., Castonguay, Y., Bélanger, G., Michaud, R., Lafrenière, C., Martineau, R., and Berthiaume, R.R. (2014). "Alfalfa baleage with increased concentration of nonstructural carbohydrates supplemented with a corn-based concentrate did not improve production and nitrogen utilization in early lactation dairy cows.", *Journal of Dairy Science (JDS)*, 97(11), pp. 6970-6990. doi : 10.3168/jds.2013-7305

## 2013

Jing, Q., Bélanger, G., and Qian, B. (2013). "Simulating Timothy Growth and Nutritive Value with Observed and Synthetic Weather Data.", *Agronomy Journal*, 105(1), pp. 51-60. doi : 10.2134/agronj2012.0253

Simili da Silva, M., Tremblay, G.F., Bélanger, G., Lajeunesse, J., Papadopoulos, Y.A., Fillmore, S.A.E., and Jobim, C.C. (2013). "Energy to protein ratio of grass-legume binary mixtures under frequent clipping.", *Agronomy Journal*, 105(2), pp. 482-492. doi : 10.2134/agronj2012.0281

Tremblay, G.F., Bélanger, G., Pelletier, S., Lajeunesse, J., and Pageau, D. (2013). "Dietary Cation-Anion Difference of Forage Species after Chloride Fertilization.", *Agronomy Journal*, 105(2), pp. 455-462. doi : 10.2134/agronj2012.0355

Finn, J.A., Kirwan, L., Connolly, J., Sebastià, M.T., Helgadóttir, A., Baadshaug, O.H., Bélanger, G., Black, A., Brophy, C., Collins, R.P., Čop, J., Dalmannsdóttir, S., Delgado, I., Elgersma, A., Fothergill, M., Frankow-Lindberg, B.E., Ghesquiere, A., Golinska, B., Golinski, P., Grieu, P., Gustavsson, A.-M., Höglind, , Huguenin-Elie, O., Jørgensen, M., Kadziuliene, Z., Kurki, P., Llorba, R., Lunnan, T., Porqueddu, C., Suter, M., Thumm, U., and Lüscher, A. (2013). "Ecosystem function enhanced by combining four functional types of plant species in intensively managed grassland mixtures: A 3-year continental-scale field experiment.", *Journal of Applied Ecology*, 50(2), pp. 365-375. doi : 10.1111/1365-2664.12041

Messiga, A.J., Ziadi, N., Bélanger, G., and Morel, C. (2013). "Soil Nutrients and Other Major Properties in Grassland Fertilized with Nitrogen and Phosphorus.", *Soil Science Society of America Journal*, 77(2), pp. 643-652. doi : 10.2136/sssaj2012.0178

Jégo, G., Bélanger, G., Tremblay, G.F., Jing, Q., and Baron, V.S. (2013). "Calibration and performance evaluation of the STICS crop model for simulating timothy growth and nutritive value.", *Field Crops Research*, 151, pp. 65-77. doi : 10.1016/j.fcr.2013.07.003

Jing, Q., Bélanger, G., Qian, B., and Baron, V.S. (2013). "Timothy Yield and Nutritive Value under Climate Change in Canada.", *Agronomy Journal*, 105(6), pp. 1683-1694. doi : 10.2134/agronj2013.0195

Jing, Q., Bélanger, G., Baron, V.S., Bonesmo, H., and Virkajärvi, P. (2013). "Simulating the Nutritive Value of Timothy Summer Regrowth.", *Agronomy Journal*, 105(3), pp. 563-572. doi : 10.2134/agronj2012.0331

Bélanger, G., Tremblay, G.F., Berthiaume, R.R., Bertrand, A., Castonguay, Y., Michaud, R., and Allard, G.C. (2013). "Increasing non-structural carbohydrates in forages.", in Bittman, S. and Hunt, D. (eds.) - Cool Forages— Advanced management of temperate forages, Pacific Field Corn Association, Agassiz, BC, Canada, Chapter 43, pp. 180-183.

Tremblay, G.F., Bélanger, G., Pelletier, S., Charbonneau, É., Oba, M., Pellerin, D., and Allard, G.C. (2013). "Forages for cows in the transition period.", in Bittman, S. and Hunt, D. (eds.) - Cool Forages— Advanced management of temperate forages, Pacific Field Corn Association, Agassiz, BC, Canada, Chapter 40, pp. 171-174.

Berthiaume, R.R., Tremblay, G.F., Bélanger, G., Lafrenière, C., Bertrand, A., Castonguay, Y., Michaud, R., and Allard, G.C. (2013). "Taking advantage of diurnal shifts in the nutritive value of forages.", in Bittman, S. and Hunt, D. (eds.) - Cool Forages— Advanced management of temperate forages, Pacific Field Corn Association, Agassiz, BC, Canada, Chapter 42, pp. 176-179.

## 2012

Bélanger, G., Savoie, P., Parent, G., Claessens, A., Bertrand, A., Tremblay, G.F., Massé, D.I., Gilbert, Y., and Babineau, D. (2012). "Switchgrass silage for methane production as affected by date of harvest.", *Canadian Journal of Plant Science*, 92(6), pp. 1187-1197. doi: 10.4141/CJPS2011-202

Leblanc, V., Vanasse, A., Bélanger, G., and Séguin, P. (2012). "Sweet Pearl Millet Yields and Nutritive Value as Influenced by Fertilization and Harvest Dates.", *Agronomy Journal*, 104(2), pp. 542-549. doi: 10.2134/agronj2011.0245

Jing, Q. and Bélanger, G. (2012). "Yield trend analysis of an ageing timothy sward using a modelling approach.", *Canadian Journal of Plant Science*, 91(7), pp. 1263-1266. doi: 10.4141/CJPS2012-011

Abdi, D., Tremblay, G.F., Ziadi, N., Bélanger, G., and Parent, L.-É. (2012). "Predicting Soil Phosphorus-related Properties Using Near Infrared Reflectance Spectroscopy.", *Soil Science Society of America Journal*, 76(6), pp. 2318-2326. doi: 10.2136/sssaj2012.0155

Jing, Q., Bélanger, G., Baron, V.S., Bonesmo, H., Virkajärvi, P., and Young, D.G. (2012). "Regrowth simulation of the perennial grass timothy.", *Ecological Modelling*, 232, pp. 64-77. doi: 10.1016/j.ecolmodel.2012.02.016

Morin, C., Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R.R., and Allard, G. (2012). "Diurnal variations of nonstructural carbohydrates and nutritive value in timothy.", *Canadian Journal of Plant Science*, 92(5), pp. 883-887. doi: 10.4141/cjps2011-272

Zebarth, B.J., Bélanger, G., Cambouris, A.N., and Ziadi, N. (2012). "Nitrogen Fertilization Strategies in Relation to Potato Tuber Yield, Quality, and Crop N Recovery.", in He, Z., Larkin, R.P. and Honeycutt, C.W. (eds.) - Sustainable Potato Production: Global Case Studies, Springer New York, Chapter 10, pp. 165-186.

Virkajärvi, P., Pakarinen, K., Hyrkäs, M., Seppänen, M., and Bélanger, G. (2012). "Tiller Characteristics of Timothy and Tall Fescue in Relation to Hbage Mass Accumulation.", *Crop Science*, 52, pp. 970-980. doi: 10.2135/cropsci2011.01.0039

Morin, C., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R.R., and Allard, G. (2012). "Nonstructural Carbohydrate Concentration during Field Wilting of PM- and AM-Cut Alfalfa.", *Agronomy Journal*, 104(3), pp. 649-660. doi: 10.2134/agronj2011.0365

Ziadi, N., Bélanger, G., and Claessens, A. (2012). "Relationship between soil nitrate accumulation and in-season corn N nutrition indicators.", *Canadian Journal of Plant Science*, 92(2), pp. 331-339. doi: 10.4141/CJPS2011-086

Ziadi, N., Zebarth, B.J., Bélanger, G., and Cambouris, A.N. (2012). "Soil and Plant Tests to Optimize Fertilizer Nitrogen Management of Potatoes.", in He, Z., Larkin, R.P. and Honeycutt, C.W. (eds.) - Sustainable Potato Production: Global Case Studies, Springer New York, Chapter 11, pp. 187-207.

Messiga, A.J., Ziadi, N., Bélanger, G., and Morel, C. (2012). "Process-based mass-balance modeling of soil phosphorus availability in a grassland fertilized with N and P.", *Nutrient Cycling in Agroecosystems*, 92(3), pp. 273-287. doi: 10.1007/s10705-012-9489-x

Gagnon, B., Ziadi, N., Chantigny, M.H., Bélanger, G., and Massé, D.I. (2012). "Biosolids from treatment of swine manure and papermill residues affect fertilizer value in corn.", *Agronomy Journal*, 104(2), pp. 483-492. doi: 10.2134/agronj2011.0327

## 2011

Bouchard, A.J., Vanasse, A., Séguin, P., and Bélanger, G. (2011). "Yield and Composition of Sweet Pearl Millet as Affected by Row Spacing and Seeding Rate.", *Agronomy Journal*, 103(4), pp. 995-1001. doi: 10.2134/agronj2010.0492

Ziadi, N., Grant, C.A., Samson, N., Nyiraneza, J., Bélanger, G., and Parent, L.-É. (2011). "Efficiency of controlled-release urea for a potato production system in Quebec.", *Agronomy Journal*, 103(1), pp. 60-66. doi: 10.2134/agronj2010.0298

Morin, C., Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R.R., and Allard, G. (2011). "Diurnal Variations of Nonstructural Carbohydrates and Nutritive Value in Alfalfa.", *Crop Science*, 51(3), pp. 1297-1306. doi : 10.2135/cropsci2010.07.0406

Bélanger, G., Claessens, A., and Ziadi, N. (2011). "Relationship between P and N concentrations in maize and wheat leaves.", *Field Crops Research*, 123(1), pp. 28-37. doi : 10.1016/j.fcr.2011.04.007

Li, X., Ziadi, N., Bélanger, G., Cai, Z.-C., and Xu, H. (2011). "Cadmium accumulation in wheat grain as affected by mineral N fertilizer and soil characteristics.", *Canadian Journal of Soil Science*, 91(4), pp. 521-531. doi : 10.4141/cjss10061

Massé, D.I., Gilbert, Y., Savoie, P., Bélanger, G., Parent, G., and Babineau, D. (2011). "Methane yield from switchgrass and reed canarygrass grown in Eastern Canada.", *Bioresource Technology*, 102(22), pp. 10286-10292. doi : 10.1016/j.biortech.2011.08.087

Jing, Q., Bélanger, G., Baron, V.S., and Bonesmo, H. (2011). "Modeling the biomass and harvest index dynamics of timothy.", *Agronomy Journal*, 103(5), pp. 1397-1404. doi : 10.2134/agronj2011.0095

Bélanger, G., Claessens, A., and Ziadi, N. (2011). "Grain N and P relationships in maize.", *Field Crops Research*, 126(3), pp. 1-7. doi : 10.1016/j.fcr.2011.09.016

## Other Science Related Publications:

2015

Jégo, G., Chantigny, M.H., Pattey, E., Bélanger, G., Rochette, P., Vanasse, A., and Goyer, C. (2015). "Improved snow-cover model for multi-annual simulations with the STICS crop model under northern climates.", *STICS workshop 2015*, Rennes, France, March 24-26, 2015, pp. 2 pages.

Messerli, J., Bertrand, A., Bélanger, G., Castonguay, Y., Tremblay, G.F., and Séguin, P. (2015). "Mélanges luzerne-fléole des prés : Résultats après deux saisons de croissance sous CO<sub>2</sub> et température élevés.", *Journée d'information scientifique sur les bovins laitiers et les plantes fourragères*, Drummondville, QC, Canada, 25 février 2015, Présentation.

Dos Passos Bernardes, A., Bélanger, G., Tremblay, G.F., Papadopoulos, Y.A., Fillmore, S.A.E., Lajeunesse, J., and Duynisveld, J.L. (2015). "Dix-huit associations d'une légumineuse avec une graminée évaluées au pâturage pendant trois ans à plusieurs sites.", *Journée d'information scientifique sur les bovins laitiers et les plantes fourragères*, Drummondville, QC, Canada, 25 février 2015, Présentation.

Tremblay, G.F., da Silva, M.S., Bélanger, G., Lajeunesse, J., Papadopoulos, Y.A., Fillmore, S.A.E., and Jobim, C.C. (2015). "Les associations d'espèces fourragères comme moyen d'améliorer le ratio énergie/protéine du fourrage.", *Journée d'information scientifique sur les bovins laitiers et les plantes fourragères*, Drummondville, QC, Canada, 25 février 2015, Présentation.

Jégo, G., Thivierge, M.-N., Rotz, A., Bélanger, G., Tremblay, G.F., Morissette, R., Charbonneau, É., and Pellerin, D. (2015). "Adaptation du modèle IFSM (Integrated Farm System Model) pour simuler le fonctionnement des fermes laitières du Canada. (<http://www.craaq.qc.ca/bovplf>)", *Journée d'information scientifique sur les bovins laitiers et les plantes fourragères*, Drummondville, QC, Canada, 25 février 2015. (Présentation)

Bélanger, G., Tremblay, G.F., Berthiaume, R.R., and Houston, B. (2015). "How to produce and use sweet forages (Webinar on April 29, 2015 in French)." (Présentation)

Bélanger, G., Tremblay, G.F., Berthiaume, R.R., and Houston, B. (2015). "How to produce and use sweet forages (Webinar on March 4, 2015 in English)." (Présentation)

Lajeunesse, J., Papadopoulos, Y.A., Duynisveld, J.L., Bélanger, G., Tremblay, G.F., Lafrenière, C., Thomas, B., and Fillmore, S.A.E. (2015). "Productivity of eighteen legume-grass binary mixtures.", *Botany 2015 Joint Conference: Science and plants for people*, Edmonton, Alberta, Canada, July 25-29, 2015. (Poster)

Séguin, P., Tremblay, G.F., Claessens, A., Bélanger, G., Lajeunesse, J., Berthiaume, R.R., Martel, H., and Wood, S. (2015). "Adaptabilité du système PEAQ aux conditions québécoises.", *Journée d'information scientifique sur les bovins laitiers et les plantes fourragères*, Drummondville, QC, Canada, 25 février 2015, Présentation.

Morissette, R., Jégo, G., Bélanger, G., Cambouris, A.N., Nyiraneza, J., and Zebarth, B.J. (2015). "Simulating potato growth and nitrogen uptake in eastern Canada with the STICS crop model.", *SSSA 2015*.

Abdi, D., Cade-Menun, B.J., Ziadi, N., Shi, Y.Z., Bélanger, G., Lajeunesse, J., and Lafond, J. (2015). "The influence of phosphorus fertilization on grassland soil phosphorus forms: A 31P-NMR study.", *Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference*, Montreal, QC, Canada, July 5-10, 2015, Présentation.

Bélanger, G., Ziadi, N., Lajeunesse, J., and Lafond, J. (2015). "Fertilisation en phosphore des graminées: Trop ou pas assez?", *Conférence donnée à la Journée d'information scientifique Bovins laitiers et plantes fourragères*, Drummondville, QC, Canada, 25 février, 2015. (Présentation)



2014

Rochette, P., Chantigny, M.H., Ziadi, N., Angers, D.A., Bélanger, G., Charbonneau, É., Pellerin, D., Liang, C., and Bertrand, N. (2014). "Nitrous oxide emission factors for dairy cow excreta in eastern Canada.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, 30 juin -3 juillet, 2014.

Bélanger, G., Castonguay, Y., and Lajeunesse, J. (2014). "Une espèce fourragère c'est bien, mais deux c'est mieux.", Demi-journée d'information scientifique sur les fourrages, Victoriaville, QC, Canada, 12 février, 2014.

Tremblay, G.F., Bélanger, G., Lajeunesse, J., Chouinard, P.Y., and Charbonneau, É. (2014). "Un fourrage enrichi en sélénium pour les vaches laitières: Aspects agronomiques.", Demi-journée d'information scientifique sur les fourrages, Victoriaville, QC, Canada, 12 février, 2014, pp. 4-6.

Abdi, D., Cade-Menun, B.J., Ziadi, N., Shi, Y.Z., and Bélanger, G. (2014). "Soil phosphorus forms determined by <sup>31</sup>P-NMR in a grassland production.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014. (Poster)

Bélanger, G., Ziadi, N., Sinaj, S., Virkajärvi, P., Jouany, C., Lajeunesse, J., and Nyiraneza, J. (2014). "Critical P concentration of forage grasses.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014. (Poster)

Shi, Y.Z., Ziadi, N., Lalonde, R., Hamel, C., Lajeunesse, J., Lafond, J., and Bélanger, G. (2014). "Soil microbial biomass, activity, and community structure as affected by mineral P fertilization in two grassland soils.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014. (Poster)

Castonguay, Y. and Bélanger, G. (2014). "Foliar freeze injury.", in The American Phytopathological Society (ed.) - Compendium of alfalfa diseases (Third Edition), pp. 117-118.

Shi, Y.Z., Ziadi, N., Lalonde, R., Hamel, C., Lajeunesse, J., Lafond, J., and Bélanger, G. (2014). "Seasonal variation of soil microbial biomass, activities and community structure as affected by mineral P fertilization in two grassland soils.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

Ziadi, N., Messiga, A.J., Morel, C., Jouany, C., Virkajärvi, P., Sinaj, S., and Bélanger, G. (2014). "Phosphorus budget as a tool to monitor soil P changes under grassland production.", 20th World Congress of Soil Science, Jeju, South Korea, June 8-13, 2014. (Poster)

Claessens, A., Bélanger, G., Lalonde, O., Martel, H., Séguin, P., Lajeunesse, J., Allard, G.C., Lemay, I., and Bertrand, A. (2014). "Genetic variability and potential of switchgrass as feedstock for the bioindustry in eastern Canada.", 4th Pan-American Congress on Plants and Bioenergy, Guelph, Ontario, Canada, June 4-7, 2014.

Claessens, A., Chouinard-Michaud, C., Michaud, A.R., Tremblay, G.F., Bertrand, A., Bélanger, G., Castonguay, Y., Berthiaume, R.R., and Allard, G.C. (2014). "Nonstructural carbohydrates and some attributes of nutritive value in alfalfa as influenced by genetic selection.", North American Alfalfa Improvement Conference, Lethbridge, Alberta, Canada, July 6-11, 2014.

Claessens, A. and Bélanger, G. (2014). "Les mélanges fourragers.", Conférencière invitée lors d'une journée sur les plantes fourragères organisée par le Club Agroenvironnemental de la Rive-Nord, 6 Février 2014. (Presentation)

Castonguay, Y. and Bélanger, G. (2014). "Winter injury.", in The American Phytopathological Society (ed.) - Compendium of alfalfa diseases (Third Edition), pp. 118-119.

Tremblay, G.F., Bélanger, G., Lajeunesse, J., Chouinard, P.Y., and Charbonneau, É. (2014). "Response of timothy Se concentration to increasing rates of a slow-release Se fertilizer in eastern Canada.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

Ziadi, N. and Bélanger, G. (2014). "Connaissances et outils pour mieux gérer le phosphore dans les systèmes agricoles.", Séminaire donné au CRDSGC, Québec, Canada, 24 avril 2014. (Presentation)

Tremblay, G.F., Bélanger, G., and Berthiaume, R.R. (2014). "Fauche PM en andains larges: une option compatible à l'ensilage en un jour.", L'Écho Fourager, 2, pp. 6-9.

Séboussi, R., Ouellet, V., Chouinard, P.Y., Tremblay, G.F., Bélanger, G., Chorfi, Y., Fournier, A., Couture, Y., and Charbonneau, É. (2014). "Un fourrage enrichi en sélénium pour les vaches laitières: Aspects agronomiques.", Demi-journée d'information scientifique sur les fourrages, Victoriaville, QC, Canada, 12 février, 2014, pp. 7-15.

2013

Tremblay, G.F., Morin, C., Bélanger, G., Bertrand, A., Castonguay, Y., Michaud, R., Berthiaume, R.R., and Allard, G.C. (2013). "Increased sugar concentration with PM-cutting and wide swathing improves alfalfa silage fermentation.", 22nd International Grassland Congress, September 15-19, 2013, pp. 766-767.

Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Berthiaume, R.R., Michaud, R., Pelletier, S., Morin, C., Lafrenière, C., and Allard, G.C. (2013). "Improving forage nonstructural carbohydrates through management and breeding.", 22nd International Grassland Congress, September 15-19, 2013, pp. 668-669.

Berthiaume, R.R., Brito, A.F., Tremblay, G.F., Bélanger, G., Lafrenière, C., Bertrand, A., Castonguay, Y., Michaud, R., and Allard, G.C. (2013). "High-sugar alfalfa for dairy cows.", 22nd International Grassland Congress, September 15-19, 2013, pp. 729-731.

Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Berthiaume, R.R., Michaud, R., Pelletier, S., Morin, C., Lafrenière, C., and Allard, G.C. (2013). "Improving forage nonstructural carbohydrates through management and breeding.", Symposium de l'industrie laitière, Moncton, NB, Canada, November 13-14, 2013.

Tremblay, G.F., Morin, C., Bélanger, G., Bertrand, A., Castonguay, Y., Michaud, R., Berthiaume, R.R., and Allard, G.C. (2013). "Increased sugar concentration with PM-cutting and wide swathing improves alfalfa silage fermentation.", Symposium de l'industrie laitière, Moncton, NB, Canada, November 13-14, 2013.

Berthiaume, R.R., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Michaud, R., Pelletier, S., Brito, A.F., Lafrenière, C., and Allard, G. (2013). "High quality forages: How sweet should they be?", Advances in Dairy Technology (Western Canadian Dairy Seminar Proceedings), 25, pp. 235-252.

Claessens, A., Bélanger, G., Savoie, P., Parent, G., Bertrand, A., Tremblay, G.F., Massé, D.I., Gilbert, Y., and Babineau, D. (2013). "Effect of harvest date and nitrogen fertilization on reed canarygrass and switchgrass yield, composition and specific methane production in eastern Canada.", SWITCHGRASS II conference, Madison, Wisconsin, USA, September 10-12, 2013,, [www.dfr.wisc.edu/switchgrass/](http://www.dfr.wisc.edu/switchgrass/).

Bélanger, G. and Tremblay, G.F. (2013). "Fertilisation et survie hivernale des plantes fourragères.", Blitz Plantes Fourragères, Saint-Hyacinthe, QC, Canada, May 22, 2013.

Séboussi, R., Tremblay, G.F., Chouinard, P.Y., Chorfi, Y., Bélanger, G., Couture, Y., Ouellet, V., and Charbonneau, É. (2013). "Ajouter du sélénium dans vos rations via les fourrages!", 37e Symposium sur les bovins laitiers, St-Hyacinthe, QC, Canada, 30 octobre 2013, pp. 17. (Poster)

Bélanger, G., Tremblay, G.F., Jégo, G., and Lajeunesse, J. (2013). "Forage management research.", 2013 CFGA Conference & AGM, December 9-11, 2013, Oral presentation.

Tremblay, G.F., Bélanger, G., Drapeau, R., Michaud, R., Allard, G., Chouinard, P.Y., Pellerin, D., Brassard, H., Charbonneau, É., Pelletier, S., Séguin, P., Fournier, A., Lefebvre, D.M., Oba, M., and Penner, G.A. (2013). "Fourrage à valeur ajoutée pour la vache en période de transition.", Présentation orale faite lors d'une activité de rayonnement des clubs-conseils organisée par le Club-Conseil Agro-Champs, Fertiliser: Comment s'y retrouver?, Thetford Mines, QC, Canada, 31 janvier, 2013. (Presentation)

Bélanger, G. and Tremblay, G.F. (2013). "Fertilisation des prairies et survie hivernale.", Présentation orale faite lors d'une activité de rayonnement des clubs-conseils organisée par le Club-Conseil Agro-Champs, Fertiliser: Comment s'y retrouver?, Thetford Mines, QC, Canada, 31 janvier, 2013. (Presentation)

Jégo, G., Bélanger, G., Tremblay, G.F., Jing, Q., and Baron, V.S. (2013). "Performance du modèle STICS pour simuler la croissance et la valeur nutritive de la fléole des prés.", Demi-journée d'information scientifique sur les fourrages 2013, Victoriaville, QC, Canada, February 14, 2013, pp. 27-31.

Bélanger, G., Virkajärvi, P., Duru, M., Tremblay, G.F., and Saarijärvi, K. (2013). "Herbage nutritive value in less-favoured areas of cool regions.", 17th Symposium of the European Grassland Federation, Akureyri, Iceland, June 23-26, 2013, Invited paper. 2013 EGF Iceland. The role of grasslands in a green future. Threats and perspectives in less-favoured areas. Edited by A. Helgado et al. A. Hopkins. Volume 18. Grassland science in Europe, pp. 57-70.

Séboussi, R., Tremblay, G.F., Chouinard, P.Y., Chorfi, Y., Bélanger, G., Couture, Y., Ouellet, V., and Charbonneau, É. (2013). "Selenium-fertilized forage as a way to supplement lactating dairy cows.", ADSA-ASAS Joint Annual Meeting, Indianapolis, USA, July 2013, IN. J. Dairy Sci. 96 (E-suppl. 1):247-248.

Ziadi, N., Tremblay, G.F., Bélanger, G., Abdi, D., St. Luce, M., and Parent, L.-É. (2013). "La spectroscopie dans le proche infrarouge au service de la science du sol.", 27e Congrès de l'AQSSS (Association québécoise de spécialistes en sciences du sol), « Les sols à bout de souffle ? », Hôtel Chicoutimi de Saguenay, 27 au 30 mai, 2013.

Tremblay, G.F., Berthiaume, R.R., Bélanger, G., Audy, P., Lafrenière, C., Charbonneau, É., and Allard, G.C. (2013). Sélection des fourrages sur la base de la valeur alimentaire et de l'ensilabilité pour mieux les valoriser en production laitière. Rapport final de projet de recherche, 2012-2013, Direction générale de la science et de la technologie d'AAC, Programme d'innovation en agriculture (PIA), Rapport final, Projet de recherche #, 26 pages. (Report)

Claessens, A., Bélanger, G., Savoie, P., Parent, G., Bertrand, A., Tremblay, G.F., Massé, D.I., Gilbert, Y., and Babineau, D. (2013). "Species, harvest date, and nitrogen fertilization affect characteristics of biomass grown for methane production in eastern Canada.", SWITCHGRASS II conference, Madison, Wisconsin, USA, September 9-13, 2013, Invited for an oral presentation.

Dos Passos Bernardes, A., Tremblay, G.F., Bélanger, G., Charbonneau, É., and Berthiaume, R.R. (2013). "Composition chimique de certains cultivars d'espèces fourragères fauchées en début et en fin de journée.", Demi-journée d'information scientifique sur les fourrages 2013, Victoriaville, QC, Canada, February 14, 2013, pp. 16-21.

- Lepage, M.-P., Bourgeois, G., and Bélanger, G. (2012). "Indices agrométéorologiques pour l'aide à la décision dans un contexte de climat variable et en évolution.", published by Centre de référence en agriculture et agroalimentaire du Québec (CRAAQ), Québec, QC, Canada. (Technology transfer)
- Cambouris, A.N., Bélanger, G., Ziadi, N., Mongrain, D., Parent, G., and Perron, I. (2012). "Biomass Productivity On Marginal Land Using Low Cost Fertilizer.", 2012 Annual Meeting of ASA/CSSA/SSSA, Cincinnati, Ohio, USA, October 21-24, 2012.
- Berthiaume, R.R., Tremblay, G.F., Bélanger, G., Audy, P., Lafrenière, C., Charbonneau, É., and Allard, G. (2012). "Des variétés de fourrages performantes aux champs et à l'étable, est-ce possible?", Réunion annuelle des représentants Semican - Lallemand 2012, Victoriaville, QC, Canada, July 17, 2012.
- Ziadi, N., Bélanger, G., Cambouris, A.N., and Zebarth, B.J. (2012). "Soil and plant diagnostic tools to improve nitrogen use efficiency.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012.
- Lajeunesse, J., Bélanger, G., Tremblay, G.F., Papadopoulos, Y.A., and Fillmore, S.A.E. (2012). "Évaluation de mélanges simples et complexes de plantes fourragères pour le pâturage.", Journée d'analyse de groupe vache-veau, Saint-Félicien, QC, Canada, December 12, 2012.
- Brito, A.F., Régimbald, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Bélanger, G., Michaud, R., Lafrenière, C., and Berthiaume, R.R. (2012). "High-total nonstructural carbohydrates timothy enhanced performance of mid-lactation dairy cows.", Western Canadian Dairy Seminar, Red Deer, Alberta, Canada, 6-9 mars, 2012, WCDS Advances in Dairy Technology, Volume 24, Abstract, page 399.
- Dos Passos Bernardes, A., Vanasse, A., Tremblay, G.F., Bélanger, G., and Séguin, P. (2012). "Rendement en sucre du millet perlé et du sorgho sucrés et ensilabilité du résidu fourrager.", Grandes cultures "Ensemble pour la diffusion de la recherche agronomique", 23 février 2012, Une initiative du Comité céréales et du Comité maïs et oléoprotéagineux du CRAAQ, pp. 26-27.
- Allard, G., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R.R., Pellerin, D., Lefebvre, D.M., and Fournier, A. (2012). "Production de fourrages riches en sucres pour améliorer les performances de la vache laitière.", Forum Technologique NOVALAIT / IDF Dairy Science and Technology Week 2012, Hôtel et Suites Le Dauphin, Drummondville, QC, Canada, May 29, 2012, P2012-01. (Abstract)
- Berthiaume, R.R., Lafrenière, C., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Allard, G., Pellerin, D., Fournier, A., and Lefebvre, D.M. (2012). "Forages: Cows like them sweet!", Thunder Bay District Soil and Crop Improvement Association's Spring Farm Conference 2012, Thunder Bay, ON, Canada, April 11, 2012.
- Jégo, G., Bélanger, G., Tremblay, G.F., Pattey, E., and Jing, Q. (2012). "Calibration et évaluation de la performance du modèle STICS pour simuler la croissance et la valeur nutritive de la fléole des prés.", IXe Séminaire du modèle de culture STICS, Sainte-Montaine, France, October 16-19, 2012. (Poster)
- Gagnon, B., Ziadi, N., Chantigny, M.H., Bélanger, G., Tremblay, G.F., and Massé, D.I. (2012). "Valorisation des sous-produits du traitement des lisiers de porc et des eaux usées de papeteries en production de maïs-fourrager.", Demi-journée d'information scientifique sur les fourrages 2012, Victoriaville, QC, Canada, February 21, 2012, pp. 34-37.
- Cambouris, A.N., Bélanger, G., Ziadi, N., and Parent, G. (2012). "Biomass Productivity on Marginal Land Using Low Cost Fertilizer.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012.
- Abdi, D., Tremblay, G.F., Ziadi, N., Bélanger, G., and Parent, L.-É. (2012). "Analysis of soil phosphorus by near infrared reflectance spectroscopy.", 4th International Congress EUROSIL: Soil Science for the Benefit of Mankind and Environment, Bari, Italy, July 2-6, 2012. (Abstract)
- Tremblay, G.F., Dos Passos Bernardes, A., Vanasse, A., Bélanger, G., and Séguin, P. (2012). "Nutritive value of silages made with sweet pearl millet and sweet sorghum forage residues obtained after juice extraction.", XVI International Silage Conference, Hämeenlinna, Finland, July 2-4, 2012, Published in: Proceedings of the XVI International Silage Conference. Kuoppala, K., Rinne, M., and Vanhatalo, A. (eds.) published by MTT Agrifood Research Finland, University of Helsinki, pp. 226-227. (Abstract)
- Bertrand, A., Bourassa, J., Bélanger, G., Mongrain, D., Tremblay, G.F., and Castonguay, Y. (2012). "Les hausses de température et du CO<sub>2</sub> affecteront-elles la productivité des plantes fourragères?", Demi-journée d'information scientifique sur les fourrages 2012, Victoriaville, QC, Canada, February 21, 2012, pp. 32-33.
- Bélanger, G., Ziadi, N., Sinaj, S., Virkajärvi, P., Jouany, C., Lajeunesse, J., and Nyiraneza, J. (2012). "Critical P concentration of timothy and multispecies swards.", 24th General Meeting of the European Grassland Federation, Lublin, Poland, June 3-7, 2012. (Poster)
- Berthiaume, R.R., Bélanger, G., Tremblay, G.F., and Lafrenière, C. (2012). "Investir dans les fourrages: ça vaut le coût?", Le rendez-vous laitier. Association québécoise des industries de nutrition animale et céréalière (AQINAC) 2012, Best Western Hôtel Universel, Drummondville, QC, Canada, March 27, 2012, pp. 69-81.

2011

Bélanger, G., Ziadi, N., Cambouris, A.N., and Zebarth, B.J. (2011). "Plant-based N diagnostic methods: Whole plants or some parts of the plants?", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Bertrand, A., Bélanger, G., Castonguay, Y., and Tremblay, G.F. (2011). "Temperature and CO<sub>2</sub> affect yield, root biomass, and nutritive value of Canadian tame and native forage species.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011, Abstract 68182. (Abstract)

Piva, A., Bertrand, A., Séguin, P., and Bélanger, G. (2011). "Effects of elevated temperature and CO<sub>2</sub> concentration under contrasted N fertilization on timothy.", Journées du Centre SÈVE, Saint Paulin, QC, Canada, September 29, 2011.

Tremblay, G.F., Berthiaume, R.R., Bélanger, G., Audy, P., Lafrenière, C., Charbonneau, É., and Allard, G. (2011). "Valeur alimentaire des ensilages fabriqués à partir de fourrages plus sucrés.", Réunion annuelle des représentants Semican - Lallemand 2011, Victoriaville, QC, Canada, June 15, 2011.

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## Research Publications:

2015

Rico, D.E., Chouinard, P.Y., Hassanat, F., Benchaar, C., and Gervais, R. (2015). "Prediction of enteric methane emissions from Holstein dairy cows fed various forage sources.", *Animal*, pp. 1-9. doi : 10.1017/S1751731115001949

do Prado, R.M., Côrtes, C., Benchaar, C., and Petit, H.V. (2015). "Interaction of sunflower oil with monensin on milk composition, milk fatty acid profile, digestion, and ruminal fermentation in dairy cows.", *Animal Feed Science and Technology*, 207, pp. 85-92. doi : 10.1016/j.anifeedsci.2015.06.017

de Marchi, F.E., Palin, M.-F., Santos, G.T.D., Lima, L.S., Benchaar, C., and Petit, H.V. (2015). "Flax meal supplementation on the activity of antioxidant enzymes and the expression of oxidative stress- and lipogenic-related genes in dairy cows infused with sunflower oil in the abomasum.", *Animal Feed Science and Technology*, 199, pp. 41-50. doi : 10.1016/j.anifeedsci.2014.10.018

Lima, L.S., Palin, M.-F., Santos, G.T., Benchaar, C., and Petit, H.V. (2015). "Effects of supplementation of flax meal and flax oil on mammary gene expression and activity of antioxidant enzymes in mammary tissue, plasma and erythrocytes of dairy cows.", *Livestock Science*, 176, pp. 196-204. doi : 10.1016/j.livsci.2015.03.015

Benchaar, C., Hassanat, F., Martineau, R., and Gervais, R. (2015). "Linseed oil supplementation to dairy cows fed diets based on red clover silage or corn silage: Effects on methane production, rumen fermentation, nutrient digestibility, N balance, and milk production.", *Journal of Dairy Science (JDS)*, 98(11), pp. 7993-8008. doi : 10.3168/jds.2015-9398

Benchaar, C. (2015). "Diet supplementation with cinnamon oil, cinnamaldehyde, or monensin does not reduce enteric methane production of dairy cows.", *Animal*. doi : 10.1017/S175173111500230X

Li, R., Beaudoin, F., Ammah, A.A., Bissonnette, N., Benchaar, C., Zhao, X., Lei, C., and Ibeagha-Awemu, E.M. (2015). "Deep sequencing shows microRNA involvement in bovine mammary gland adaptation to diets supplemented with linseed oil or safflower oil.", *BMC Genomics*, 16(1: Article 884), pp. 1-16. doi : 10.1186/s12864-015-1965-7

Benchaar, C., Hassanat, F., and Petit, H.V. (2015). "Dose-response to eugenol supplementation to dairy cow diets: Methane production, N excretion, ruminal fermentation, nutrient digestibility, milk production, and milk fatty acid profile.", *Animal Feed Science and Technology*, 209, pp. 51-59. doi : 10.1016/j.anifeedsci.2015.07.027

2014

Mills, J.A.N., Crompton, L.A., Ellis, J.L., Dijkstra, J., Hook, S., Benchaar, C., and France, J. (2014). "A dynamic mechanistic model of lactic acid metabolism in the rumen.", *Journal of Dairy Science (JDS)*, 97(4), pp. 2398-2414. doi : 10.3168/jds.2013-7582

Meale, S.J., Chaves, A.V., McAllister, T.A., Iwaasa, A.D., Yang, W.-Z., and Benchaar, C. (2014). "Including essential oils in lactating dairy cow diets: effects on methane emissions.", *Animal Production Science*, 54(9), pp. 1215-1218. doi : 10.1071/AN14152

Ellis, J.L., Dijkstra, J., Bannink, A., Kebreab, E., Archibeque, S., Benchaar, C., Beauchemin, K.A., Nkrumah, J.D., and France, J. (2014). "Improving the prediction of methane production and representation of rumen fermentation for finishing beef cattle within a mechanistic model.", *Canadian Journal of Animal Science*, 94(3), pp. 509-524. doi : 10.4141/cjas2013-192

Massé, D.I., Jarret, G., Benchaar, C., and Saady, N.M.C. (2014). "Effect of Corn Dried Distiller Grains with Soluble (DDGS) in Dairy Cow Diet on Manure Bioenergy Production Potential.", *Animals*, 4(1), pp. 82-92. doi : 10.3390/ani4010082

Benchaar, C., Hassanat, F., Gervais, R., Chouinard, P.Y., Petit, H.V., and Massé, D.I. (2014). "Methane production, digestion, ruminal fermentation, N balance, and milk production of cows fed corn silage or barley silage based diets.", *Journal of Dairy Science (JDS)*, 97(2), pp. 961-974. doi : 10.3168/jds.2013-7122

Hassanat, F., Gervais, R., Massé, D.I., Petit, H.V., and Benchaar, C. (2014). "Methane production, nutrient digestion, ruminal fermentation, N balance, and milk production of cows fed timothy silage- or alfalfa silage-based diets.", *Journal of Dairy Science (JDS)*, 97(10), pp. 6463-6474. doi : 10.3168/jds.2014-8069

Benchaar, C., McAllister, T.A., Petit, H.V., and Chouinard, P.Y. (2014). "Whole flax seed and flax oil supplementation of dairy cows fed high-forage or high-concentrate diets: Effects on digestion, ruminal fermentation characteristics, protozoal populations and milk fatty acid profile.", *Animal Feed Science and Technology*, 198, pp. 117-129. doi: 10.1016/j.anifeedsci.2014.10.003

Lima, L.S., Palin, M.-F., Santos, G.T.D., Benchaar, C., Lima, L.C.R., Chouinard, P.Y., and Petit, H.V. (2014). "Effect of flax meal on the production performance and oxidative status of dairy cows infused with flax oil in the abomasum.", *Livestock Science*, 170, pp. 53-62. doi: 10.1016/j.livsci.2014.09.023

Palin, M.-F., Côrtes, C., Benchaar, C., Lacasse, P., and Petit, H.V. (2014). "mRNA Expression of lipogenic enzymes in mammary tissue and fatty acid profile in milk of dairy cows fed flax hulls and infused with flax oil in the abomasum.", *British Journal of Nutrition*, 111(6), pp. 1011-1020. doi: 10.1017/S0007114513003589

Massé, D.I., Jarret, G., Benchaar, C., and Hassanat, F. (2014). "Effects of Adding Corn Dried Distiller Grains with Solubles (DDGS) to the Dairy Cow Diet and Effects of Bedding in Dairy Cow Slurry on Fugitive Methane Emissions.", *Animals*, 4(4), pp. 767-778. doi: 10.3390/ani4040767

## 2013

Lettat, A., Hassanat, F., and Benchaar, C. (2013). "Corn silage in dairy cow diets to reduce ruminal methanogenesis: Effects on the rumen metabolically active microbial communities.", *Journal of Dairy Science (JDS)*. doi: 10.3168/jds.2012-6481

Schogor, A.L.B., Palin, M.-F., dos Santos, G.T.D., Benchaar, C., Lacasse, P., and Petit, H.V. (2013). "Mammary gene expression and activity of antioxidant enzymes and oxidative indicators in the blood, milk, mammary tissue and ruminal fluid of dairy cows fed flax meal.", *British Journal of Nutrition*, 110(10), pp. 1743-1750. doi: 10.1017/S0007114513001220

Benchaar, C. and Lettat, A. (2013). "Diet-Induced Alterations in Total and Metabolically Active Microbes within the Rumen of Dairy Cows.", *PLoS ONE*, 8(4, Article No. e60978). doi: 10.1371/journal.pone.0060978

Benchaar, C., Hassanat, F., Gervais, R., Chouinard, P.Y., Julien, C., Petit, H.V., and Massé, D.I. (2013). "Effects of increasing amounts of corn dried distillers grains with solubles in dairy cow diets on methane production, ruminal fermentation, digestion, N balance, and milk production.", *Journal of Dairy Science (JDS)*, 96(4), pp. 2413-2427. doi: 10.3168/jds.2012-6037

Hassanat, F., Gervais, R., Julien, C., Massé, D.I., Chouinard, P.Y., Petit, H.V., and Benchaar, C. (2013). "Replacing alfalfa silage with corn silage in dairy cow diets: Effects on enteric methane production, ruminal fermentation, digestion, N balance, and milk production.", *Journal of Dairy Science (JDS)*, 96(7), pp. 4553-4567. doi: 10.3168/jds.2012-6480

Hassanat, F. and Benchaar, C. (2013). "Assessment of the effect of condensed (acacia and quebracho) and hydrolysable (chestnut and valonea) tannins on rumen fermentation and methane production in vitro.", *Journal of the Science of Food and Agriculture*, 93(2), pp. 332-339. doi: 10.1002/jsfa.5763

Côrtes, C., da Silva-Kazama, D.C., Kazama, R., Benchaar, C., dos Santos, G.T.D., Zeoula, L.M., Gagnon, N., and Petit, H.V. (2013). "Effects of abomasal infusion of flaxseed (*Linum usitatissimum*) oil on microbial  $\beta$ -glucuronidase activity and concentration of the mammalian lignan enterolactone in ruminal fluid, plasma, urine and milk of dairy cows.", *British Journal of Nutrition*, 109(3), pp. 433-440. doi: 10.1017/S0007114512001341

## 2012

Côrtes, C., Palin, M.-F., Gagnon, N., Benchaar, C., Lacasse, P., and Petit, H.V. (2012). "Mammary gene expression and activity of antioxidant enzymes and concentration of the mammalian lignan enterolactone in milk and plasma of dairy cows fed flax lignan and infused with flax oil in the abomasum.", *British Journal of Nutrition*, 108(8), pp. 1390-1398. doi: 10.1017/S0007114511006829

Chaves, A.V., Baah, J., Wang, Y., McAllister, T.A., and Benchaar, C. (2012). "Effects of cinnamon leaf, oregano and sweet orange essential oils on fermentation and aerobic stability of barley silage.", *Journal of the Science of Food and Agriculture*, 92(4), pp. 906-915. doi: 10.1002/jsfa.4669

Benchaar, C., Romero-Pérez, G.A., Chouinard, P.Y., Hassanat, F., Eugène, M., Petit, H.V., and Côrtes, C. (2012). "Supplementation of increasing amounts of linseed oil to dairy cows fed total mixed rations: Effects on digestion, ruminal fermentation characteristics, protozoal populations, and milk fatty acid composition.", *Journal of Dairy Science (JDS)*, 95(8), pp. 4578-4590. doi: 10.3168/jds.2012-5455

Benchaar, C., Hassanat, F., Lettat, A., Yang, W.-Z., Forster, R.J., Petit, H.V., and Chouinard, P.Y. (2012). "Eugenol for dairy cows fed low- or high-concentrate diets: Effects on digestion, ruminal fermentation characteristics, rumen microbial populations and milk fatty acid profile.", *Animal Feed Science and Technology*, 178(3-4), pp. 139-150. doi: 10.1016/j.anifeedsci.2012.10.005

2011

Côrtes, C., da Silva-Kazama, D.C., Kazama, R., Benchaar, C., Zeoula, L.M., Santos, G.T.D., and Petit, H.V. (2011). "Intake and digestibility of fatty acids in late-lactating dairy cows fed flaxseed hulls supplemented with monensin.", *Journal of Dairy Research*, 78(4), pp. 391-395. doi : 10.1017/S0022029911000604

Côrtes, C., da Silva-Kazama, D.C., Kazama, R., Benchaar, C., dos Santos, G.T.D., Zeoula, L.M., and Petit, H.V. (2011). "Intake and digestion of fatty acids by dairy cows fed whole flaxseed and Ca salts of flaxseed oil.", *Animal Feed Science and Technology*, 169(3), pp. 270-274. doi : 10.1016/j.anifeedsci.2011.06.016

Benchaar, C. and Greathead, H. (2011). "Essential oils and opportunities to mitigate enteric methane emissions from ruminants.", *Animal Feed Science and Technology*, 166-167, pp. 338-355. doi : 10.1016/j.anifeedsci.2011.04.024

Chaves, A.V., Dugan, M.E.R., Stanford, K.I.M., Gibson, L.L., Bystrom, J.M., McAllister, T.A., Van Herk, F.H., and Benchaar, C. (2011). "A dose-response of cinnamaldehyde supplementation on intake, ruminal fermentation, blood metabolites, growth performance, and carcass characteristics of growing lambs.", *Livestock Science*, 141 (2-3), pp. 213-220. doi : 10.1016/j.livsci.2011.06.006

Côrtes, C., Kazama, R., da Silva-Kazama, D.C., Benchaar, C., Zeoula, L.M., dos Santos, G.T.D., and Petit, H.V. (2011). "Digestion, milk production and milk fatty acid profile of dairy cows fed flax hulls and infused with flax oil in the abomasum.", *Journal of Dairy Research*, 78(3), pp. 293-300. doi : 10.1017/S0022029911000446

da Silva-Kazama, D.C., Côrtes, C., Kazama, R., Benchaar, C., dos Santos, G.T.D., Zeoula, L.M., and Petit, H.V. (2011). "Ruminal fermentation characteristics and fatty acid profile of ruminal fluid and milk of dairy cows fed flaxseed hulls supplemented with monensin.", *Journal of Dairy Research*, 78(1), pp. 56-62. doi : 10.1017/S0022029910000865

## Other Science Related Publications:

2015

Benchaar, C. (2015). "Nutritional management to reduce enteric methane production from ruminants.", 3rd International Symposium on Sustainable Agriculture for Subtropical Regions, Changsha, China, October 18-20, 2015.

Benchaar, C. (2015). "Mitigation of enteric methane emissions to reduce the carbon footprint of dairy production.", China-Canada Workshop on canola meal, Sherbrooke, QC, Canada, October 26-29, 2015, Invited speaker.

Chantigny, M.H., Royer, I., Rochette, P., Angers, D.A., Massé, D.I., Benchaar, C., and others (2015). "Influence des stratégies alimentaires et d'entreposage des effluents d'élevage sur la disponibilité de l'azote et les émissions de protoxyde d'azote des sols de fermes laitières.", Journée d'information scientifique – Bovins laitiers et plantes fourragères, Centre de référence en agriculture et agroalimentaire du Québec, Drummondville, QC, Canada, 25 février 2015.

Chantigny, M.H., Rochette, P., Royer, I., Massé, D.I., and Benchaar, C. (2015). "Gaz à effet de serre, stratégies alimentation et entreposage des déjections.", *Le Producteur de Lait Québécois*, Avril 2015, pp. 13-18.

Ibeagha-Awemu, E.M., Li, R., Ammah, A.A., Bissonnette, N., Benchaar, C., and Zhao, X. (2015). "Transcriptome adaptation of the bovine mammary gland to a diet supplemented with linseed oil.", *Journal of Animal Science*, 93(Suppl. S3), pp. 410. (Abstract)

Ammah, A.A., Beaudoin, F., Marier, L., Benchaar, C., Bissonnette, N., Gévry, G., and Ibeagha-Awemu, E.M. (2015). "Effects of dietary supplementation with safflower oil on milk components and fat acid composition of Canadian Holstein cows.", 2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council, Ottawa, Canada, May 6-8, 2015.

Ibeagha-Awemu, E.M., Li, R., Ammah, A.A., Bissonnette, N., Benchaar, C., and Zhao, X. (2015). "Transcriptome adaptation of the bovine mammary gland to a diet supplemented with linseed oil.", ADSA-ASAS 2015 JAM (Joint Annual Meeting), Orlando, Florida, USA, July 12-16, 2-15, Invited to present at the ASAS Presidents' Picks Poster Session at JAM 2015. (Poster)

Hassanat, F., Gervais, R., and Benchaar, C. (2015). "Methane production from dairy cows fed regular or brown midrib corn silage.", *Journal of Animal Science*, 93(Suppl. S3), pp. 449. (Abstract)

Hassanat, F. and Benchaar, C. (2015). "Methane and carbon dioxide emissions from manure of dairy cows fed regular or brown midrib corn silage-based diets.", *Journal of Animal Science*, 93(Suppl. S3), pp. 716. (Abstract)

Tun, H.M., Khafipour, E., and Benchaar, C. (2015). "The effect of linseed oil supplementation on rumen microbiota composition in lactating dairy cows.", *Journal of Animal Science*, 93(Suppl. S3), pp. 151. (Abstract)

Tun, H.M., Khafipour, E., and Benchaar, C. (2015). "The effects of linseed oil supplementation on fecal microbiota in lactating dairy cows.", *Journal of Animal Science*, 93(Suppl. S3), pp. 152. (Abstract)

Benchaar, C. (2015). "Mitigation of enteric methane emissions from dairy cows.", Dairy Agriculture Greenhouse Gas Program Science Coordination and Implementation Workshop, Ottawa, Canada, April 16-17, 2015, Invited speaker.

Little, S.M., Beauchemin, K.A., Benchaar, C., Chai, L.L., Janzen, H.H., Kröbel, R., McGeough, E.J., and VanderZaag, A.C. (2015). "Demonstrating the effect of diet on the carbon footprint of a Canadian dairy scenario using whole-systems analysis and the Holos model: corn silage vs. alfalfa silage.", LCA Conference XV - A bright green future, Vancouver, Canada, October 6-8, 2015, Presentation.

Ibeagha-Awemu, E.M., Li, R., Dudemaine, P.-L., Ammah, A.A., Bissonnette, N., Benchaar, C., and Zhao, X. (2015). "Mammary gland transcriptome profiling of cows fed safflower oil reveals a potential modulatory role for SREBP1 in fatty acid synthesis.", 2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council, Ottawa, Canada, May 6-8, 2015.

## 2014

dos Santos, G.T.D., de Marchi, F.E., de Lima, L.S., Palin, M.-F., Benchaar, C., and Petit, H.V. (2014). "Activity of Antioxidant Enzymes in Dairy Cows Infused with Sunflower Oil in the Abomasum: Effect of Antioxidants from Flax Meal.", Joint International Symposium on the Nutrition of Herbivores/International Symposium on Ruminant Physiology (ISNH/ISRP), Canberra, Australia, September 8-12, 2014, In: Proc. Aust. Soc. Anim. Prod. 30:68.

Hassanat, F., Gervais, C., Julien, C., Massé, D.I., Lettat, A., Chouinard, P.Y., Petit, H.V., and Benchaar, C. (2014). "Erratum to "Replacing alfalfa silage with corn silage in dairy cow diets: Effects on enteric methane production, ruminal fermentation, digestion, N balance, and milk production" (J. Dairy Sci. 96:4553-4567).", Journal of Dairy Science (JDS), 97, pp. 1169.

Royer, I., Chantigny, M.H., Angers, D.A., Rochette, P., Massé, D.I., Bittman, S., and Benchaar, C. (2014). "Trace metals content of soils and plants from different dairy manure types based on feeding and manure storage strategies", Annual meeting of the Canadian Soil Science Society, Banff, Alberta, Canada, May 4-7, 2014.

Rico, D.E., Chouinard, P.Y., Hassanat, F., Benchaar, C., and Gervais, R. (2014). "Prediction of enteric methane emissions in Holstein dairy cows fed various forage sources.", Journal of Dairy Science (JDS), 97(E-Suppl. 1), pp. 918. (Abstract)

Hassanat, F., Massé, D.I., and Benchaar, C. (2014). "Methane and carbon dioxide emissions from manure of dairy cows fed red clover- or corn silage-based diets supplemented with linseed oil.", Journal of Dairy Science (JDS), 97(E-Suppl. 1), pp. 740. (Abstract)

Benchaar, C., Hassanat, F., Gervais, R., and Martineau, R. (2014). "Methane production from dairy cows fed red clover- or corn silage-based diets supplemented with linseed oil.", Journal of Dairy Science (JDS), 97(E-Suppl. 1), pp. 853. (Abstract)

Petit, H.V., de Lima, L.S., Palin, M.-F., Santos, G.T.D., and Benchaar, C. (2014). "Effect of Antioxidants from Flax meal on the Oxidative Status of Dairy Cows Infused With Flax Oil in the Abomasum.", Joint International Symposium on the Nutrition of Herbivores/International Symposium on Ruminant Physiology (ISNH/ISRP), Canberra, Australia, September 8-12, 2014, In: Proc. Aust. Soc. Anim. Prod. 30:83.

Royer, I., Chantigny, M.H., Angers, D.A., Rochette, P., Massé, D.I., Bittman, S., and Benchaar, C. (2014). "La stratégie d'alimentation et de stockage du fumier de bovin laitier influence-t-elle le contenu en éléments traces métalliques des sols?", Congrès annuel de l'AQSSS à Victoriaville, Québec, Canada, du 26 au 29 mai 2014.

## 2013

Santos, G.T., Schogor, A.L.B., Palin, M.-F., Benchaar, C., and Petit, H.V. (2013). "Lipid peroxidation in body fluids of dairy cows fed flax meal.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, (Abstract), pp. 146.

Benchaar, C. (2013). "Émissions de méthane par les vaches laitières: comprendre pour bien agir.", Le rendez-vous laitier. Association québécoise des industries de nutrition animale et céréalière (AQINAC) 2013, Best Western Hôtel Universel, Drummondville, QC, Canada, March 26, 2013.

Ibeagha-Awemu, E.M., Ammah, A.A., Beaudoin, F., Bissonnette, N., and Benchaar, C. (2013). "Effects of Diets Rich in Unsaturated Fatty Acids on Milk Urea Nitrogen (MUN) Levels and Potential for Genetic Selection of MUN.", 31st Western Canadian Dairy Seminar (WCDS), Capri Centre, Red Deer, AB, Canada, March 5-8, 2013, Published in: Advances in Dairy Technology (Western Canadian Dairy Seminar Proceedings) 25, pp. 388. (Poster)

Benchaar, C., Hassanat, F., Gervais, R., Chouinard, P.Y., Petit, H.V., and Massé, D.I. (2013). "Enteric methane emissions from dairy cows fed corn silage or barley silage based diets.", ADSA-ASAS 2013 Joint Annual Meeting, Indianapolis, IN, USA, July 8-12, 2013, Published in: Journal of Dairy Science, 96:512 (# TH111).

Hassanat, F., Gervais, R., Chouinard, P.Y., Petit, H.V., Massé, D.I., and Benchaar, C. (2013). "Effect of replacing timothy silage with alfalfa silage in dairy cow diets on enteric methane production.", ADSA-ASAS 2013 Joint Annual Meeting, Indianapolis, IN, USA, July 8-12, 2013, Published in: Journal of Dairy Science, 96:28 (# T76).

Benchaar, C. (2013). "Mitigation of GHG Emissions on Farm to Reduce the Carbon Footprint of the Dairy Sector.", Dairy Research for a Healthy World Symposium – Driving Innovation in Dairy from Farm to Fork, Royal York Hotel, Concert Hall, Toronto, ON, Canada, July 25, 2013.



Petit, H.V., Schogor, A.L.B., Benchaar, C., Palin, M.-F., and Santos, G.T.D. (2013). "Enterolactone production and its correlation among body fluids in cows fed flax meal.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, pp. 142.

Schogor, A.L.B., Petit, H.V., Benchaar, C., Palin, M.-F., and Santos, G.T.D. (2013). "Enterolactone concentration in body fluids and  $\beta$ -glucosidase activity in the rumen and in faeces of dairy cows fed flax meal.", World Conference on Animal Production (11th WCAP), Beijing, China, October 15-20, 2013.

Schogor, A.L.B., Petit, H.V., Benchaar, C., Palin, M.-F., and Santos, G.T.D. (2013). "Activity of antioxidant enzymes in dairy cows fed increasing levels of flax meal.", World Conference on Animal Production (11th WCAP), Beijing, China, October 15-20, 2013.

Prado, R.M., Prado, I.N., Santos, G.T., Benchaar, C., Palin, M.-F., and Petit, H.V. (2013). "Milk production and composition and blood and liver parameters of dairy cows fed various fat sources.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, (Abstract), pp. 411.

Schogor, A.L.B., Palin, M.-F., Benchaar, C., Santos, G.T., and Petit, H.V. (2013). "Mammary gene expression in Holstein cows upon flax meal supplementation.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, (Abstract), pp. 144.

Petit, H.V., Schogor, A.L.B., Benchaar, C., Palin, M.-F., and Santos, G.T. (2013). "Enterolactone production and its correlation among body fluids in cows fed flax meal.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, Abstract, pp. 142 (Abstract).

Benchaar, C. (2013). "Les émissions de méthane d'origine digestive par les vaches laitières: Comprendre pour bien agir. Le Rendez-vous Laitier.", Le rendez-vous laitier. Association québécoise des industries de nutrition animale et céréalière (AQINAC) 2013, Best Western Hôtel Universel, Drummondville, QC, Canada, March 26, 2013.

Benchaar, C., Hassanat, F., Gervais, R., Chouinard, P.Y., and Massé, D.I. (2013). "Effect of increasing amounts of corn dried distillers' grains with solubles in dairy cow diets on enteric methane emissions, digestibility, and milk production.", 31st Western Canadian Dairy Seminar (WCDS), Capri Centre, Red Deer, AB, Canada, March 5-8, 2013.

Hassanat, F., Benchaar, C., Gervais, R., Chouinard, P.Y., and Massé, D.I. (2013). "Effects of replacing timothy silage with a alfalfa silage in dairy cow diets on enteric methane production.", ADSA-ASAS 2013 Joint Annual Meeting, Indianapolis, IN, USA, July 8-12, 2013.

Petit, H.V., Schogor, A.L.B., Benchaar, C., Palin, M.-F., Santos, G.T., and Prado, R.M. (2013). "Intake, feed efficiency and milk composition of cows fed flax meal.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, (Abstract), pp. 143.

Massé, D.I., Jarret, G., and Benchaar, C. (2013). "Influence of dried distillers grains with solubles (DDGS) in dairy cow diet on fugitive manure methane emission and on manure bioenergy production potential.", 15th Research Network on Recycling of Agricultural and Industrial Residues in Agriculture (RAMIRAN) International Conference, Versailles, France, June 3-5, 2013, S3.09.

## 2012

Lettat, A., Hassanat, F., and Benchaar, C. (2012). "Effects of feeding corn- or legume/grass silage-based diets on ruminal bacteria and archaea communities.", Journal of Dairy Science (JDS), 95(Suppl. 2), pp. 371 (#T339). (Abstract)

Benchaar, C., Hassanat, F., Gervais, R., Chouinard, P.Y., Julien, C., Massé, D.I., and Petit, H.V. (2012). "Effect of increasing amounts of corn dried distillers' grains with solubles in dairy cow diets on enteric methane emissions, digestibility, and milk production.", Journal of Dairy Science (JDS), 95(Suppl. 2), pp. 597 (#W277). (Abstract)

Petit, H.V., do Prado, R.N., Palin, M.-F., and Benchaar, C. (2012). "Milk production, milk composition and blood parameters of cows fed whole flax seed or whole linola.", Journal of Dairy Science (JDS), 95(Suppl. 2), pp. 611 (#W318). (Abstract)

Chantigny, M.H., Royer, I., Rochette, P., Angers, D.A., Massé, D.I., and Benchaar, C. (2012). "Manure storage strategies altered nutrient availability and greenhouse gas emissions following application to soils.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012.

Benchaar, C., Hassanat, F., Gervais, R., Chouinard, P.Y., Julien, C., Massé, D.I., and Petit, H.V. (2012). "Effect of increasing amounts of corn dried distillers' grains with solubles in dairy cow diets on enteric methane emissions, digestibility, and milk production.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012.

Hassanat, F., Gervais, R., Chouinard, P.Y., Julien, C., Massé, D.I., and Benchaar, C. (2012). "Effect of replacing legume/grass silage with corn silage in dairy cow diets on enteric methane production.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, Published in: Journal of Dairy Science (JDS), 95(Suppl. 2), pp. 371 (#M346).

Lettat, A., Hassanat, F., and Benchaar, C. (2012). "Effects of feeding corn- or legume/grass silage-based diets on ruminal bacteria and archaea communities.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012.

Hassanat, F., Gervais, R., Chouinard, P.Y., Julien, C., Massé, D.I., and Benchaar, C. (2012). "Effect of replacing legume silage with corn silage in dairy cow diets on enteric methane production.", *Journal of Dairy Science (JDS)*, 95(Suppl. 2), pp. 371. (Abstract)

Benchaar, C., Hassanat, F., Gervais, R., Chouinard, P.Y., Julien, C., and Massé, D.I. (2012). "Effects of increasing amounts of corn dried distillers' grains with solubles in dairy cow diets on enteric methane emissions, digestibility, and milk production.", *Journal of Dairy Science (JDS)*, 95(Suppl. 2), pp. 597. (Abstract)

Chouinard, P.Y., Pellerin, D., Charbonneau, É., Vuillemard, J.-C., Gervais, R., Fievez, V., Benchaar, C., and Tremblay, G.F. (2012). "Chaire industrielle de recherche sur le contrôle nutritionnel de la production des constituants du lait.", Forum Technologique NOVALAIT / IDF Dairy Science and Technology Week 2012, Hôtel et Suites Le Dauphin, Drummondville, QC, Canada, May 29, 2012, P2012-12. (Abstract)

Benchaar, C. (2012). "Effects of feeding corn- or legume silage-based diets on ruminal bacteria and archaea communities.", *Journal of Dairy Science (JDS)*, 95(Suppl. 2), pp. 371. (Abstract)

## 2011

Massé, D.I., Jarret, G., and Benchaar, C. (2011). "Manure management, valorisation and manure bioenergy.", Dairy Research Cluster: Communications and Consultation Workshop - Shaping a dairy research agenda for 2013 - 2018, Queen Elizabeth Hotel, Montréal, QC, Canada, November 16-17, 2011.

Benchaar, C. (2011). "Mitigation of enteric methane emissions to reduce the carbon footprint of the dairy industry.", Dairy Research Cluster: Communications and Consultation Workshop - Shaping a dairy research agenda for 2013 - 2018, Queen Elizabeth Hotel, Montréal, QC, Canada, November 16-17, 2011.

Sarramone, J.P., Benchaar, C., Lebeuf, Y., Gervais, R., and Chouinard, P.Y. (2011). "Effect of feeding *Camelina sativa* seeds or meal on lactation performance and milk fatty acid composition in lactating dairy cows.", *Journal of Dairy Science (JDS)*, 94(E-Suppl. 1), pp. 118 (#M320). (Abstract)

Hassanat, H. and Benchaar, C. (2011). "Impact of different sources of hydrolysable and condensed tannins on rumen fermentation and methane production in vitro.", *Journal of Dairy Science (JDS)*, 94(E-Suppl. 1), pp. 389 (#T363). (Abstract)

Benchaar, C. and Chouinard, P.Y. (2011). "Effects of cinnamon essential oil, cinnamaldehyde and monensin on milk fatty acid profile of dairy cows.", *Journal of Dairy Science (JDS)*, 94(E-Suppl. 1), pp. 375 (#T321). (Abstract)

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## Research Publications:

2015

Bennett, A.M.R. (2015). "Revision of the world genera of Tryphoninae (Hymenoptera: Ichneumonidae).", *Memoirs of the American Entomological Institute*, 86, pp. 1-387.

2014

Bennett, A.M.R. and Barnes, D.I. (2014). "Revision of the world species of Chiloplatys (Hymenoptera, Ichneumonidae, Tryphoninae).", *Proceedings of the Russian Entomological Society*, 85, pp. 19-62.

2013

Bennett, A.M.R., Saaksjarvi, I.E., and Broad, G.R. (2013). "Revision of the New World species of Erythrodoilus (Hymenoptera: Ichneumonidae: Sisyrostolinae) with a key to the world species.", *Zootaxa*, 3702(5), pp. 425-436. doi : 10.11646/zootaxa.3702.5.2

Jenner, W.H., Jenner, E.J., Kuhlmann, U., Bennett, A.M.R., and Cossentine, J.E. (2013). "Enarmonia formosana Scopoli, Cherry Bark Tortrix (Lepidoptera: Tortricidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 22, pp. 156-163.

Mason, P.G., Brauner, A.M., Miall, J.H., and Bennett, A.M.R. (2013). "Diadromus pulchellus in North America: field release against leek moth and new character to distinguish it from *Diadromus subtilicornis*, a native diamondback moth parasitoid.", *Biocontrol Science and Technology*, 23(3), pp. 260-276. doi : 10.1080/09583157.2012.755613

Timms, L.L., Bennett, A.M.R., Buddle, C.M., and Wheeler, B.M. (2013). "Assessing five decades of change in a high Arctic parasitoid community.", *Ecography*. doi : 10.1111/j.1600-0587.2012.00278.x

2011

Castillo, C., Sääksjärvi, I.E., Bennett, A.M.R., and Broad, G.R. (2011). "First record of Acaenitinae (Hymenoptera: Ichneumonidae) from South America with description of a new species and a key to the world species of Arotel Gravenhorst.", *ZooKeys*, 137, pp. 77-88. doi : 10.3897/zookeys.137.1788

Bennett, A.M.R. and Barnes, D.I. (2011). "Revision of the world species of Zambion (Hymenoptera, Ichneumonidae, Tryphoninae).", *ZooKeys*, 159, pp. 19-48. doi : 10.3897/zookeys.159.2219

## Other Science Related Publications:

2013

Bennett, A.M.R., Cardinal, S., Gauld, I.D., and Wahl, D.B. (2013). "Morphological and molecular phylogeny of the subfamilies of Ichneumonidae (Hymenoptera).", *Biosyst EU 2013. 2nd meeting of the Federation of European Biological Systematic Societies*, University of Vienna, Vienna, Austria, February 18-22, 2013.

Bennett, A.M.R. (2013). "Phylogenetics and natural history of the subfamily Tryphoninae (Hymenoptera: Ichneumonidae).", *Entomological Society of British Columbia, 2013 Annual Meeting*, Pacific Forestry Centre, Victoria, B.C., Canada, November 1-2, 2013.

Bennett, A.M.R., Cardinal, S., Gauld, I.D., and Wahl, D.B. (2013). "Phylogeny of the Ichneumonidae.", *Entomological Society of America (ESA) 61st Annual Meeting*, Austin Convention Center, Austin, TX, USA, November 10-13, 2013.

Mason, P.G. and Bennett, A.M.R. (2013). *Access and Benefit Sharing Update for AAFC Biological Control Working Group*, 18 October 2013, Guelph, Ontario, 1pp. (Report)

2012

Timms, L.L., Bennett, A.M.R., Buddle, C.M., and Wheeler, T.A. (2012). "Abiotic and biotic determinants of ichneumonid diversity in northern Canada.", Entomological Society of Canada 2012 Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 3-7, 2012.

2011

Timms, L.L., Bennett, A.M.R., Buddle, C.M., and Wheeler, T.A. (2011). "Diversity in a sensitive Arctic environment: comparing communities of Ichneumonidae on Ellesmere Island over five decades.", Entomological Society of America (ESA) 59th Annual Meeting, Reno-Sparks Convention Center, Reno, NV, USA, November 13-16, 2011.

Bennett, A.M.R. (2011). "Review of the aquatic Hymenoptera of the world.", Entomological Society of America (ESA) 59th Annual Meeting, Reno-Sparks Convention Center, Reno, NV, USA, November 13-16, 2011.

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## Research Publications:

2014

Bae, J., Byun, C., Watson, A.K., and Benoît, D.-L. (2014). "Ground cover species selection to manage common ragweed (*Ambrosia artemisiifolia* L.) in roadside edge of highway.", *Plant Ecology*, 216(2), pp. 263-271. doi : 10.1007/s11258-014-0433-9

Bae, J., Mercier, G., Watson, A.K., and Benoît, D.-L. (2014). "Seed germination test for heavy metal phytotoxicity assessment.", *Canadian Journal of Plant Science*, 94(8), pp. 1519-1521. doi : 10.4141/CJPS-2014-018

Samy, É., Benoît, D.-L., and Khanizadeh, S. (2014). "Chlorophyll Fluorescence: A Novel Method to Screen for Herbicide Resistance.", *International Journal of Horticultural Science and Technology*, 1(2), pp. 93-99.

Schutte, B.J., Tomasek, B.J., Davis, A.S., Andersson, L., Benoît, D.-L., Cirujeda, A., Dekker, J.H., Forcella, F., González-Andújar, J.L., Graziani, F., Murdoch, A.J., Neve, P., Rasmussen, I.A., Sera, B., Salonen, J., Tei, F., and Tørresen, K.S. (2014). "An investigation to enhance understanding of the stimulation of weed seedling emergence by soil disturbance.", *Weed Research*, 54(1), pp. 1-12. doi : 10.1111/wre.12054

2012

Simard, M.-J. and Benoît, D.-L. (2012). "Potential Pollen and Seed Production from Early- and Late-emerging Common Ragweed in Corn and Soybean.", *Weed Technology*, 26(3), pp. 510-516. doi : 10.1614/WT-D-11-00178.1

Masson, E., Nolwenn, N., Benoît, D.-L., Pinsonneault, L., Groulx, J., Hénault, G., and Simard, M.-J. (2012). "Assessment of the effectiveness of a mobilization project for the control of ragweed on the quality of life of allergic individuals.", *Ambrosie*, 27, pp. 33-42.

Toussaint, V., Benoît, D.-L., and Carisse, O. (2012). "Potential of weed species as a reservoir for *Xanthomonas campestris* pv. *vitiensis*, the causal agent of bacterial leaf spot of lettuce.", *Crop Protection*, 41(November), pp. 64-70. doi : 10.1016/j.cropro.2012.05.018

2011

Légère, A., Stevenson, F.C., and Benoît, D.-L. (2011). "The selective memory of weed seedbanks after 18 years of conservation tillage.", *Weed Science*, 59(1), pp. 98-106. doi : 10.1614/WS-D-10-00092.1

Légère, A., Stevenson, F.C., Lalonde, O., Vanasse, A., and Benoît, D.-L. (2011). "Stork's-bill (*Erodium cicutarium* (L.) L'Her. Ex Ait) and hemp-nettle (*Galeopsis tetrahit* L.): a cautionary note for eastern Canada field crops.", *Phytoprotection*, 91(1), pp. 11-14.

Simard, M.-J. and Benoît, D.-L. (2011). "Effect of repetitive mowing on common ragweed (*Ambrosia artemisiifolia* L.) pollen and seed production.", *Annals of Agricultural and Environmental Medicine (AAEM)*, 18(1), pp. 55-62.

## Other Science Related Publications:

2012

Nadeau, M.-J., Masson, E., Noisel, N., Groulx, J., Hénault, G., Benoît, D.-L., Simard, M.-J., and LaFlamme, L. (2012). "Projet herbe à poux 2007-2010. Résumé scientifique – Phase I.", published by Agence de santé et des services sociaux de la Montérégie, Direction de santé publique, QC, Canada, 12 pages, ISBN 9782550628927. (Technology transfer)

2011

Benoît, D.-L. (2011). "The effects of cutting on pollen and seed production in ragweed.", published by Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC), pp. 1-2. (Factsheet)

Masson, E., Noisel, N., Benoît, D.-L., Macaire-Chabi, G., and Jean-Louis, M. (2011). "Projet herbe à poux 2007-2010. Réduire le pollen de l'herbe à poux : mission réaliste.", published by Agence de santé et des services sociaux de la Montérégie, Direction de santé publique, QC, Canada, 16 pages, ISBN 9782550621720. (Technology transfer)

Ball Coelho, B.R., Callow, K., Nurse, R.E., Benoît, D.-L., and Bernier, D. (2011). "Field vegetable production: Using cover crops for weed management.", published by Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC), Pesticide Risk Reduction Program/Programme de réduction des risques liés aux pesticides, 6 pages. (Technology transfer)

Ball Coelho, B.R., Benoît, D.-L., Nurse, R.E., Callow, K., and Bernier, D. (2011). "Cover crops as an integrated approach to weed management in vegetable production in Canada.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 63. (Poster)

Benoît, D.-L. and Simard, M.-J. (2011). "Common ragweed densities in two municipalities in Quebec with and without control programs.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 60. (Poster)

Benoît, D.-L. and Simard, M.-J. (2011). "Ragweed pollen concentrations following a three year control program in two municipalities in southwestern Quebec.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 59. (Poster)

Owen, J., Fillmore, S.A.E., Sanderson, K.R., Nurse, R.E., Mercier, G., Charles, M.T., and Benoît, D.-L. (2011). An eastern Canada Research Network for the study of organic vegetable rotational cropping systems: Project Final Report. March 31, 2011. (Report)

Nadeau, M.-J., Masson, E., Noisèl, N., Groulx, J., Potvin, P., Benoît, D.-L., and Simard, M.-J. (2011). "Projet Herbe à poux 2007-2010. Réduire le pollen de l'herbe à poux : mission réaliste. Faits Saillants", published by Agence de santé et des services sociaux de la Montérégie, Direction de santé publique, QC, Canada, 4 pages, 11-244-01F. (Technology transfer)

# Beres, Brian L., M. Agr., P. Agr.

Biologist/Research Scientist

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## Research Publications:

2015

Beres, B.L. and Stevenson, F.C. (2015). "Feasibility of bioplastic mulch systems to stimulate early seed germination and plant growth for corn silage hybrids.", *Canadian Journal of Plant Science*. doi: 10.4141/CJPS-2015-128

Spaner, D.M., Navabi, A., Strenzke, K., Iqbal, M., and Beres, B.L. (2015). "Coleman hard red spring wheat.", *Canadian Journal of Plant Science*, 95(5), pp. 1037-1041. doi: 10.4141/cjps-2015-111

O'Donovan, J.T., Anbessa, Y., Grant, C.A., MacLeod, A., Edney, M.J., Izydorczyk, M.S., Turkington, T.K., Juskiw, P.E., Lafond, G.P., May, W.E., Harker, K.N., Johnson, E.N., Beres, B.L., McAllister, T.A., Smith, E.G., and Chapman, W. (2015). "Relative responses of new malting barley cultivars to increasing nitrogen rates in western Canada.", *Canadian Journal of Plant Science*, 95(5), pp. 831-839. doi: 10.4141/cjps-2014-415

Graf, R.J., Beres, B.L., Randhawa, H.S., Gaudet, D.A., Laroche, A., and Eudes, F. (2015). "AAC Elevate hard red winter wheat", *Canadian Journal of Plant Science*, 95(5), pp. 1021-1027. doi: 10.4141/cjps-2015-094

Nilsen, K.T., Clarke, J.M., Beres, B.L., and Pozniak, C.J. (2015). "Sowing density and cultivar effects on pith expression and yield in solid-stemmed durum wheat.", *Agronomy Journal*. doi: 10.2134/agronj2015.0298

Pozniak, C.J., Nilsen, K., Clarke, J.M., and Beres, B.L. (2015). "CDC Fortitude durum wheat.", *Canadian Journal of Plant Science*, 95(5), pp. 1013-1019. doi: 10.4141/cjps-2015-042

2014

Reid, L.M., Zhu, X., Voloaca, C., Wu, J.-H., Woldemariam, T., Martin, R.A., and Beres, B.L. (2014). "CO450 corn inbred line.", *Canadian Journal of Plant Science*, 94(1), pp. 161-167. doi: 10.4141/cjps2013-190

McKenzie, R.H., Bremer, E., Middleton, A.B., Beres, B.L., Yoder, C., Hietamaa, C., Pfiffner, P.G., Kereliuk, G., Paul, D.G., and Henriquez, B. (2014). "Agronomic practices for bioethanol production from spring triticale in Alberta.", *Canadian Journal of Plant Science*, 94(1), pp. 15-22. doi: 10.4141/CJPS2013-112

Qin, S.H., Stevenson, F.C., McKenzie, R.H., and Beres, B.L. (2014). "Seed Safety Limits for Cereals and Canola Using Seed-Placed ESN Urea Fertilizer.", *Agronomy Journal*, 106(2), pp. 369-378. doi: 10.2134/agronj2013.0357

2013

Graf, R.J., Beres, B.L., Randhawa, H.S., Gaudet, D.A., Badea, A., Laroche, A., Eudes, F., and Pandeya, R.S. (2013). "AAC Gateway hard red winter wheat.", *Canadian Journal of Plant Science*, 93(3), pp. 541-548. doi: 10.4141/CJPS2012-266

Beres, B.L., Pozniak, C.J., Eudes, F., Graf, R.J., Randhawa, H.S., Salmon, D.F., McLeod, G.J., Dion, Y., Irvine, R.B., Voldeng, H.D., Martin, R.A., Pageau, D., Comeau, A., DePauw, R.M., Phelps, S.M., and Spaner, D.M. (2013). "A Canadian Ethanol Feedstock Study to Benchmark the Relative Performance of Triticale: I. Agronomics.", *Agronomy Journal*, 105, pp. 1695-1706. doi: 10.2134/agronj2013.0192

Beres, B.L., Pozniak, C.J., Bressler, D., Gibreel, A., Eudes, F., Graf, R.J., Randhawa, H.S., Salmon, D.F., McLeod, G.J., Dion, Y., Irvine, R.B., Voldeng, H.D., Martin, R.A., Pageau, D., Comeau, A., DePauw, R.M., Phelps, S.M., and Spaner, D.M. (2013). "A Canadian Ethanol Feedstock Study to Benchmark the Relative Performance of Triticale: II. Grain Quality and Ethanol Production.", *Agronomy Journal*, 105, pp. 1707-1720. doi: 10.2134/agronj2013.0193

Collier, G.R.S., Beres, B.L., Salmon, D.F., Nyachiro, J.M., Bork, E.W., and Spaner, D.M. (2013). "A sustainable management package for triticale in the western Canadian prairies.", *Agronomy Journal*, 105(2), pp. 546-554. doi: 10.2134/agronj2012.0314

Irvine, R.B., Lafond, G.P., May, W.E., Kutcher, H.R., Clayton, G.W., Harker, K.N., Turkington, T.K., and Beres, B.L. (2013). "Stubble options for winter wheat in the Blacksoil zone of western Canada.", *Canadian Journal of Plant Science*, 93(2), pp. 261-270. doi: 10.4141/CJPS2012-198

Wu, X., Cárcamo, H.A., Beres, B.L., Clarke, F.R., DePauw, R.M., and Pang, B. (2013). "Effects of novel wheat genotype on *Cephus cinctus* Norton (Hymenoptera: Cephidae) and its parasitoid *Bracon cephi* (Hymenoptera: Braconidae).", *Cereal Research Communications*, 41, pp. 647-660.

Beres, B.L., Cárcamo, H.A., Byers, J.R., Clarke, F.R., Pozniak, C.J., Basu, S.K., and DePauw, R.M. (2013). "Host plant interactions between wheat germplasm source and wheat stem sawfly *Cephus cinctus* Norton (Hymenoptera: Cephidae) II. Other germplasm.", *Canadian Journal of Plant Science*, 93(6), pp. 1169-1177. doi : 10.4141/CJPS2013-035

Graf, R.J., Beres, B.L., Laroche, A., Gaudet, D.A., Eudes, F., Pandeya, R.S., Badea, A., and Randhawa, H. S. (2013). "Emerson hard red winter wheat.", *Canadian Journal of Plant Science*, 93(4), pp. 741-748. doi : 10.4141/CJPS2012-262

Cárcamo, H.A. and Beres, B.L. (2013). "*Cephus cinctus* Norton, Wheat stem sawfly (Hymenoptera: Cephidae)", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 15, pp. 112-119.

Beres, B.L., Cárcamo, H.A., Byers, J.R., Clarke, F.R., Pozniak, C.J., Basu, S.K., and DePauw, R.M. (2013). "Host plant interactions between wheat germplasm source and wheat stem sawfly *Cephus cinctus* Norton (Hymenoptera: Cephidae) I. Commercial cultivars.", *Canadian Journal of Plant Science*, 93, pp. 607-617. doi : 10.4141/CJPS2012-088

## 2012

Graf, R.J., Thomas, J.B., Gaudet, D.A., Laroche, A., and Beres, B.L. (2012). "Broadview hard red winter wheat.", *Canadian Journal of Plant Science*, 92(1), pp. 177-181. doi : 10.4141/CJPS2011-083

Graf, R.J., Thomas, J.B., Beres, B.L., Gaudet, D.A., Laroche, A., and Eudes, F. (2012). "Flourish hard red winter wheat.", *Canadian Journal of Plant Science*, 92(1), pp. 183-189. doi : 10.4141/CJPS2011-084

Cárcamo, H.A., Weaver, D.K., Meers, S., Beres, B.L., and Mauduit, A.L. (2012). "First record of *Bracon lissogaster* (Hymenoptera: Braconidae) in Canada - a potentially important parasitoid of *Cephus cinctus* (Hymenoptera: Cephidae) in the prairies.", *Biocontrol Science and Technology*, 22(3), pp. 367-369. doi : 10.1080/09583157.2012.658355

Beres, B.L., McKenzie, R.H., Dowbenko, R., Badea, C., and Spaner, D.M. (2012). "Does Handling Physically Alter the Coating Integrity of ESN Urea Fertilizer?", *Agronomy Journal*, 104(4), pp. 1149-1159. doi : 10.2134/agronj2012.0044

Raatz, L.L., Yang, R.-C., Beres, B.L., and Hall, L.M. (2012). "Persistence of Triticale ( $\times$  Triticosecale Wittmack) Seed in the Soil Seed Bank", *Crop Science*, 52(4), pp. 1868-1880. doi : 10.2135/cropsci2011.11.0596

Beres, B.L., McKenzie, R.H., Cárcamo, H.A., Dosedall, L.M., Evenden, M.L., Yang, R.-C., and Spaner, D.M. (2012). "Influence of Seeding Rate, Nitrogen Management, and Micronutrient Blend Applications on Pith Expression in Solid-Stemmed Spring Wheat.", *Crop Science*, 52(3), pp. 1316-1329. doi : 10.2135/cropsci2011.05.0239

Beres, B.L., Skovmand, B., Randhawa, H.S., Eudes, F., Graf, R.J., and McLeod, G.J. (2012). "Sunray spring triticale.", *Canadian Journal of Plant Science*, 92(2), pp. 363-367. doi : 10.4141/CJPS2011-138

McLeod, G.J., Randhawa, H.S., Ammar, K., Beres, B.L., and Muri, R. (2012). "Brevisspring triticale.", *Canadian Journal of Plant Science*, 92(1), pp. 199-202. doi : 10.4141/CJPS2011-103

## 2011

Goyal, A., Beres, B.L., Randhawa, H.S., Navabi, A., Salmon, D.F., and Eudes, F. (2011). "Yield stability analysis of broadly adaptive triticale germplasm in southern and central Alberta, Canada for industrial end-use suitability.", *Canadian Journal of Plant Science*, 91(1), pp. 125-135. doi : 10.4141/CJPS10063

Randhawa, H.S., Sadasivaiah, R.S., Graf, R.J., and Beres, B.L. (2011). "Bhishaj soft white spring wheat.", *Canadian Journal of Plant Science*, 91(4), pp. 805-810. doi : 10.4141/cjps10144

Beres, B.L., Cárcamo, H.A., Weaver, D.K., Dosedall, L.M., Evenden, M.L., Hill, B.D., Yang, R.-C., McKenzie, R.H., and Spaner, D.M. (2011). "Integrating the building blocks of agronomy and biocontrol into an IPM strategy for wheat stem sawfly.", *Prairie Soils and Crops*, 4, pp. 54-65.

Beres, B.L., Cárcamo, H.A., Yang, R.-C., and Spaner, D.M. (2011). "Integrating Spring Wheat Sowing Density with Variety Selection to Manage Wheat Stem Sawfly.", *Agronomy Journal*, 103(6), pp. 1755-1764. doi : 10.2134/agronj2011.0187

Wu, X., Cárcamo, H.A., Beres, B.L., and Pang, B. (2011). "Parasitoid (*Bracon cephi*) effects on grain yield of selected genotypes of wheat infested by *Cephus cinctus*.", *Australian Journal of Crop Science*, 5(9), pp. 1102-1107.

Beres, B.L., Dosedall, L.M., Weaver, D.K., Cárcamo, H.A., and Spaner, D.M. (2011). "Biology and integrated management of wheat stem sawfly and the need for continuing research."

Cárcamo, H.A., Beres, B.L., Herle, C.E., McLean, H., and McGinn, S.M. (2011). "Solid-stemmed wheat does not affect overwintering mortality of the wheat stem sawfly, *Cephus cinctus*.", *Journal of Insect Science*, 11(129), pp. 1-12. doi : 10.1673/031.011.12901



Beres, B.L., Cárcamo, H.A., Dosdall, L.M., Yang, R.-C., Evenden, M.L., and Spaner, D.M. (2011). "Do Interactions between Residue Management and Direct Seeding System Affect Wheat Stem Sawfly and Grain Yield?," *Agronomy Journal*, 103(6), pp. 1-10. doi : 10.2134/agronj2011.0055

## Other Science Related Publications:

### 2015

Turkington, T.K., Xi, K., Peng, G., Martin, R.A., Harker, K.N., O'Donovan, J.T., Beres, B.L., May, W.E., and Mohr, R.M. (2015). "The impact of seed treatment, foliar fungicide timing, and plant growth regulator on barley leaf disease severity and productivity.", *Canadian Journal of Plant Pathology*. (Abstract)

Turkington, T.K., Xi, K., O'Donovan, J.T., Harker, K.N., Peng, G., Martin, R.C., Beres, B.L., May, W.E., and Mohr, R.M. (2015). "The impact of seed treatment, foliar fungicide timing, and plant growth regulator on leaf-disease severity and productivity of barley.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015, ID: P IPM 42. (Poster)

O'Donovan, J.T., Turkington, T.K., Harker, K.N., Oatway, L., Grant, C.A., Beres, B.L., Johnson, E.N., May, W.E., Izydorczyk, M.S., MacLeod, A., Anbessa, Y., and Vera, C.L. (2015). "Malting barley cultivar responses to increasing nitrogen rates in western Canada.", ASA-CSSA-SSSA International Annual Meeting: Synergy in Science. Partnering for Solutions, Minneapolis, MN, USA, November 15-18, 2015. (Poster)

Beres, B.L., Pageau, D., Dion, Y., Turkington, T.K., Lupwayi, N.Z., Lamey, F.J., Ellert, B.H., and Smith, E.G. (2015). "Rotational Diversity Effects in a Cereal-Based Cropping System.", *Botany 2015*, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015.

Beres, B.L., Pageau, D., Dion, Y., Turkington, T.K., Lupwayi, N.Z., Lamey, F.J., Ellert, B.H., and Smith, E.G. (2015). "Rotational diversity effects in a cereal-based cropping system.", *Canadian Journal of Plant Science*. (Abstract)

### 2014

Beres, B.L., Pageau, D., Dion, Y., Turkington, T.K., Lupwayi, N.Z., Lamey, F.J., Ellert, B.H., and Smith, E.G. (2014). "Rotational Diversity Effects in a Triticale-Based Cropping System.", *ASA, CSSA and SSSA International Annual Meeting 2014*, Long Beach, CA, USA, November 2-5, 2014.

O'Donovan, J.T., Edney, M.J., MacLeod, A., Turkington, T.K., Grant, C.A., Harker, K.N., Johnson, E.N., Lafond, G.P., May, W.E., Beres, B.L., Kabeta, Y., and Juskiw, P.E. (2014). "Response of new malting barley cultivars to increasing nitrogen rates in western Canada.", 13th Congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014, pp. 141-142. (Poster)

O'Donovan, J.T., Harker, K.N., Turkington, T.K., Blackshaw, R.E., Beres, B.L., Clayton, G.W., Lafond, G.P., Lupwayi, N.Z., and Dosdall, L.M. (2014). "The role of agronomic research in meeting cropping system challenges in western Canada.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Ye, Z., Brûlé-Babel, A.L., Beres, B.L., Tamburic-Ilicic, L., and McCartney, C.A. (2014). "Evaluation of the Role of Genetics and Fungicides on the Development of Fusarium Head Blight in Wheat.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

### 2013

O'Donovan, J.T., Turkington, T.K., Edney, M., Juskiw, P.E., May, W.E., Grant, C.A., Smith, E.G., Harker, K.N., Johnson, E.N., Beres, B.L., Kadeta, Y., and Chapman, B. (2013). "Relative responses of malting barley varieties to increasing nitrogen rates.", 16th Australian Barley Technical Symposium, Melbourne, Australia, September 8-11, 2013, pp. 58.

O'Donovan, J.T., Turkington, T.K., Edney, M., Smith, E.G., Harker, K.N., Beres, B.L., Clayton, G.W., Brandt, S.A., Johnson, E.N., Lafond, G.P., May, W.E., Grant, C.A., McKenzie, R., Juskiw, P.E., Kadeta, Y., Stonehouse, K., and Chapman, B. (2013). "Varietal and agronomic impacts on malting barley yield and quality.", *FarmTech 2013*, Westin Hotel, Edmonton, AB, Canada, January 29-31, 2013.

Randhawa, H.S., Eudes, F., Beres, B.L., Graf, R.J., Fedak, G., Comeau, A., Langevin, F., Dion, Y., and Pozniak, C.J. (2013). "Integrated approaches for triticale breeding.", *The 8th International Triticale Symposium*, Ghent, Belgium, June 10-14, 2013, (Presentation).

### 2012

Beres, B.L. (2012). "Manipulating agronomic factors for sustainable control of the wheat stem sawfly.", *Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting*, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #10. (Abstract)

Beres, B.L., Cárcamo, H.A., Weaver, D.K., Dosdall, L.M., Evenden, M.L., Hill, B.D., McKenzie, R.H., Yang, R.-C., and Spaner, D.M. (2012). "Integrating the building blocks of agronomy and biocontrol into an IPM strategy for wheat stem sawfly (*Cephus cinctus*).", Entomological Society of America (ESA) 60th Annual Meeting, Knoxville Convention Centre, Knoxville, TN, USA, November 11-14, 2012, D0471. (Poster)

## 2011

Beres, B.L. (2011). "Collaborative winter wheat stand establishment and overwintering trials (Ducks Unlimited Winter Wheat DIAP Project).", Ducks Unlimited and the Alberta Winter Wheat Producers Commission Speaker Event, Lethbridge, AB, Canada, July 22, 2011. (Presentation)

Beres, B.L. (2011). "Integrated nutrient management of winter wheat: activities and results.", Agrotain LLC Global Annual Business Meeting, St. Louis, MO, USA, July 12, 2011. (Presentation)

Grant, C.A., Beres, B.L., Malhi, S.S., Pageau, D., Lafond, J., Schoenau, J.J., Walley, F.L., Heard, J., Flaten, D.N., Hellegars, B., and Sahota, T.S. (2011). "New developments in nutrition research for canola.", Canola Research Summit meeting, Winnipeg, MB, Canada, April 12-13, 2011.

Randhawa, H.S., Eudes, F., McKenzie, R.I.H., Beres, B.L., and Gaudet, D.A. (2011). "The Future of Triticale: The Growing Triticale Competitive Advantage Resulting from Continued CTBI Research.", 2011 Annual Canadian Triticale Biorefinery Initiative, Calgary, Alberta, Canada, March 7, 2011.

Beres, B.L., Randhawa, H.S., McKenzie, R.H., and Gaudet, D.A. (2011). "Triticale Today: Proven CTBI Results Showing the Promise of Triticale for the Near-Term Biorefinery.", 2011 Annual Canadian Triticale Biorefinery Initiative, Calgary, Alberta, Canada, March 7, 2011.

Isidro, J., Singh, A.K., Wang, H., DePauw, R.M., Pozniak, C.J., Knox, R.E., Cuthbert, R.D., Beres, B.L., and Johnson, E.N. (2011). "Effects of plant density on durum crop production.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30 - December 2, 2011.

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## Research Publications:

2015

Chorfi, Y., Couture, Y., Tremblay, G.F., Berthiaume, R.R., and Cinq-Mars, D. (2015). "Growth and Blood Parameters of Weaned Crossbred Beef Calves Fed Forage Kale (*Brassica oleracea* spp. *acephala*).", *Advances in Agriculture*, 2015 (Article ID 410497), pp. 1-7. doi: 10.1155/2015/410497

Brassard, M.-E., Chouinard, P.Y., Berthiaume, R., Tremblay, G.F., Gervais, R., Martineau, R., and Cinq-Mars, D. (2015). "Effects of grain source, grain processing, and protein degradability on rumen kinetics and microbial protein synthesis in Boer kids.", *Journal of Animal Science*, 93, pp. 1-12. doi: 10.2527/jas.2015-9336

Antaya, N.T., Berthiaume, R., Tremblay, G.F., and Brito, A.F. (2015). "Short communication: Feeding red clover cut in the afternoon or morning to late-lactation dairy cows.", *Journal of Dairy Science (JDS)*, 98. doi: 10.3168/jds.2015-9333

Mercier, J., Berthiaume, R., Girard, C., Faucitano, L., and Cinq-Mars, D. (2015). "Effects of high or low total non-structural carbohydrate diets with or without a combined supplement of folic acid and vitamin B12 on growth performance, carcass and meat quality characteristics of yearling steers in a forage based beef production system.", *Canadian Journal of Animal Science*, 95, pp. 281-291.

Sheppard, S.C., Bittman, S., Donohoe, G., Flaten, D.N., Wittenberg, K.M., Small, J.A., Berthiaume, R.R., McAllister, T.A., Beauchemin, K.A., McKinnon, J.J., Amiro, B.D., MacDonald, D., Mattos, F., and Ominski, K.H. (2015). "Beef cattle husbandry practices across ecoregions of Canada in 2011.", *Canadian Journal of Animal Science*, 95(2), pp. 305-321. doi: 10.4141/CJAS-2014-158

Mercier, J., Cinq-Mars, D., Berthiaume, R., Faucitano, L., and Girard, C.L. (2015). "Effects of dietary total non-structural carbohydrates and folic acid and vitamin B12 supplement on growth and meat quality of yearling steers in a forage-based beef production system.", *Canadian Journal of Animal Science*, 95(2), pp. 281-291. doi: 10.4141/CJAS-2014-123

Berthiaume, R.R., Lafrenière, C., Girard, C.L., Campbell, C.P., Pivotto, L.M., and Mandell, I.B. (2015). "Effects of forage silage species on yearling growth performance, carcass and meat quality, and nutrient composition in a forage based beef production system.", *Canadian Journal of Animal Science*, 95(2), pp. 173-187. doi: 10.4141/CJAS-2014-107

Chibisa, G.E., Gorka, P., Penner, G.B., Berthiaume, R.R., and Mutsvangwa, T. (2015). "Effects of partial replacement of dietary starch from barley or corn with lactose on ruminal function, short-chain fatty acid absorption, nitrogen utilization, and production performance of dairy cows.", *Journal of Dairy Science (JDS)*, 98(4), pp. 2627-2640. doi: 10.3168/jds.2014-8827

2014

Tremblay, G.F., Morin, C., Bélanger, G., Bertrand, A., Castonguay, Y., Berthiaume, R.R., and Allard, G. (2014). "Silage Fermentation of PM- and AM-Cut Alfalfa Wilted in Wide and Narrow Swaths", *Crop Science*, 54(1), pp. 439-452. doi: 10.2135/cropsci2013.07.0443

Jolicoeur, M., Brito, A.F., Santschi, D.E., Pellerin, D., Lefebvre, D.M., Berthiaume, R.R., and Girard, C.L. (2014). "Short dry period management improves peripartum ruminal adaptation in dairy cows.", *Journal of Dairy Science (JDS)*, 97(12), pp. 7655-7667. doi: 10.3168/jds.2014-8590

Brilo, A.F., Tremblay, G.F., Bertrand, A., Castonguay, Y., Bélanger, G., Michaud, R., Lafrenière, C., Martineau, R., and Berthiaume, R.R. (2014). "Alfalfa baleage with increased concentration of nonstructural carbohydrates supplemented with a corn-based concentrate did not improve production and nitrogen utilization in early lactation dairy cows.", *Journal of Dairy Science (JDS)*, 97(11), pp. 6970-6990. doi: 10.3168/jds.2013-7305

Keim, J.P., López, I.L., and Berthiaume, R.R. (2014). "Nutritive value, in vitro fermentation and methane production of perennial pastures as affected by botanical composition over a growing season in the south of Chile.", *Animal Production Science*, 54(5), pp. 598-607. doi: 10.1071/AN13026

2013

Bélanger, G., Tremblay, G.F., Berthiaume, R.R., Bertrand, A., Castonguay, Y., Michaud, R., and Allard, G.C. (2013). "Increasing non-structural carbohydrates in forages.", in Bittman, S. and Hunt, D. (eds.) - Cool Forages— Advanced management of temperate forages, Pacific Field Corn Association, Agassiz, BC, Canada, Chapter 43, pp. 180-183.

Berthiaume, R.R., Tremblay, G.F., Bélanger, G., Lafrenière, C., Bertrand, A., Castonguay, Y., Michaud, R., and Allard, G.C. (2013). "Taking advantage of diurnal shifts in the nutritive value of forages.", in Bittman, S. and Hunt, D. (eds.) - Cool Forages- Advanced management of temperate forages, Pacific Field Corn Association, Agassiz, BC, Canada, Chapter 42, pp. 176-179.

Kokko, C., Soder, K.J., Brito, A.F., Hovey, R.C., and Berthiaume, R.R. (2013). "Effect of time of cutting and maceration on nutrient flow, microbial protein synthesis, and digestibility in dual-flow continuous culture.", *Journal of Animal Science*, 91(4), pp. 1765-1774. doi: 10.2527/jas.2011-4948

2012

Borucki Castro, S.I., Berthiaume, R.R., Robichaud, A., and Lacasse, P. (2012). "Effects of iodine intake and teat-dipping practices on milk iodine concentrations in dairy cows.", *Journal of Dairy Science (JDS)*, 95(1), pp. 213-220. doi : 10.3168/jds.2011-4679

Amer, S., Hassanat, F., Berthiaume, R.R., Séguin, P., and Mustafa, A.F. (2012). "Effects of water soluble carbohydrate content on ensiling characteristics, chemical composition and in vitro gas production of forage millet and forage sorghum silages.", *Animal Feed Science and Technology*, 177(1-2), pp. 23-29. doi : 10.1016/j.anifeedsci.2012.07.024

Morin, C., Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R.R., and Allard, G. (2012). "Diurnal variations of nonstructural carbohydrates and nutritive value in timothy.", *Canadian Journal of Plant Science*, 92(5), pp. 883-887. doi : 10.4141/cjps2011-272

Morin, C., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R.R., and Allard, G. (2012). "Nonstructural Carbohydrate Concentration during Field Wilting of PM- and AM-Cut Alfalfa.", *Agronomy Journal*, 104(3), pp. 649-660. doi : 10.2134/agronj2011.0365

2011

Jacques, J., Berthiaume, R.R., and Cinq-Mars, D. (2011). "Growth performance and carcass characteristics of Dorset lambs fed different concentrates: Forage ratios or fresh grass.", *Small Ruminant Research*, 95(2-3), pp. 113-119. doi : 10.1016/j.smallrumres.2010.10.002

Faucitano, L., Berthiaume, R.R., D'Amours, M., Pellerin, D., and Ouellet, D.R. (2011). "Effects of corn grain particle size and treated soybean meal on carcass and meat quality characteristics of beef steers finished on a corn silage diet.", *Meat Science*, 88(4), pp. 750-754. doi : 10.1016/j.meatsci.2011.03.008

Borucki Castro, S.I., Lacasse, P., Fouquet, A., Beraldin, F., Robichaud, A., and Berthiaume, R.R. (2011). "Feed iodine concentrations on farms with contrasting levels of iodine in milk.", *Journal of Dairy Science (JDS)*, 94(9), pp. 4684-4689. doi : 10.3168/jds.2010-3714

Morin, C., Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R.R., and Allard, G. (2011). "Diurnal Variations of Nonstructural Carbohydrates and Nutritive Value in Alfalfa.", *Crop Science*, 51(3), pp. 1297-1306. doi : 10.2135/cropsci2010.07.0406

## **Other Science Related Publications:**

2015

Berthiaume, R.R., Fournier, A., and Tremblay, G.F. (2015). "La digestibilité des fourrages.", *Journée d'information scientifique sur les bovins laitiers et les plantes fourragères*, Drummondville, QC, Canada, 25 février 2015, Présentation.

Séguin, P., Tremblay, G.F., Claessens, A., Bélanger, G., Lajeunesse, J., Berthiaume, R.R., Martel, H., and Wood, S. (2015). "Adaptabilité du système PEAQ aux conditions québécoises.", *Journée d'information scientifique sur les bovins laitiers et les plantes fourragères*, Drummondville, QC, Canada, 25 février 2015, Présentation.

Bélanger, G., Tremblay, G.F., Berthiaume, R.R., and Houston, B. (2015). "How to produce and use sweet forages (Webinar on March 4, 2015 in English)." (Présentation)

Bélanger, G., Tremblay, G.F., Berthiaume, R.R., and Houston, B. (2015). "How to produce and use sweet forages (Webinar on April 29, 2015 in French)." (Présentation)

## 2014

Sheppard, S.C., Bittman, S., Donohoe, G., Flaten, D.N., Wittenberg, K.M., Small, J.A., Berthiaume, R.R., McAllister, T.A., Beauchemin, K.A., McKinnon, J.J., and Ominski, K.H. (2014). "A new farm survey of beef management practices in Canada.", Canadian Society of Soil Science Annual Meetings, Banff, AB, Canada, May 4-7, 2014. (Abstract)

Claessens, A., Chouinard-Michaud, C., Michaud, A.R., Tremblay, G.F., Bertrand, A., Bélanger, G., Castonguay, Y., Berthiaume, R.R., and Allard, G.C. (2014). "Nonstructural carbohydrates and some attributes of nutritive value in alfalfa as influenced by genetic selection.", North American Alfalfa Improvement Conference, Lethbridge, Alberta, Canada, July 6-11, 2014.

Tremblay, G.F., Bélanger, G., and Berthiaume, R.R. (2014). "Fauche PM en andains larges : une option compatible à l'ensilage en un jour.", *L'Écho Fourrager*, 2, pp. 6-9.

## 2013

Berthiaume, R.R., Brito, A.F., Tremblay, G.F., Bélanger, G., Lafrenière, C., Bertrand, A., Castonguay, Y., Michaud, R., and Allard, G.C. (2013). "High-sugar alfalfa for dairy cows.", 22nd International Grassland Congress, September 15-19, 2013, pp. 729-731.

Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Berthiaume, R.R., Michaud, R., Pelletier, S., Morin, C., Lafrenière, C., and Allard, G.C. (2013). "Improving forage nonstructural carbohydrates through management and breeding.", 22nd International Grassland Congress, September 15-19, 2013, pp. 668-669.

Tremblay, G.F., Berthiaume, R.R., Bélanger, G., Audy, P., Lafrenière, C., Charbonneau, É., and Allard, G.C. (2013). Sélection des fourrages sur la base de la valeur alimentaire et de l'ensilabilité pour mieux les valoriser en production laitière. Rapport final de projet de recherche, 2012-2013, Direction générale de la science et de la technologie d'AAC, Programme d'innovation en agriculture (PIA), Rapport final, Projet de recherche #, 26 pages. (Report)

Berthiaume, R.R., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Michaud, R., Pelletier, S., Brito, A.F., Lafrenière, C., and Allard, G. (2013). "High quality forages: How sweet should they be?", *Advances in Dairy Technology (Western Canadian Dairy Seminar Proceedings)*, 25, pp. 235-252.

Tremblay, G.F., Morin, C., Bélanger, G., Bertrand, A., Castonguay, Y., Michaud, R., Berthiaume, R.R., and Allard, G.C. (2013). "Increased sugar concentration with PM-cutting and wide swathing improves alfalfa silage fermentation.", Symposium de l'industrie laitière, Moncton, NB, Canada, November 13-14, 2013.

Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Berthiaume, R.R., Michaud, R., Pelletier, S., Morin, C., Lafrenière, C., and Allard, G.C. (2013). "Improving forage nonstructural carbohydrates through management and breeding.", Symposium de l'industrie laitière, Moncton, NB, Canada, November 13-14, 2013.

Tremblay, G.F., Morin, C., Bélanger, G., Bertrand, A., Castonguay, Y., Michaud, R., Berthiaume, R.R., and Allard, G.C. (2013). "Increased sugar concentration with PM-cutting and wide swathing improves alfalfa silage fermentation.", 22nd International Grassland Congress, September 15-19, 2013, pp. 766-767.

Dos Passos Bernardes, A., Tremblay, G.F., Bélanger, G., Charbonneau, É., and Berthiaume, R.R. (2013). "Composition chimique de certains cultivars d'espèces fourragères fauchées en début et en fin de journée.", Demi-journée d'information scientifique sur les fourrages 2013, Victoriaville, QC, Canada, February 14, 2013, pp. 16-21.

## 2012

Brito, A.F., Régimbald, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Bélanger, G., Michaud, R., Lafrenière, C., and Berthiaume, R.R. (2012). "High-total nonstructural carbohydrates in timothy enhanced performance of mid-lactation dairy cows.", *Western Canadian Dairy Seminar, Red Deer, Alberta, Canada, 6-9 mars, 2012, WCDS Advances in Dairy Technology, Volume 24, Abstract, page 399.*

Berthiaume, R.R., Bélanger, G., Tremblay, G.F., and Lafrenière, C. (2012). "Investir dans les fourrages : ça vaut le coût ?", Le rendez-vous laitier. Association québécoise des industries de nutrition animale et céréalière (AQINAC) 2012, Best Western Hôtel Universel, Drummondville, QC, Canada, March 27, 2012, pp. 69-81.

Berthiaume, R.R., Lafrenière, C., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Allard, G., Pellerin, D., Fournier, A., and Lefebvre, D.M. (2012). "Forages: Cows like them sweet!", Thunder Bay District Soil and Crop Improvement Association's Spring Farm Conference 2012, Thunder Bay, ON, Canada, April 11, 2012.

Tremblay, G.F., Berthiaume, R.R., Allard, G., Bertrand, A., Brito, A.F., Castonguay, Y., Chouinard-Michaud, C., Drapeau, R., Lafrenière, C., Lefebvre, D.M., Michaud, R., Pellerin, D., Fournier, A., Morin, C., and Pelletier, S. (2012). "Du fourrage su cré pour mieux performer.", Analyse de groupe de lait 2011 et valorisation des fourrages : Du champ au réservoir à lait, Hôtel du jardin, Saint-Félicien, QC, Canada, April 24, 2012, pp. 1-10.

Allard, G., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R.R., Pellerin, D., Lefebvre, D.M., and Fournier, A. (2012). "Production de fourrages riches en sucres pour améliorer les performances de la vache laitière.", Forum Technologique NOVALAIT / IDF Dairy Science and Technology Week 2012, Hôtel et Suites Le Dauphin, Drummondville, QC, Canada, May 29, 2012, P2012-01. (Abstract)

Antaya, N.T., Brito, A.F., Berthiaume, R.R., Tremblay, G.F., Whitehouse, N.L., Soule, G.M., and Guindon, N. (2012). "Feeding red clover cut at sundown and harvested as baleage did not improve milk yield in late-lactation dairy cows.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, J. Anim. Sci. Vol. 90, Suppl. 3/J. Dairy Sci. Vol. 95, Suppl. 2, Abstract W107, p. 538.

Berthiaume, R.R., Tremblay, G.F., Bélanger, G., Audy, P., Lafrenière, C., Charbonneau, É., and Allard, G. (2012). "Des variétés de fourrages performantes aux champs et à l'étable, est-ce possible?", Réunion annuelle des représentants Semican - Lallemand 2012, Victoriaville, QC, Canada, July 17, 2012.

Berthiaume, R.R., Lafrenière, C., Fortin, J., Gariépy, C., Mandell, I.B., and Faucitano, L. (2012). "Growth, feed efficiency, carcass quality and consumer perception of beef cattle fed PM vs AM cut grass or a red clover-grass mixture.", XVI International Silage Conference, Hämeenlinna, Finland, July 2-4, 2012. (Abstract)

## 2011

Borucki Castro, S.I., Berthiaume, R.R., Robichaud, A., and Lacasse, P. (2011). "Effects of predipping practices on milk iodine concentrations.", Journal of Dairy Science (JDS), 94(E-Suppl. 1), pp. 301 (#T106). (Abstract)

Tremblay, G.F., Berthiaume, R.R., Bélanger, G., Audy, P., Lafrenière, C., Charbonneau, É., and Allard, G. (2011). "Valeur alimentaire des ensilages fabriqués à partir de fourrages plus sucrés.", Réunion annuelle des représentants Semican - Lallemand 2011, Victoriaville, QC, Canada, June 15, 2011.

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## Research Publications:

2015

Aung, B., Gruber, M.Y., Amyot, L., Omari, K., Bertrand, A., and Hannoufa, A. (2015). "Ectopic expression of LjmiR156 delays flowering, enhances shoot branching, and improves forage quality in alfalfa.", *Plant Biotechnology Reports*, 9(6), pp. 379-393. doi : 10.1007/s11816-015-0375-2

Gagné-Bourque, F., Mayer, B.F., Charron, J.-B., Vali, H., Bertrand, A., and Jabaji, S. (2015). "Accelerated growth rate and increased drought stress resilience of the model grass *Brachypodium distachyon* colonized by *Bacillus subtilis* B26.", *PLoS ONE*, 10(6): Article number e0130456. doi: 10.1371/journal.pone.0130456

Bertrand, A., Dhont, C., Bipfubusa, M., Chalifour, F.-P., Drouin, P., and Beauchamp, C.J. (2015). "Improving salt stress responses of the symbiosis in alfalfa using salt-tolerant cultivar and rhizobial strain.", *Applied Soil Ecology*, 87, pp. 108-117. doi : 10.1016/j.apsoil.2014.11.008

Mayer, B.F., Ali-Benali, M.A., Demone, J., Bertrand, A., and Charron, J.-B. (2015). "Cold acclimation induces distinctive changes in the chromatin state and transcript levels of COR genes in *Cannabis sativa* varieties with contrasting cold acclimation capacities.", *Physiologia Plantarum*, 155(3), pp. 281-295. doi: 10.1111/ppl.12318

Adeleke, R.A., Cloete, T.E., Bertrand, A., and Khasa, D.P. (2015). "Relationship between plant growth and organic acid exudates from ectomycorrhizal and non-ectomycorrhizal *Pinus patula*.", *South African Journal of Plant and Soil*. doi : 10.1080/02571862.2015.1019376

Messerli, J., Bertrand, A., Bourassa, J., Bélanger, G., Castonguay, Y., Tremblay, G.F., Baron, V.S., and Séguin, P. (2015). "Performance of Low-Cost Open-Top Chambers to Study Long-Term Effects of Carbon Dioxide and Climate under Field Conditions.", *Agronomy Journal*, 107(3), pp. 916-920. doi : 10.2134/agronj14.0571

Aung, B., Gruber, M.Y., Amyot, L., Omari, K., Bertrand, A., and Hannoufa, A. (2015). "MicroRNA156 as a promising tool for alfalfa improvement.", *Plant Biotechnology Journal*, 13, pp. 779-790. doi: 10.1111/pbi.12308

2014

Colton-Gagnon, K., Ali-Benali, M.A., Mayer, B.F., Dionne, R., Bertrand, A., Do Carmo, S., and Charron, J.-B. (2014). "Comparative analysis of the cold acclimation and freezing tolerance capacities of seven diploid *Brachypodium distachyon* accessions.", *Annals of Botany (AOB)*, 113(4), pp. 681-693. doi: 10.1093/aob/mct283

Tremblay, G.F., Morin, C., Bélanger, G., Bertrand, A., Castonguay, Y., Berthiaume, R.R., and Allard, G. (2014). "Silage Fermentation of PM- and AM-Cut Alfalfa Wilted in Wide and Narrow Swaths", *Crop Science*, 54(1), pp. 439-452. doi : 10.2135/cropsci2013.07.0443

Bertrand, A., Piva, A., Tremblay, G.F., Bélanger, G., Castonguay, Y., and Séguin, P. (2014). "Elevated CO<sub>2</sub> and Temperature Affect the Composition and *in vitro* Degradability of Timothy Roots.", *Crop Science*, 54(6), pp. 2893-2902. doi : 10.2135/cropsci2014.04.0317

Thivierge, M.-N., Chantigny, M.H., Bélanger, G., Séguin, P., Bertrand, A., and Vanasse, A. (2014). "Response to Nitrogen of Sweet Pearl Millet and Sweet Sorghum Grown for Ethanol in Eastern Canada.", *BioEnergy Research*. doi : 10.1007/s12155-014-9558-x

Bertrand, A., Castonguay, Y., and Bourassa, J. (2014). "A whole plant screening test to identify genotypes with superior freezing tolerance.", in Hinch, D et Zuther, E. (eds.) - *Plant Cold Acclimation: Methods in Molecular Biology*, Springer Science + Business Media, Chapter 4, pp. 35-41.

Brito, A.F., Tremblay, G.F., Bertrand, A., Castonguay, Y., Bélanger, G., Michaud, R., Lafrenière, C., Martineau, R., and Berthiaume, R.R. (2014). "Alfalfa baleage with increased concentration of nonstructural carbohydrates supplemented with a corn-based concentrate did not improve production and nitrogen utilization in early lactation dairy cows.", *Journal of Dairy Science (JDS)*, 97(11), pp. 6970-6990. doi: 10.3168/jds.2013-7305

Hoffman, L., DaCosta, M., Bertrand, A., Castonguay, Y., and Ebdon, J.S. (2014). "Comparative assessment of metabolic responses to cold acclimation and deacclimation in annual bluegrass and creeping bentgrass.", *Environmental and Experimental Botany*, 106, pp. 197-206. doi: 10.1016/j.envexpbot.2013.12.018

2013

Castonguay, Y., Dubé, M.-P., Cloutier, J., Bertrand, A., Michaud, R., and Laberge, S. (2013). "Molecular physiology and breeding at the crossroads of cold hardiness improvement.", *Physiologia Plantarum*, 147(1), pp. 64-74. doi : 10.1111/j.1399-3054.2012.01624.x

Dubé, M.-P., Castonguay, Y., Cloutier, J., Michaud, J., and Bertrand, A. (2013). "Characterization of two novel cold-inducible K<sub>3</sub> dehydrin genes from alfalfa (*Medicago sativa* spp. *sativa* L.).", *Theoretical and Applied Genetics (TAG)*, 126(3), pp. 823-835. doi : 10.1007/s00122-012-2020-6

Dubé, M.-P., Castonguay, Y., Duceppe, M.-O., Bertrand, A., and Michaud, R. (2013). "SRAP Polymorphisms Associated to Cell Wall Degradability in Lignified Stems of Alfalfa.", *BioEnergy Research*, 6(2), pp. 644-650. doi : 10.1007/s12155-012-9284-1

Piva, A., Bertrand, A., Bélanger, A., Castonguay, F.W., and Séguin, P. (2013). "Growth and physiological response of timothy to elevated carbon dioxide and temperature under contrasted nitrogen fertilization.", *Crop Science*, 53(2), pp. 704-715. doi : 10.2135/cropsci2012.07.0436

Bélanger, G., Tremblay, G.F., Berthiaume, R.R., Bertrand, A., Castonguay, Y., Michaud, R., and Allard, G.C. (2013). "Increasing non-structural carbohydrates in forages.", in Bittman, S. and Hunt, D. (eds.) - *Cool Forages – Advanced management of temperate forages*, Pacific Field Corn Association, Agassiz, BC, Canada, Chapter 43, pp. 180-183.

Bertrand, A. and Castonguay, Y. (2013). "Increasing winterhardiness in alfalfa.", in Bittman, S and Hunt, D. (eds.) - *Cool Forages - Advanced management of temperate forages*, Pacific Field Corn Association, Agassiz, BC, Canada, Chapter 16, pp. 64-67.

Bertrand, A., Castonguay, Y., Azaiez, A., and Dionne, J. (2013). "Low-temperature stress.", in Stier, J., Horgan, B.P., and Bonos, A. (eds.) - *Turfgrass: Biology, Use, and Management*, ASA, CSSA, and SSSA, Madison, WI, USA, pp. 279-318.

Bertrand, A. and Castonguay, Y. (2013). "Molecular changes in recurrently selected populations of forage legumes.", in Imai, R., Yoshida, M. and Matsumoto, N. (eds.) - *Plant and microbe adaptation to cold in a changing world*, Springer Science + Business Media, pp. 209-218.

Berthiaume, R.R., Tremblay, G.F., Bélanger, G., Lafrenière, C., Bertrand, A., Castonguay, Y., Michaud, R., and Allard, G.C. (2013). "Taking advantage of diurnal shifts in the nutritive value of forages.", in Bittman, S and Hunt, D. (eds.) - *Cool Forages - Advanced management of temperate forages*, Pacific Field Corn Association, Agassiz, BC, Canada, Chapter 42, pp. 176-179.

Iraba, A., Castonguay, Y., Bertrand, A., Floyd, D.J., Cloutier, J., and Belzile, F.J. (2013). "Characterization of populations of turf-type perennial ryegrass recurrently selected for superior freezing tolerance.", *Crop Science*, 53, pp. 2225-2238. doi : 10.2135/cropsci2013.02.0100

2012

Duceppe, M.-O., Bertrand, A., Pattathil, S., Miller, J., Castonguay, Y., Hahn, M.G., Michaud, R., and Dubé, M.-P. (2012). "Assessment of Genetic Variability of Cell Wall Degradability for the Selection of Alfalfa with Improved Saccharification Efficiency.", *BioEnergy Research*, 5(4), pp. 904-914. doi : 10.1007/s12155-012-9204-4

Juge, C., Prévost, D., Bertrand, A., Bipfubusa, M., and Chalifour, F.-P. (2012). "Growth and biochemical responses of soybean to double and triple microbial associations with *Bradyrhizobium*, *Azospirillum* and arbuscular mycorrhizae.", *Applied Soil Ecology*, 61, pp. 147-157. doi : 10.1016/j.apsoil.2012.05.006

Morin, C., Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R.R., and Allard, G. (2012). "Diurnal variations of nonstructural carbohydrates and nutritive value in timothy.", *Canadian Journal of Plant Science*, 92(5), pp. 883-887. doi : 10.4141/cjps2011-272

Morin, C., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R.R., and Allard, G. (2012). "Nonstructural Carbohydrate Concentration during Field Wilting of PM- and AM-Cut Alfalfa.", *Agronomy Journal*, 104(3), pp. 649-660. doi : 10.2134/agronj2011.0365

Bélanger, G., Savoie, P., Parent, G., Claessens, A., Bertrand, A., Tremblay, G.F., Massé, D.I., Gilbert, Y., and Babineau, D. (2012). "Switchgrass silage for methane production as affected by date of harvest.", *Canadian Journal of Plant Science*, 92(6), pp. 1187-1197. doi : 10.4141/CJPS2011-202

2011

Dhont, C., Bertrand, A., Castonguay, Y., and Isabel, N. (2011). "Changes of carbon and nitrogen metabolites in white spruce (*Picea glauca* [Moench] Voss) of contrasted growth phenotypes.", *Trees - Structure and Function*, 25(4), pp. 711-723. doi : 10.1007/s00468-011-0549-7

Castonguay, Y., Dubé, M.-P., Cloutier, J., Michaud, R., Bertrand, A., and Laberge, S. (2011). "Intron-length polymorphism identifies a Y2K4 dehydrin variant linked to superior freezing tolerance in alfalfa.", *Theoretical and Applied Genetics (TAG)*, 124(5), pp. 809-819. doi : 10.1007/s00122-011-1735-0



Castonguay, Y., Bertrand, A., Michaud, R., and Laberge, S. (2011). "Cold-induced biochemical and molecular changes in alfalfa populations selectively improved for freezing tolerance.", *Crop Science*, 51(5), pp. 2132-2144. doi : 10.2135/cropsci2011.02.0060

Bertrand, A., Castonguay, Y., Azaiez, A., and Dionne, J. (2011). "Cold-induced responses in annual bluegrass genotypes with differential resistance to pink snow mold (*Microdochium nivale*).", *Plant Science*, 180(1), pp. 111-119. doi : 10.1016/j.plantsci.2010.08.008

Bertrand, A., Prévost, D., Juge, C., and Chalifour, F.-P. (2011). "Impact of elevated CO<sub>2</sub> on carbohydrate and ureide concentrations in soybean inoculated with different strains of *Bradyrhizobium japonicum*.", *Botany*, 89(7), pp. 481-490. doi : 10.1139/B11-034

Morin, C., Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R.R., and Allard, G. (2011). "Diurnal Variations of Nonstructural Carbohydrates and Nutritive Value in Alfalfa.", *Crop Science*, 51(3), pp. 1297-1306. doi : 10.2135/cropsci2010.07.0406

## Other Science Related Publications:

### 2015

Hannoufa, A., Gruber, M.Y., Aung, B., Bertrand, A., Amyot, L., and Omari, K. (2015). "Overexpression of miR156 affects forage yield and other traits in alfalfa by regulating SPL genes.", *Botany 2015 Joint Conference: Science and plants for people*, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015, Oral presentation.

Messerli, J., Bertrand, A., Bélanger, G., Castonguay, Y., Tremblay, G.F., and Séguin, P. (2015). "Mélanges luzerne-fléole des prés : Résultats après deux saisons de croissance sous CO<sub>2</sub> et température élevés.", *Journée d'information scientifique sur les bovins laitiers et les plantes fourragères*, Drummondville, QC, Canada, 25 février 2015, Présentation.

### 2014

Bertrand, A., Renaut, J., Castonguay, Y., and Papadopoulos, Y.A. (2014). "A proteome analysis of subfreezing temperature tolerance in red clover (*Trifolium pratense*).", *International Plant Cold Hardiness Seminar (IPCHS)*, Poznań, Poland, August 17-21, 2014.

Crépeau, M., Khelifi, M., Vanasse, A., De Ladurantaye, Y., Bertrand, A., and Aider, M. (2014). "Extraction of juice from sweet pearl millet and sweet sorghum using two experimental press prototypes.", *American Society of Agricultural and Biological Engineers Annual International Meeting 2014*, Montreal, Canada, July 13-16, 2014, pp. 793-800.

Omari, K., Aung, B., Gruber, M.Y., Amyot, L., Bertrand, A., and Hannoufa, A. (2014). "Analysis of Cell Wall Residue of Alfalfa Overexpressing miR156.", *Biology Graduate Research Forum*, Western University, London, ON, Canada, September 26, 2014.

Claessens, A., Chouinard-Michaud, C., Michaud, A.R., Tremblay, G.F., Bertrand, A., Bélanger, G., Castonguay, Y., Berthiaume, R.R., and Allard, G.C. (2014). "Nonstructural carbohydrates and some attributes of nutritive value in alfalfa as influenced by genetic selection.", *North American Alfalfa Improvement Conference*, Lethbridge, Alberta, Canada, July 6-11, 2014.

Claessens, A., Bélanger, G., Lalonde, O., Martel, H., Séguin, P., Lajeunesse, J., Allard, G.C., Lemay, I., and Bertrand, A. (2014). "Genetic variability and potential of switchgrass as feedstock for the bioindustry in eastern Canada.", *4th Pan-American Congress on Plants and Bioenergy*, Guelph, Ontario, Canada, June 4-7, 2014.

Crépeau, M., Khelifi, M., Vanasse, A., Bertrand, A., and Aider, M. (2014). "Storage mode and pressing delay effects on juice extraction and sugar content of the biomass of sweet pearl millet and sweet sorghum.", *American Society of Agricultural and Biological Engineers Annual International Meeting 2014*, Montreal, Canada, July 13-16, 2014, pp. 785-792.

Bertrand, A. and Claessens, A. (2014). "Perennial crop biomass for the production of high-quality fibres, bioethanol and value-added co-products.", *13th International Symposium on Bioplastics, Biocomposites and Biorefining*, Guelph, Ontario, Canada, May 19-24, 2014.

### 2013

Claessens, A., Bélanger, G., Savoie, P., Parent, G., Bertrand, A., Tremblay, G.F., Massé, D.I., Gilbert, Y., and Babineau, D. (2013). "Effect of harvest date and nitrogen fertilization on reed canarygrass and switchgrass yield, composition and specific methane production in eastern Canada.", *SWITCHGRASS II conference*, Madison, Wisconsin, USA, September 10-12, 2013., [www.dfr.wisc.edu/switchgrass/](http://www.dfr.wisc.edu/switchgrass/).

Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Berthiaume, R.R., Michaud, R., Pelletier, S., Morin, C., Lafrenière, C., and Allard, G.C. (2013). "Improving forage nonstructural carbohydrates through management and breeding.", *22nd International Grassland Congress*, September 15-19, 2013, pp. 668-669.

Berthiaume, R.R., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Michaud, R., Pelletier, S., Brito, A.F., Lafrenière, C., and Allard, G. (2013). "High quality forages: How sweet should they be?", *Advances in Dairy Technology (Western Canadian Dairy Seminar Proceedings)*, 25, pp. 235-252.

Berthiaume, R.R., Brito, A.F., Tremblay, G.F., Bélanger, G., Lafrenière, C., Bertrand, A., Castonguay, Y., Michaud, R., and Allard, G.C. (2013). "High-sugar alfalfa for dairy cows.", *22nd International Grassland Congress*, September 15-19, 2013, pp. 729-731.

Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Berthiaume, R.R., Michaud, R., Pelletier, S., Morin, C., Lafrenière, C., and Allard, G.C. (2013). "Improving forage nonstructural carbohydrates through management and breeding.", *Symposium de l'industrie laitière*, Moncton, NB, Canada, November 13-14, 2013.

Tremblay, G.F., Morin, C., Bélanger, G., Bertrand, A., Castonguay, Y., Michaud, R., Berthiaume, R.R., and Allard, G.C. (2013). "Increased sugar concentration with PM-cutting and wide swathing improves alfalfa silage fermentation.", *Symposium de l'industrie laitière*, Moncton, NB, Canada, November 13-14, 2013.

Tremblay, G.F., Morin, C., Bélanger, G., Bertrand, A., Castonguay, Y., Michaud, R., Berthiaume, R.R., and Allard, G.C. (2013). "Increased sugar concentration with PM-cutting and wide swathing improves alfalfa silage fermentation.", *22nd International Grassland Congress*, September 15-19, 2013, pp. 766-767.

Castonguay, Y., Claessens, A., Bertrand, A., and Audy, P. (2013). "Reaping the benefits of new breeding technologies to improve forage yield and quality.", *Annual meeting of the "Canadian Forage Grassland Association"*, Old, Alberta, Canada, December 9-11, 2013, Oral presentation.

Claessens, A., Bélanger, G., Savoie, P., Parent, G., Bertrand, A., Tremblay, G.F., Massé, D.I., Gilbert, Y., and Babineau, D. (2013). "Species, harvest date, and nitrogen fertilization affect characteristics of biomass grown for methane production in eastern Canada.", *SWITCHGRASS II conference*, Madison, Wisconsin, USA, September 9-13, 2013, Invited for an oral presentation.

## 2012

Castonguay, Y., Dubé, M.-P., Cloutier, J., Michaud, R., Bertrand, A., and Laberge, S. (2012). "Intron-length polymorphism identifies a Y2K4 dehydrin variant linked to superior freezing tolerance in alfalfa (Erratum).", *Theoretical and Applied Genetics (TAG)*, 124(5), pp. 821-824.

Bertrand, A. (2012). "Perennial Field Crops.", in Storey, K.B. and Tanino, K.K. (eds.) - *Temperature Adaptation in a Changing Climate: Nature at Risk (CABI Climate Change Series No. 3)*, CABI Publishing, Wallingford, UK, Chapter 14, pp. 208-217.

Bertrand, A., Bourassa, J., Bélanger, G., Mongrain, D., Tremblay, G.F., and Castonguay, Y. (2012). "Les hausses de températures et du CO<sub>2</sub> affecteront-elles la productivité des plantes fourragères?", *Demi-journée d'information scientifique sur les fourrages 2012*, Victoriaville, QC, Canada, February 21, 2012, pp. 32-33.

Tremblay, G.F., Berthiaume, R.R., Allard, G., Bertrand, A., Brito, A.F., Castonguay, Y., Chouinard-Michaud, C., Drapeau, R., Lafrenière, C., Lefebvre, D.M., Michaud, R., Pellerin, D., Fournier, A., Morin, C., and Pelletier, S. (2012). "Du fourrage sucré pour mieux performer.", *Analyse de groupe de lait 2011 et valorisation des fourrages: Du champ au réservoir à lait*, Hôtel du jardin, Saint-Félicien, QC, Canada, April 24, 2012, pp. 1-10.

Allard, G., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R.R., Pellerin, D., Lefebvre, D.M., and Fournier, A. (2012). "Production de fourrages riches en sucres pour améliorer les performances de la vache laitière.", *Forum Technologique NOVALAIT / IDF Dairy Science and Technology Week 2012*, Hôtel et Suites Le Dauphin, Drummondville, QC, Canada, May 29, 2012, P2012-01. (Abstract)

Brito, A.F., Régimbald, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Bélanger, G., Michaud, R., Lafrenière, C., and Berthiaume, R.R. (2012). "High-total nonstructural carbohydrates in timothy enhanced performance of mid-lactation dairy cows.", *Western Canadian Dairy Seminar*, Red Deer, Alberta, Canada, 6-9 mars, 2012, *WCDS Advances in Dairy Technology*, Volume 24, Abstract, page 399.

Berthiaume, R.R., Lafrenière, C., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Allard, G., Pellerin, D., Fournier, A., and Lefebvre, D.M. (2012). "Forages: Cows like them sweet!", *Thunder Bay District Soil and Crop Improvement Association's Spring Farm Conference 2012*, Thunder Bay, ON, Canada, April 11, 2012.

## 2011

Bertrand, A., Bélanger, G., Castonguay, Y., and Tremblay, G.F. (2011). "Temperature and CO<sub>2</sub> affect yield, root biomass, and nutritive value of Canadian tame and native forage species.", *2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences*, San Antonio, TX, USA, October 16-19, 2011, Abstract 68182. (Abstract)

Piva, A., Bertrand, A., Séguin, P., and Bélanger, G. (2011). "Effects of elevated temperature and CO<sub>2</sub> concentration under contrasted N fertilization on timothy.", *Journées du Centre SÈVE*, Saint Paulin, QC, Canada, September 29, 2011.

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## Research Publications:

2015

Forney, C.F., Bezanson, G.S., Ells, T.C., Fan, L., and LeBlanc, D.I. (2015). "Impact of heat sanitation of fresh whole cantaloupe on fruit quality and volatile metabolism.", *Acta Horticulturae (ISHS)*, 1079, pp. 145-151.

2014

Ridley, C.M., Jamieson, R.C., Truelstrup-Hansen, L., Yost, C.K., and Bezanson, G.S. (2014). "Baseline and storm event monitoring of Bacteroidales marker concentrations and enteric pathogen presence in a rural Canadian watershed.", *Water Research*, 60, pp. 278-288. doi: 10.1016/j.watres.2014.04.039

McKellar, R.C., Pérez Rodriguez, F., Harris, L.J., Moyne, A.-L., Blais, B., Topp, E., Bezanson, G.S., Bach, S.J., and Delaquis, P.J. (2014). "Evaluation of different approaches for modeling *Escherichia coli* O157:H7 survival on field lettuce.", *International Journal of Food Microbiology*, 184, pp. 74-85. doi: 10.1016/j.ijfoodmicro.2014.04.026

Piorowski, G.S., Bezanson, G.S., Jamieson, R.C., Hansen, L.T., and Yost, C.K. (2014). "Effect of hillslope position and manure application rates on the persistence of fecal source tracking indicators in an agricultural soil.", *Journal of Environmental Quality*, 43(2), pp. 450-458. doi: 10.2134/jeq2013.07.0274

Piorowski, G.S., Jamieson, A.R., Jamieson, R.C., Truelstrup-Hansen, L., Bezanson, G.S., and Yost, C.K. (2014). "Characterizing spatial structure of sediment *E. coli* populations to inform sampling design.", *Environmental Monitoring and Assessment*, 186(1), pp. 277-291. doi: 10.1007/s10661-013-3373-2

Piorowski, G.S., Jamieson, R.C., Bezanson, G.S., Truelstrup-Hansen, L., and Yost, C.K. (2014). "Reach specificity in sediment *E. coli* population turnover and interaction with waterborne populations.", *Science of the Total Environment*, 496, pp. 402-413. doi: 10.1016/j.scitotenv.2014.06.145

Bezanson, G.S., Ells, T.C., and Prange, R.K. (2014). "Effect of composting on microbial contamination and quality of fresh fruits and vegetables - A mini-review.", *Acta Horticulturae (ISHS)*, 1018, pp. 631-638.

2013

Piorowski, G.S., Jamieson, R.C., Jamieson, A.R., Bezanson, G.S., Truelstrup-Hansen, L., and Yost, C.K. (2013). "Evaluation of statistical models for predicting *Escherichia coli* particle attachment in fluvial systems.", *Water Research*, 47(17), pp. 6701-6711. doi: 10.1016/j.watres.2013.09.003

2012

LeBlanc, D.I., Vigneault, C., Boutin, J., Toussaint, V., Charlebois, D., Forney, C.F., Bourgeois, G., Clément, A., and Bezanson, G.S. (2012). "Design and performance of a controlled environment mini-chamber for measuring produce quality deterioration.", *Journal of Agricultural Science and Technology B*, 2, pp. 391-399.

Bezanson, G.S., Delaquis, P.J., Bach, S.J., McKellar, R., Topp, E., Gill, A.O., Blais, B., and Gilmour, M. (2012). "Comparative Examination of *Escherichia coli* O157:H7 Survival on Romaine Lettuce and in Soil at Two Independent Experimental Sites.", *Journal of Food Protection*, 75(3), pp. 480-487. doi: 10.4315/0362-028X.JFP-11-306

## Other Science Related Publications:

2014

Rodd, A.V., Grimmer, M.G., Fuller, K.D., Bezanson, G.S., Nyiraneza, J., Henry, R., Jenkins, S., and others (2014). "Management of manure to decrease the potential for *E. coli* contamination.", Open houses organized by AAFC, Crop and Livestock Research Centre. (Presentation)

Rodd, A.V., Henry, R., Bezanson, G.S., Fuller, K.D., Fillmore, S.A.E., and Grimmer, M.G. (2014). "Manure storage conditions and *E. coli* survival. Sustainable Water Footprint.", Joint meeting NS Institute of Agrologists and PEI Institute of Agrologists, Stanley Bridge, PEI, Canada, July 20-22, 2014.

Fan, L., Hughes, T., Ban, Z., Bezanson, G.S., Fomey, C.F., Eells, T.C., LeBlanc, D.I., Guan, J., and Li, J.B. (2014). "Investigation of vapor heat treatment on microbial control and quality of cantaloupes.", United Fresh 2014. (Poster)

Fomey, C.F., Bezanson, G.S., Eells, T.C., Fan, L., and LeBlanc, D.I. (2014). "Impact of heat sanitation of fresh whole cantaloupe on fruit quality and volatile metabolism.", United Fresh 2014, Chicago, IL, USA, June 10-14, 2014. (Poster)

Fomey, C.F., Bezanson, G.S., Eells, T.C., Fan, L., and LeBlanc, D.I. (2014). "Impact of heat sanitation of fresh whole cantaloupe on fruit quality and volatile metabolism.", The 5th Postharvest Unlimited Conference, Conference presentation and abstract.

McKellar, R.C., Pérez Rodriguez, F., Harris, L.J., Moyne, A.-L., Blais, B., Topp, E., Bezanson, G.S., Bach, S.J., and Delaquis, P.J. (2014). "Evaluation of mathematical models to describe *Escherichia coli* O157:H7 decay on field-grown leafy vegetables.", Annual Meeting of the International Association for Food Protection (IAFP), Indianapolis, USA, August 3-6, 2014, Oral presentation. (Abstract)

## 2013

Delaquis, P.J., Bach, S.J., McKellar, R., Bezanson, G.S., and Topp, E. (2013). "Survival of six Shiga-toxigenic *Escherichia coli* serotypes in field lettuce.", 58th Annual Meeting of the International Association of Food Protection (IAFP 2013), Charlotte Convention Center, Charlotte, NC, USA, July 28-31, 2013. (Poster)

Fomey, C.F., Fan, L., and Bezanson, G.S. (2013). Multistate Research Project S-294 Postharvest Quality and Safety in Fresh-cut Vegetables and Fruits 2013-2014 Activities Report p.4. (Report)

## 2012

Fomey, C.F., Bezanson, G.S., Fan, L., Eells, T.C., and LeBlanc, D.I. (2012). "Development of the Low Temperature Thermal Treatment (LT3) Process to Sanitize Fresh-cut Cantaloupe.", United Fresh 2012, Dallas Convention Center, Dallas, TX, USA, May 1-23, 2012. (Poster)

Gillis, J., Bezanson, G.S., and Moreau, D.L. (2012). "Association of *E. coli* with various insect species emerging from the Thomas brook watershed.", AAFC-WEBS Thomas Brook Technical Workshop, Kentville, NS, Canada, October 17, 2012. (Presentation)

Orlowska, M., Koutchma, T., Defelice, C., Kostrzynska, M., Bezanson, G.S., and Tang, J. (2012). "Application of the prototype Taylor-Couette UV reactor for the processing of opaque juices.", Canadian Institute of Food Science and Technology 50th National Conference (CIFST), Niagara Falls, ON, Canada, May 27 – 29, 2012, (Poster).

Delaquis, P.J., Bezanson, G.S., McKellar, R., and Gajadhar, A. (2012). "Fate of protozoan oocysts (*Eimeria papillata*) on lettuce in field plots.", 57th Annual Meeting of the International Association of Food Protection (IAFP 2012), Providence, Rhode Island, USA, July 22-25, 2012, (Poster).

## 2011

Fisher, M., Kristie, D.N., Hodges, D.M., and Bezanson, G.S. (2011). "Hydrogen peroxide treatment of fresh-cut spinach: potential for enhancement of shelf life and microbiological safety.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

Delaquis, P.J., Bach, S., Bezanson, G.S., Kostrzynska, M., and Jones, S. (2011). "Escherichia coli population dynamics on Romaine lettuce contaminated with poultry manure.", 56th Annual Meeting of the International Association of Food Protection (IAFP 2011), Milwaukee, WI, USA, July 30-August 3, 2011, (Poster).

Bezanson, G.S., Eells, T.C., and Prange, R.K. (2011). "Effect of composting on microbial contamination and quality of fresh fruits and vegetables.", International Symposium on Organic Matter Management and Compost Use in Horticulture, Adelaide, South Australia, Australia, April 3-7, 2011.

Piorowski, G.S., Jamieson, R.C., Jamieson, A.R., Bezanson, G.S., Truelstrup-Hansen, L., and Yost, C.K. (2011). "Spatial variability of *Escherichia coli* strains within stream sediments of an agricultural watershed.", Canadian Society of Microbiologists (CSM) 61st Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Memorial University of Newfoundland, St. John's, NL, Canada, June 20-23, 2011, (Poster).

Fellahi, S., Bezanson, G.S., Brassard, J., Delaquis, P.J., Houde, A., and Mattson, K. (2011). "Long-term stability of norovirus on farm and agriculturally-relevant environments.", 56th Annual Meeting of the International Association of Food Protection (IAFP 2011), Milwaukee, WI, USA, July 30-August 3, 2011, (Poster).

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## Research Publications:

2014

Bilodeau-Goeseels, S., Magyara, N., and Collignon, C. (2014). "Characterization of the effects of metformin on porcine oocyte meiosis and on AMP-activated protein kinase activation in oocytes and cumulus cells.", *Zygote*, 22(2), pp. 275-285. doi : 10.1017/S0967199413000075

Pereira, G.R., Lorenzo, P.L., Carneiro, G.F., Bilodeau-Goeseels, S., Kastelic, J.P., Esteller-Vico, A., Lopez-Bejar, M., and Liu, I.K.M. (2014). "Selection of developmentally competent immature equine oocytes with brilliant cresyl blue stain prior to in vitro maturation with equine growth hormone.", *Zygote*, 22(4), pp. 500-504. doi : 10.1017/S096719941200072X

Pereira, G.R., Lorenzo, P.L., Carneiro, G.F., Bilodeau-Goeseels, S., Kastelic, J.P., and Liu, I.K.M. (2014). "A specific adenylyl cyclase inhibitor (DDA) and a cyclic AMP-dependent protein kinase inhibitor (H-89) block the action of equine growth hormone on in vitro maturation of equine oocytes.", *Zygote*, pp. 1-7. doi : 10.1017/S0967199414000434

2011

Pereira, G.R., Lorenzo, P.L., Carneiro, G.F., Ball, B.A., Gonçalves, P.B.D., Pegoraro, L.M.C., Bilodeau-Goeseels, S., Kastelic, J.P., Casey, P.J., and Liu, I.K.M. (2011). "The effect of growth hormone (GH) and insulin-like growth factor-I (IGF-I) on in vitro maturation of equine oocytes.", *Zygote*, 20(4), pp. 353-360. doi : 10.1017/S0967199411000335

Bilodeau-Goeseels, S. (2011). "Bovine Oocyte Meiotic Inhibition Before In Vitro Maturation and Its Value to In Vitro Embryo Production: Does it Improve Developmental Competence?.", *Reproduction in Domestic Animals*, 47(4), pp. 687-693. doi : 10.1111/j.1439-0531.2011.01924.x

Bilodeau-Goeseels, S. (2011). "Cows are not Mice: The Role of Cyclic AMP, Phosphodiesterases, and Adenosine Monophosphate-Activated Protein Kinase in the Maintenance of Meiotic Arrest in Bovine Oocytes.", *Molecular Reproduction and Development*, 78(10-11), pp. 734-743. doi : 10.1002/mrd.21337

## Other Science Related Publications:

2012

Bilodeau-Goeseels, S. and Magyara, N. (2012). "The Control of Meiotic Arrest and Resumption in Mammalian Oocytes.", in Swan, A. (ed.) - *Meiosis - Molecular Mechanisms and Cytogenetic Diversity*, InTech, Open Access Publisher, Chapter 8, pp. 151-172.

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## Research Publications:

2014

Bing, D.-J., Beauchesne, D., McLaren, D.L., Vera, C.L., and Gehl, D.T. (2014). "AAC Lacombe field pea.", *Canadian Journal of Plant Science*, 94(4), pp. 805-806. doi: 10.4141/cjps2013-365

Bing, D.-J., Beauchesne, D., McLaren, D.L., Vera, C.L., and Gehl, D.T. (2014). "AAC Ardill field pea.", *Canadian Journal of Plant Science*, 94(1), pp. 191-192. doi: 10.4141/cjps2013-213

2013

Bing, D.-J., Beauchesne, D., McLaren, D.L., Vera, C.L., and Gehl, D.T. (2013). "AAC Peace River field pea.", *Canadian Journal of Plant Science*, 93(2), pp. 337-339. doi: 10.4141/cjps2012-173

Chang, K.F., Hwang, S.F., Ahmed, H.U., Strelkov, S.E., Conner, R.L., Gossen, B.D., Bing, D.-J., and Turnbull, G.D. (2013). "Yield loss and management of downy mildew on field pea in Alberta, Canada.", *Crop Protection*, 46, pp. 23-28. doi: 10.1016/j.cropro.2012.12.001

2011

Bing, D.-J., Gan, Y.T., and Warkentin, T.D. (2011). "Yields in mixtures of resistant and susceptible field pea cultivars infested with powdery mildew - defining thresholds for a possible strategy for preserving resistance.", *Canadian Journal of Plant Science*, 91(5), pp. 873-880. doi: 10.4141/CJPS2010-011

Chang, K.F., Hwang, S.F., Gossen, B.D., Strelkov, S.E., Turnbull, G.D., and Bing, D.-J. (2011). "Effect of seeding practices, temperature and seed treatments on fusarium seedling blight of narrow-leaved lupin.", *Canadian Journal of Plant Science*, 91(5), pp. 859-872. doi: 10.4141/cjps2010-039

Bing, D.-J., Beauchesne, D., Sloan, A., McLaren, D.L., and Vera, C.L. (2011). "Earlystar field pea.", *Canadian Journal of Plant Science*, 91(6), pp. 1115-1116. doi: 10.4141/CJPS2011-076

Olson, M., Bandara, M.S., Bing, D.-J., Kruger, A., Henriquez, B., and Bremer, E. (2011). "Evaluation of mungbean accessions for the southern Canadian prairies.", *Canadian Journal of Plant Science*, 91(1), pp. 137-141. doi: 10.4141/CJPS10062

## Other Science Related Publications:

2014

Kahlon, J.G., Chatterton, S., Strydhorst, S.M., Bing, D.-J., Bowness, R.T., Olson, M.E., Hassan, F., Jacobsen, H.J., and Hall, L.M. (2014). "Efficacy of transgenic disease resistant peas against *Fusarium* root rot (*F. solani* and *F. avenaceum*) and *Mycosphaerella* blight (*M. pinodes*) in field.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014. (Abstract)

Kahlon, J.G., Chatterton, S., Strydhorst, S.M., Bing, D.-J., Bowness, R.T., Olson, M.E., Hassan, F., Jacobsen, H.J., and Hall, L.M. (2014). "Efficacy of transgenic disease resistant peas against *Fusarium* root rot (*Fusarium* spp.) in field.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014. (Abstract)

2012

Chang, K.F., Liu, J., Cao, T., Yang, Y., Fu, H., Turnbull, G.D., Hwang, S.F., Lafamme, P., Bing, D.-J., and Strelkov, S.E. (2012). "Occurrence of downy mildew on field pea in Central Alberta in 2009, 2010 and 2011.", *Canadian Plant Disease Survey*, 92, pp. 143-145.

2011

Chang, K.F., Hwang, S.F., Strelkov, S.E., Gossen, B.D., Turnbull, G.D., and Bing, D.-J. (2011). "Effect of seeding depth, seeding date and seed treatment on downy mildew of field pea in Alberta.", *Canadian Journal of Plant Science*, 91, pp. 389. (Abstract)

Chang, K.F., Hwang, S.F., Strelkov, S.E., Gossen, B.D., Turnbull, G.D., and Bing, D.-J. (2011). "Effect of downy mildew on growth and yield loss in field pea.", *Canadian Journal of Plant Pathology*, 33, pp. 258. (Abstract)

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## Research Publications :

2011

Debnath, S.C., Bishop, G.A., and Sion, M. (2011). "Lingonberry germplasm characterization for berry characters, anthocyanin content and antioxidant activity.", *Acta Horticulturae (ISHS)*, 918, pp. 647-654.

## Other Science Related Publications :

2015

Debnath, S.C., Anderson, S., Bishop, G.A., Dixon, P.L., McKenzie, D.-L., Mills, A.A.S., and Siow, Y.L. (2015). Developing innovative technologies to accelerate industry transition from 'wild' to cultivated cool climate berry crop production systems. Project ID: 13-1155; Research Project Annual Report 2014-2015., AAFC Science and Technology Branch. (Report)

2014

McKenzie, D.B., Bishop, G.A., and Dixon, P.L. (2014). "Assessment of surface mulch type effect on the initial growth of half-high blueberry cultivars from a range of maturity classes under the cool, high precipitation climatic conditions of eastern Newfoundland.", Research Centre Field Day, Centre de recherche de l'Atlantique sur les cultures de climat frais, Agriculture et Agroalimentaire Canada, St. John's, NL, Canada, August 9, 2014. (Poster)

Nyiraneza, J., Thompson, B., Fuller, K.D., Bizimungu, B., Bishop, G.A., Jiang, Y., Grimmett, M.G., Khiari, L., Rodd, A.V., and Anderson, S. (2014). "Potato response to phosphorus fertilization in Atlantic Canada and assessment of the degree of soil phosphorus saturation.", Northeast Potato Technology Forum 2014, Fredericton, NB, Canada, March 12-13, 2014.

Fuller, K.D., Nyiraneza, J., Thompson, B., Bizimungu, B., Bishop, G.A., Jiang, Y., Grimmett, M.G., Khiari, L., Rodd, A.V., and Anderson, S. (2014). "Optimum rates of phosphorus for potato production in soils of varying P status in Atlantic Canada... an AAFC Science & Technology Branch Project.", Scotia Horticultural Congress 2014, Kentville, NS, Canada, January 27-28, 2014.

Debnath, S.C., Anderson, S., Bishop, G.A., Dixon, P.L., McKenzie, D.B., Mills, A.A.S., and Siow, Y.L. (2014). Developing innovative technologies to accelerate industry transition from 'wild' to cultivated cool climate berry crop production systems. Project ID: 13-1155; Research Project Annual Report 2013-2014, AAFC Science and Technology Branch. (Report)

McKenzie, D.B., Bishop, G.A., and Dixon, P.L. (2014). "Effet de divers types de paillis sur la croissance initiale des cultivars de bleuetsiers semi-géants de différentes classes de précocité de maturation dans les conditions fraîches et pluvieuses de l'est de Terre-Neuve.", Research Centre Field Day, Centre de recherche de l'Atlantique sur les cultures de climat frais, Agriculture et Agroalimentaire Canada, St. John's, NL, Canada, August 9, 2014. (Poster)

Debnath, S.C., McKenzie, D.B., Bishop, G.A., Dixon, P.L., Siow, Y.L., and Mills, A.A.S. (2014). "Blueberries: transitioning from wild to cultivated production.", STB Weekly Science Story, January 21, 2014. (Newsletter)

McKenzie, D.B., Bishop, G.A., Dixon, P.L., and Noronha, C. (2014). "Non merci, je ne veux pas de larves de doryphores sur mes patates!", 56th Annual Farm Field Day, St. John's, NL, Canada, August 9, 2014, Presentation. (Poster)

McKenzie, D.B., Bishop, G.A., Dixon, P.L., and Noronha, C. (2014). "No thanks, I'll pass on the wireworms in my potatoes.", 56th Annual Farm Field Day, St. John's, NL, Canada, August 9, 2014, Presentation. (Poster)

Debnath, S.C., Dixon, P.L., and Bishop, G.A. (2014). "Cranberry Research at the Atlantic Cool Climate Crop Research Centre.", Atlantic Cranberry Management Conference - "Out of the Red", St. John's, Canada, March 20-21, 2014. (Poster)

Debnath, S.C., Dixon, P.L., and Bishop, G.A. (2014). "Recherches sur la canneberge menées au Centre de recherches de l'Atlantique sur les cultures de climat frais.", Atlantic Cranberry Management Conference - "Out of the Red", St. John's, Canada, March 20-21, 2014. (Poster)

McKenzie, D.B., Bishop, G.A., and Dixon, P.L. (2014). "Effet de divers types de paillis sur la croissance initiale des cultivars de bleuetsiers semi-géants de différentes classes de précocité de maturation dans les conditions fraîches et pluvieuses de l'est de Terre-Neuve.", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014.



McKenzie, D.B., Bishop, G.A., and Dixon, P.L. (2014). "Assessment of surface mulch type effect on the initial growth of half-high blueberry cultivars from a range of maturity classes under the cool, high precipitation climatic conditions of eastern Newfoundland.", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014, Presentation. (Poster)

## 2013

Nyiraneza, J., Fuller, K.D., Bizimungu, B., Bishop, G.A., Grimmett, M.G., Rodd, A.V., Jiang, Y., Mills, A.A.S., Gregory, D., Enman, B., and others (2013). "Increasing phosphorus use efficiency in potato production in Atlantic Canada.", Open houses organized by AAFC, Crop and Livestock Research Centre, August 16, 2013. (Presentation)

## 2012

Debnath, S.C., McKenzie, D.B., Dixon, P.L., and Bishop, G.A. (2012). "Cool climate berry crop production and protection in Newfoundland and Labrador.", Newfoundland and Labrador Symposium: Our Food, Our Future, Growing the Agriculture Industry in Newfoundland and Labrador, Corner Brook, NL, Canada, November 23, 2012, pp. 11-12.

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## Research Publications:

2015

Durkin, J.M.H., Bissett, J.D., Pahlavani, M., Mooney, B.G., and Buchwaldt, L. (2015). "IGS minisatellites useful for race differentiation in *Colletotrichum lentis* and a likely site of small RNA synthesis affecting pathogenicity.", *PLoS ONE*, 10(9: Article number e0137398), pp. 1-24. doi: 10.1371/journal.pone.0137398

Bissett, J.D., Gams, W., Jaklitsch, W., Redhead, S.A., and Samuels, G.J. (2015). "Accepted *Trichoderma* names in the year 2015.", *IMA Fungus*, 6(2), pp. 263-295. doi: 10.5598/imafungus.2015.06.02.02

2014

Chahal, A., Monreal, C.M., Bissett, J.D., Rowland, O., Smith, M.L., and Miller, S.S. (2014). "Metabolism of n-C10:0 and n-C11:0 fatty acids by *Trichoderma koningii*, *Penicillium janthinellum* and their mixed culture: I. Biomass and CO<sub>2</sub> production, and allocation of intracellular lipids.", *Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Wastes*, 49(12), pp. 945-954. doi: 10.1080/03601234.2014.951581

Vydryakova, G.A., Morozova, O.V., Redhead, S.A., and Bissett, J.D. (2014). "Observations of morphologic and genetic diversity in populations of *Filobolus manipularis* (Fungi: Mycenaceae) in southern Vietnam.", *Mycology*, 5(2), pp. 81-97. doi: 10.1080/21501203.2014.902402

2012

Vydryakova, G.A., Van, D.T., Shoukouhi, P., Psurtseva, N.V., and Bissett, J.D. (2012). "Intergenomic and intragenomic ITS sequence heterogeneity in *Neonothopanus nambi* (Agaricales) from Vietnam.", *Mycology*, 3(2), pp. 89-99. doi: 10.1080/21501203.2011.637085

2011

Hoyos-Carvaja, L. and Bissett, J.D. (2011). "Biodiversity of *Trichoderma* in neotropics.", in Grillo, O. and Venora, G. (eds.) - *The Dynamical Processes of Biodiversity - Case Studies of Evolution and Spatial Distribution*, InTech, Open Access Publisher, pp. 303-320.

## Other Science Related Publications:

2014

Galletti, S., Paris, R., Cianchetta, S., Burzi, P.L., and Bissett, J.D. (2014). "Reducing *Fusarium verticillioides* infection in maize by seed treatment with *Trichoderma* isolates selected for antagonism and induced resistance.", *Atti XX Convegno Nazionale Società Italiana Patologia Vegetale*, pp. 68-69.

Vydryakova, G.A. and Bissett, J.D. (2014). "Is extracellular manganese superoxide dismutase involved in mushroom bioluminescence?", 10th International Mycological Conference (IMC10), Bangkok, Thailand, August 3-8, 2014.

Bissett, J.D. and Buchwaldt, L. (2014). "Sequence repeat patterns in the IGS region distinguish genetically highly similar pathovars of *Colletotrichum viciae* on lentils.", 10th International Mycological Conference (IMC10), Bangkok, Thailand, August 3-8, 2014.

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## Research Publications:

2015

Li, R., Beaudoin, F., Ammah, A.A., Bissonnette, N., Benchaar, C., Zhao, X., Lei, C., and Ibeagha-Awemu, E.M. (2015). "Deep sequencing shows microRNA involvement in bovine mammary gland adaptation to diets supplemented with linseed oil or safflower oil.", *BMC Genomics*, 16(1: Article 884), pp. 1-16. doi: 10.1186/s12864-015-1965-7

Bissonnette, N., Jiang, X.-R., Matte, J.J., Talbot, G., Guay, F., Gong, J., Wang, Q., Bontempo, V., and Lessard, M. (2015). "Effect of a post-weaning diet supplemented with gut health-enhancing feed additives on ileum transcriptome activity and serum cytokines in piglets challenged with lipopolysaccharides (LPS).", *Journal of Dairy Science (JDS)*, 98(Suppl. 2), pp. 659. (Abstract)

2014

Dudemaine, P.-L., Fecteau, G., Lessard, M., Labrecque, O., Roy, J.-P., and Bissonnette, N. (2014). "Increased blood-circulating interferon- $\gamma$ , interleukin-17, and osteopontin levels in bovine paratuberculosis.", *Journal of Dairy Science (JDS)*, 97(6), pp. 3382-3393. doi: 10.3168/jds.2013-7059

Dudemaine, P.-L., Thibault, C., Alain, K., and Bissonnette, N. (2014). "Genetic variations in the SPP1 promoter affect gene expression and the level of osteopontin secretion into bovine milk.", *Animal Genetics*, 45(5), pp. 629-640. doi: 10.1111/age.12176

2013

Neilsen, G.H., Forge, T.A., Neilsen, D., O'Gorman, D.T., Hogue, E.J., Angers, D.A., and Bissonnette, N. (2013). "Soil management in organic production systems.", *Acta Horticulturae (ISHS)*, 1001, pp. 295-302.

2011

Cressier, B. and Bissonnette, N. (2011). "Assessment of an extraction protocol to detect the major mastitis-causing pathogens in bovine milk.", *Journal of Dairy Science (JDS)*, 94(5), pp. 2171-2184. doi: 10.3168/jds.2010-3669

Bissonnette, N., Dudemaine, P.-L., Thibault, C., and Robitaille, G. (2011). "Proteomic analysis and immunodetection of the bovine milk osteopontin isoforms.", *Journal of Dairy Science (JDS)*, 95(2), pp. 567-579. doi: 10.3168/jds.2011-4750

Daudelin, J.-F., Lessard, M., Beaudoin, F., Nadeau, É., Bissonnette, N., Boutin, B., Brousseau, J.P., Lauzon, K., and Fairbrother, J.M. (2011). "Administration of probiotics influences F4 (K88)-positive enterotoxigenic *Escherichia coli* attachment and intestinal cytokine expression in weaned pigs.", *Veterinary Research*, 42:69. doi: 10.1186/1297-9716-42-69

Bissonnette, N. (2011). Proceedings of the 1st animal science symposium of the Dairy and Swine Research and Development Centre (June 7th 2011).. (Book)

## Other Science Related Publications:

2015

Ibeagha-Awemu, E.M., Dudemaine, P.-L., Chiquette, J., Talbot, G., and Bissonnette, N. (2015). "Involvement of microRNAs in calves' intestinal growth and development and probable modulatory role of *Saccharomyces cerevisiae*.", Symposium on Gut Health in Production of Food Animals, Kansas City, Missouri, USA, November 9-11, 2015. (Poster)

Fomenky, B., Beaudoin, F., Chiquette, J., Talbot, G., Bissonnette, N., Chouinard, P.Y., Lessard, M., and Ibeagha-Awemu, E.M. (2015). "Amélioration du développement immunitaire chez les veaux laitiers par les probiotiques.", Symposium sur les bovins laitiers 2015, Drummondville, QC, Canada, Octobre 29, 2015.

Ibeagha-Awemu, E.M., Li, R., Ammah, A.A., Bissonnette, N., Benchaar, C., and Zhao, X. (2015). "Transcriptome adaptation of the bovine mammary gland to a diet supplemented with linseed oil.", ADSA-ASAS 2015 JAM (Joint Annual Meeting), Orlando, Florida, USA, July 12-16, 2-15, Invited to present at the ASAS Presidents' Picks Poster Session at JAM 2015. (Poster)

Ibeagha-Awemu, E.M., Li, R., Ammah, A.A., Bissonnette, N., Benchaar, C., and Zhao, X. (2015). "Transcriptome adaptation of the bovine mammary gland to a diet supplemented with linseed oil.", *Journal of Animal Science*, 93(Suppl. S3), pp. 410. (Abstract)

Ibeagha-Awemu, E.M., Beaudoin, F., Chiquette, J., Talbot, G., Bissonnette, N., and Lessard, M. (2015). "Probiotics administration enhances calves' lymphoproliferation responses to vaccination during the early weeks of growth.", 2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council, Ottawa, Canada, May 6-8, 2015.

Bissonnette, N., Jiang, X-R., Matte, J.J., Talbot, G., Guay, F., Gong, J., Wang, Q., Bontempo, V., and Lessard, M. (2015). "Effect of a post-weaning diet supplemented with gut health-enhancing feed additives on ileum transcriptome activity and serum cytokines in piglets challenged with lipopolysaccharides (LPS)", *ADSA-ASAS JAM (Joint Annual Meeting) 2015*, Orlando, Florida, USA, July 12-16, 2015, 2-15, Poster Session.

Constant, E., Ibeagha-Awemu, E.M., Miglior, F., Robitaille, G., and Bissonnette, N. (2015). "Improving the genotyping-by-sequencing (GBS) approach for the identification of SNPs associated with Johne's disease.", *ADSA-ASAS JAM (Joint Annual Meeting) 2015*, Orlando, Florida, USA, July 12-16, 2015, 2-15, Poster Session.

Ariel, N., Gévry, G., Fecteau, G., Ibeagha-Awemu, E.M., Karrow, N.A., and Bissonnette, N. (2015). "Genetic association of Johne's disease susceptible cows through transcriptome profiling of MAP infected macrophages.", 2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council, Ottawa, Canada, May 6-8, 2015.

Ammah, A.A., Beaudoin, F., Marier, L., Benchaar, C., Bissonnette, N., Gévry, G., and Ibeagha-Awemu, E.M. (2015). "Effects of dietary supplementation with safflower oil on milk components and fat acid composition of Canadian Holstein cows.", 2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council, Ottawa, Canada, May 6-8, 2015.

Ibeagha-Awemu, E.M., Li, R., Dudemaine, P.-L., Ammah, A.A., Bissonnette, N., Benchaar, C., and Zhao, X. (2015). "Mammary gland transcriptome profiling of cows fed safflower oil reveals a potential modulatory role for SREBP1 in fatty acid synthesis.", 2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council, Ottawa, Canada, May 6-8, 2015.

## 2014

Morissette, B., Lessard, M., Yergeau, E., Lapointe, J., Guay, F., Bissonnette, N., Matte, J.J., Letellier, A., Quessy, S., Bergeron, N., and Talbot, B.G. (2014). "Influence of Feed Additives as an Alternative to Antibiotics on Gut Microbiota of Weaned Piglets Infected with *Salmonella Typhimurium*.", 7<sup>ième</sup> Symposium du CRIPA, Hyacinthe, Québec, Canada, 3-4 juin 2014. (Poster)

Arango Sabogal, J.C., Côté, G., Paré, J., Labrecque, O., Roy, J.-P., Buczinski, S., Doré, E., Fairbrother, J.H., Bissonnette, N., Wellemans, V., Rangel, S., and Fecteau, G. (2014). "Distribution de *Mycobacterium avium* subsp. *Paratuberculosis* dans l'environnement des troupeaux laitiers du Québec.", *Forum Technologique Novalait*, Drommondville, Québec, Canada.

Ariel, O., Dudemaine, P.-L., Fecteau, G., Labrecque, O., Roy, J.-P., and Bissonnette, N. (2014). "Profil inflammatoire de vaches atteintes de paratuberculose bovine.", *Forum Technologique Novalait*, Drommondville, Québec, Canada.

Morissette, B., Lessard, M., Yergeau, E., Lapointe, J., Guay, F., Bissonnette, N., Matte, J.J., Letellier, A., Quessy, S., Bergeron, N., Beaulieu, C., and Talbot, G. (2014). "Influence of Feed Additives as an Alternative to Antibiotics on Gut Microbiota of Weaned Piglets Infected with *Salmonella Typhimurium*.", 114<sup>th</sup> General Meeting of the American Society for Microbiology, Boston, Massachusetts, USA, May 17-20, 2014.

Bissonnette, N., Dudemaine, P.-L., Lessard, M., Labrecque, O., Roy, J.-P., and Fecteau, G. (2014). "Increased blood-circulating interferon gamma, interleukin 17 and osteopontin levels in bovine paratuberculosis.", 12<sup>th</sup> International Colloquium on Paratuberculosis, Parma, Italy, Abstract ID 3. (Abstract)

Arango Sabogal, J.C., Buczinski, S., Fecteau, G., Bissonnette, N., and others (2014). "Periodic bulletin entitled Paratuberculosis submitted to all Veterinarian Practitioners (>1000) in the Province of Quebec. Vol 1, No. 3."

Bissonnette, N. (2014). Identification de troupeaux laitiers infectés par *Mycobacterium avium* ssp. (Report)

Arango Sabogal, J.C., Côté, G., Paré, J., Labrecque, O., Roy, J.-P., Buczinski, S., Doré, E., Fairbrother, J.H., Bissonnette, N., Wellemans, V., and Fecteau, G. (2014). "La technique de prélèvement de l'environnement pour l'identification des troupeaux laitiers infectés par la paratuberculose au Québec.", *Revue des Producteurs Laitiers du Québec*, 35(1).

Morissette, B., Lessard, M.-H., Yergeau, E., Lapointe, J., Guay, F., Bissonnette, N., Matte, J.J., Letellier, A., Quessy, S., Bergeron, N., Beaulieu, C., and Talbot, G. (2014). "Influence of Feed Additives as an Alternative to Antibiotics on Gut Microbiota of Weaned Piglets Infected with *Salmonella Typhimurium*.", 114<sup>th</sup> General Meeting of the American Society for Microbiology, Boston, Massachusetts, USA, May 17-20, 2014. (Abstract)

Lessard, M.-H., Bergeron, N., Deschêne, K., Matte, J.J., Guay, F., Bissonnette, N., Talbot, G., Quessy, S., and Letellier, A. (2014). "Influence of *Salmonella* infection and diets supplemented with gut health-enhancing feed additives on expression of intestinal genes involved in immune response of pigs.", 7<sup>ième</sup> Symposium du CRIPA, Hyacinthe, Québec, Canada, 3-4 juin 2014. (Abstract)

Arango Sabogal, J.C., Côté, G., Paré, J., Labrecque, O., Roy, J.-P., Buczinski, S., Doré, E., Fairbrother, J.H., Bissonnette, N., Wellemans, V., Rangel, S., and Fecteau, G. (2014). "Distribution de *Mycobacterium avium* subsp. *paratuberculosis* dans l'environnement des troupeaux laitiers du Québec", Forum technologique NOVALAIT / IDF Dairy Science and Technology Week 2010, Hôtel et Suites Le Dauphin de Drummondville, Drummondville, QC, Canada, May 13, 2010. (Abstract)

Ariel, O., Dudemaine, P.-L., Fecteau, G., Côté, G., Labrecque, O., and Bissonnette, N. (2014). "Profil inflammatoire de vaches atteintes de paratuberculose bovine.", Forum technologique NOVALAIT / IDF Dairy Science and Technology Week 2010, Hôtel et Suites Le Dauphin de Drummondville, Drummondville, QC, Canada, May 13, 2010. (Abstract)

Fecteau, G. and Bissonnette, N. (2014). Identification de troupeaux laitiers infectés par *Mycobacterium avium* ssp. *Paratuberculosis*: Diagnostic par la culture standardisée de l'environnement avec corrélation du profil sanguin à l'aide de marqueurs inflammatoires (2010-2013). (Report)

Dudemaine, P.-L., Fecteau, G., Lessard, M.-H., Labrecque, O., Roy, J.-S., and Bissonnette, N. (2014). "Impaired proliferation associated to increased blood-circulating interleukin-17 and osteopontin levels in bovine paratuberculosis.", International Congress on Paratuberculosis, Parma, Italy, June 22-27, 2014. (Abstract)

Arango Sabogal, J.C., Buczinski, S., Bissonnette, N., Fecteau, G., and others (2014). "Periodic bulletin entitled Sensibilité et spécificité de la méthode de culture des prélèvements de l'environnement. Submitted to all Veterinarian Practitioners (>1000) in the Province of Quebec. No. 4."

Lessard, M., Bergeron, N., Deschêne, K., Matte, J.J., Guay, F., Bissonnette, N., Talbot, B.G., Gong, J., Wang, Q., Quessy, S., and Letellier, A. (2014). "Intestinal gene expression involved in innate and acquired immune responses of pigs is affected by *Salmonella* infection and diets supplemented with gut health-enhancing feed additives.", 23rd International Pig Veterinary Society Congress, Cancun, México, June 8-11, 2014, Abstract A1387. (Poster)

Lessard, M., Bergeron, N., Deschêne, K., Matte, J.J., Guay, F., Bissonnette, N., Talbot, B.G., Quessy, S., and Letellier, A. (2014). "Influence of *Salmonella* infection and diets supplemented with gut health-enhancing feed additives on expression of intestinal genes involved in immune response of pigs.", 7ième Symposium du CRIPA, Hyacinthe, Québec, Canada, 3-4 juin 2014. (Poster)

Bissonnette, N. (2014). "Fiche Trans-Info : Identification de troupeaux laitiers infectés par *Mycobacterium avium* ssp. *Paratuberculosis*: Diagnostic de la paratuberculose bovine avec corrélation du profil sanguin à l'aide de marqueurs inflammatoires.", Annual meeting Forum Technologique Novalait 2014.

Arango Sabogal, J.C., Buczinski, S., Fecteau, G., Roy, J.-P., Wellemans, V., and Bissonnette, N. (2014). "Info PARATUB 05.", *Paratuberculosis*, 1(5).

## 2013

Li, R., Beaudoin, F., Zhao, X., Bissonnette, N., and Ibeagha-Awemu, E.M. (2013). "Possible involvement of epigenetic modifying enzymes in the regulation of nutrient effect on bovine milkfat synthesis.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013. (Poster)

Ibeagha-Awemu, E.M., Ammah, A.A., Beaudoin, F., Bissonnette, N., and Benchaar, C. (2013). "Effects of Diets Rich in Unsaturated Fatty Acids on Milk Urea Nitrogen (MUN) Levels and Potential for Genetic Selection of MUN.", 31st Western Canadian Dairy Seminar (WCDS), Capri Centre, Red Deer, AB, Canada, March 5-8, 2013, Published in: *Advances in Dairy Technology (Western Canadian Dairy Seminar Proceedings)* 25, pp. 388. (Poster)

Arango, G.C., Côté, G., Paré, J., Labrecque, O., Roy, J.-P., Buczinski, S., Doré, E., Fairbrother, J.H., Bissonnette, N., Wellemans, V., Rangel, S., and Fecteau, G. (2013). "Distribution of *Mycobacterium avium* subspecies *paratuberculosis* (MAP) in various environmental sites in Québec dairy herds.", CAVEPM 2013 Conference, Saskatchewan, Canada, May 27-28, 2013.

Arango Sabogal, J.C., Fecteau, G., Bissonnette, N., Labrecque, O., Buczinski, S., Roy, J.-P., Wellemans, V., and Paré, J. (2013). "Info PARATUB 02.", *Association des médecins vétérinaires praticiens du Québec*, 2, pp. 6.

Forge, T.A., Neilsen, G.H., Neilsen, D., O'Gorman, D.T., Hogue, E.J., Angers, D.A., and Bissonnette, N. (2013). "Organic orchard soil management practices affect soil biology and organic matter", II International symposium of organic matter management and compost use in horticulture III Workshop of bioproducts for agriculture and III Workshop of Ibero-american network for biological fertilizers for agriculture, Santiago, Chile, pp. 31.

Arango Sabogal, J.C., Buczinski, S., Bissonnette, N., and others (2013). "Info PARATUB 01.", *Association des médecins vétérinaires praticiens du Québec*, 1, pp. 5.

Arango Sabogal, J.C., Fecteau, G., Bissonnette, N., Labrecque, O., Buczinski, S., Roy, J.-P., Wellemans, V., and Paré, J. (2013). "Info PARATUB 03.", *Association des médecins vétérinaires praticiens du Québec*, 3, pp. 3.

Dudemaine, P.-L., Fecteau, G., Lessard, M., Côté, G., Labrecque, O., Buczinski, S., Doré, E., Roy, J.-P., and Bissonnette, N. (2013). "Altered immune response in bovine paratuberculosis.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, # P05 page 26. (Abstract)

Ortega-Delgado, G., Ouattara, B., Bissonnette, N., and Girard, C.L. (2013). "Comprendre le rôle des vitamines B9 et B12 dans le métabolisme des vaches laitières.", Journée Scientifique Annuelle, Faculté de Médecine, Université de Sherbrooke, Sherbrooke, Canada, September 13, 2013.

Dudemaine, P.-L., Fecteau, H., Lessard, M.-H., Côté, G., Labrecque, O., Buczinski, S., Doré, E., Roy, J.-P., and Bissonnette, N. (2013). "Altered immune response in bovine paratuberculosis.", CMSA-ASCV 2013 Joint Annual Meeting, Banff Park Lodge, Banff, Alberta, Canada, June 18-20, 2013, pp. 26, #PO5.

Bissonnette, N. and Fecteau, G. (2013). Identification de troupeaux laitiers infectés par *Mycobacterium avium* ssp. Paratuberculosis: Diagnostic par la culture de l'environnement standardisée avec corrélation du profil sanguin à l'aide de marqueurs inflammatoires. (Report)

Neilsen, G.H., Forge, T.A., Neilsen, D., O'Gorman, D.T., and Bissonnette, N. (2013). "Soil and nutrient management in organic orchard production.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013, SSSA division soil fertility and plant nutrition, Abstract 133-9, pp. 103. (Abstract)

## 2012

Thibault, C., Dudemaine, P.-L., Fecteau, G., Côté, G., Labrecque, O., and Bissonnette, N. (2012). "Polymorphisms in the osteopontin gene are associated with *Mycobacterium avium* ssp. Paratuberculosis infection status.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, Published in: J. Anim. Sci., 90(E-Suppl. 3), pp. 265, #T36. (Poster)

Bissonnette, N. (2012). "Prédire l'état de santé grâce à l'ostéopontine.", Le Producteur de Lait Québécois, 32(9), pp. 46-49.

Bissonnette, N. and Fecteau, G. (2012). "Fiche Trans-Info for the project entitled: Identification de troupeaux laitiers infectés par *Mycobacterium avium* ssp. paratuberculosis: Diagnostic par la culture de l'environnement standardisée avec corrélation du profil sanguin à l'aide de marqueurs inflammatoires.", Forum Technologique NOVALAIT / IDF Dairy Science and Technology Week 2012, Hôtel et Suites Le Dauphin, Drummondville, QC, Canada, May 29, 2012.

Bissonnette, N. and Fecteau, G. (2012). Technical report ECI2011-114 of the project entitled "Identification de troupeaux laitiers infectés par *Mycobacterium avium* ssp. paratuberculosis: Diagnostic par la culture de l'environnement standardisée avec corrélation du profil sanguin à l'aide de marqueurs inflammatoires", submitted to Novalait Inc. (Report)

Bissonnette, N. (2012). "Bovine Paratuberculosis Disease in Canada: elimination of high prevalence in dairy cattle by detection and genetic improvement with a better understanding of susceptibility/resistance by host-pathogen interaction studies.", Federal Food Safety & Nutrition Research Meeting Seminar Series, Canada, January 12, 2012.

Bissonnette, N. (2012). "Influence of the genotype of the bovine osteopontin gene on its promoter activity: Study of the basal activity of six different haplotypes.", 30th Western Canadian Dairy Seminar (WCDS), Capri Centre, Red Deer, AB, Canada, March 6-9, 2012, Vol. 24, pp. 389. (Abstract)

Dudemaine, P.-L., Fecteau, G., and Bissonnette, N. (2012). "Diagnosis of bovine paratuberculosis: immune response as a complementary tool?", 2ème symposium du Centre de Recherche et de Développement sur le Bovin Laitier et le Porc / 2nd Annual DSRDC/ CRDBLP Symposium on Animal Production, Sherbrooke, QC, Canada, November 28, 2012, Abstract and oral presentation.

Bissonnette, N. (2012). 2012 Rapport annuel 2011-2012 du projet 2037 à l'intention de la Direction générale des Sciences et Technologies de AAC Prière d'ajouter ces trois productions au projet 2037. (Report)

Bissonnette, N. and Thibault, C. (2012). "Impact of cow genetics regarding the osteopontin gene for the immune response to MAP infection.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, Published in: J. Anim. Sci., 90(E-Suppl. 3), pp. 264, #T35. (Poster)

Bissonnette, N. (2012). "Osteopontin: linking the genetics of an immune factor to bovine paratuberculosis.", 2ème symposium du Centre de Recherche et de Développement sur le Bovin Laitier et le Porc / 2nd Annual DSRDC/ CRDBLP Symposium on Animal Production, Sherbrooke, QC, Canada, November 28, 2012. (Abstract)

Bissonnette, N. (2012). "Bovine paratuberculosis disease in Canada: Elimination of high prevalence in dairy cattle.", Federal Food Safety & Nutrition Research Meeting Seminar Series, Canada, January 12, 2012, Web Seminar.

Dudemaine, P.-L. and Bissonnette, N. (2012). "Réponse immunitaire des macrophages bovins à l'infection par l'agent causal de la paratuberculose (MAP).", Forum Technologique NOVALAIT / IDF Dairy Science and Technology Week 2012, Hôtel et Suites Le Dauphin, Drummondville, QC, Canada, May 29, 2012, #12. (Poster)

Dudemaine, P.-L. and Bissonnette, N. (2012). "Osteopontin secretion in milk is correlated to the presence of DNA polymorphisms in the SPP1 gene.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, Published in: J. Anim. Sci., 90(E-Suppl. 3), pp. 264, #M136. (Poster)

## 2011

Bissonnette, N. (2011). "Detection of the major mastitis-causing pathogens by a rapid and high-throughput molecular assay.", 29th Western Canadian Dairy Seminar (WCDS), Capri Centre, Red Deer, AB, Canada, March 8-11, 2011, Vol. 23, pp. 386. (Abstract)

Bissonnette, N. and Fecteau, G. (2011). Technical report ECI2011-114 of the project entitled "Identification de troupeaux laitiers infectés par *Mycobacterium avium* ssp. paratuberculosis: Diagnostic par la culture de l'environnement standardisée avec corrélation du profil sanguin à l'aide de marqueurs inflammatoires", submitted to Novalait Inc. (Report)

Bissonnette, N. and Thibault, C. (2011). "Transcriptional factors SP1 and SP3 influence differentially the regulating sequence of the bovine osteopontin gene depending on promoter haplotype.", ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 11-14, 2011, Published in: J. Anim. Sci., 89(E-Suppl. 1), pp. 266, #T3. (Poster)

Bissonnette, N. (2011). 2011 Rapport annuel 2010-2011 du projet 2037 à l'intention de la Direction générale des Sciences et Technologies de AAC. (Report)

Palin, M.-F., Beaudry, D., Vallée, M., Bissonnette, N., Murphy, B.D., and Petit, H.V. (2011). "Development of a two-species cDNA microarray for transcriptional profiling of sow reproductive traits.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011, Published in: J. Anim. Sci., 91(3), pp. 476-477.

Bissonnette, N. (2011). "Bovine Paratuberculosis Disease in Canada: elimination of high prevalence in dairy cattle by detection and genetic improvement with a better understanding of susceptibility/resistance by host-pathogen interaction studies.", 15th Annual Federal Food Safety and Nutrition Research Meeting (FFSNRM), Ottawa, ON, Canada, December 6, 2011.

Bissonnette, N. and Fecteau, G. (2011). Identification de troupeaux laitiers infectés par *Mycobacterium avium* ssp. Paratuberculosis: Diagnostic par la culture de l'environnement standardisée avec corrélation du profil sanguin à l'aide de marqueurs inflammatoires. (Report)

Bissonnette, N. and Fecteau, G. (2011). Identification de troupeaux laitiers infectés par *Mycobacterium avium* ssp. Paratuberculosis: Diagnostic par la culture de l'environnement standardisée avec corrélation du profil sanguin à l'aide de marqueurs inflammatoires. (Report)

Bissonnette, N. (2011). Progress report 2011-LT-143493 (Project file for the second VERSEMENT) of the project entitled "Identification de troupeaux laitiers infectés par *Mycobacterium avium* ssp. paratuberculosis: Diagnostic par la culture de l'environnement standardisée avec corrélation du profil sanguin à l'aide de marqueurs inflammatoires", submitted to the Fonds Québécois de Recherche Nature et Technologies (FQRNT). (Report)

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## Research Publications:

2016

Chai, L.L., Kröbel, R., Macdonald, D.J., Bittman, S., Beauchemin, K.A., Janzen, H.H., McGinn, S.M., and VanderZaag, A.C. (2016). "An ecoregion-specific ammonia emissions inventory of Ontario dairy farming: Mitigation potential of diet and manure management practices.", *Atmospheric Environment*, 126, pp. 1-14. doi: 10.1016/j.atmosenv.2015.11.030

2015

Sheppard, S.C. and Bittman, S. (2015). "Linkage of food consumption and export to ammonia emissions in Canada and the overriding implications for mitigation.", *Atmospheric Environment*, 103, pp. 43-52. doi: 10.1016/j.atmosenv.2014.12.023

VanderZaag, A.C., Amon, B., Bittman, S., and Kuczynski, T. (2015). "Ammonia abatement with manure storage and processing techniques.", in Reis, S., Howard, C., and Sutton, M.A. (eds.) - *Costs of ammonia abatement and the climate co-benefits*, Springer, Chapter 5.

Sheppard, S.C., Bittman, S., Donohoe, G., Flaten, D.N., Wittenberg, K.M., Small, J.A., Berthiaume, R.R., McAllister, T.A., Beauchemin, K.A., McKinnon, J.J., Amiro, B.D., MacDonald, D., Mattos, F., and Ominski, K.H. (2015). "Beef cattle husbandry practices across ecoregions of Canada in 2011.", *Canadian Journal of Animal Science*, 95(2), pp. 305-321. doi: 10.4141/CJAS-2014-158

Bittman, S., Jones, K., Vingarzan, R., Hunt, D.E., Sheppard, S.C., Tait, J., and So, R. (2015). "Weekly agricultural emissions and ambient concentrations of ammonia: Validation of an emission inventory.", *Atmospheric Environment*, 113, pp. 108-117. doi: 10.1016/j.atmosenv.2015.04.038

Maillard, É., Angers, D.A., Chantigny, M.H., Bittman, S., Rochette, P., Lévesque, G., Hunt, D.E., and Parent, L.-É. (2015). "Carbon accumulates in organo-mineral complexes after long-term liquid dairy manure application.", *Agriculture, Ecosystems and Environment*, 202, pp. 108-119. doi: 10.1016/j.agee.2014.12.013

2014

Bittman, S., Hunt, D.E., and Schröder, J. (2014). "Nitrogen recovery from low-emission applied dairy slurry by three forage grasses: a long-term trial.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014. (Abstract)

Chai, L.L., Kröbel, R., Janzen, H.H., Beauchemin, K.A., McGinn, S.M., Bittman, S., Atia, A., Edeogu, I., MacDonald, D., and Dong, R.L. (2014). "A regional mass balance model based on total ammoniacal nitrogen for estimating ammonia emissions from beef cattle in Alberta Canada.", *Atmospheric Environment*, 92, pp. 292-302. doi: 10.1016/j.atmosenv.2014.04.037

Kowalenko, C.G., Bittman, S., Neilsen, G.H., Kenney, E., Hunt, D.E., and Neilsen, D. (2014). "Potential for improving sulfur tests on agricultural soils in contrasting ecoregions of British Columbia, Canada.", *Geoderma Regional*, 1(C), pp. 10-20. doi: 10.1016/j.geodrs.2014.06.001

Clair, T.A., Pelletier, N., Bittman, S., Leip, A., Arp, P., Moran, M.D., Dennis, I., Niemi, D., Sterling, S., Drury, C.F., and Yang, J.Y. (2014). "Interactions between reactive nitrogen and the Canadian landscape: a budget approach.", *Global Biogeochemical Cycles*, 28(11), pp. 1343-1357. doi: 10.1002/2014GB004880

Bittman, S., Masse, D., Pattey, E., Coumoyer, M., Qiu, G.-W., Narjoux, A., Sheppard, S.C., and VanderZaag, A.C. (2014). "Effects of Agriculture on Air Quality in Canada.", in Taylor, E and McMillan, A. (eds.) - *Air quality management. Canadian perspectives on a global issue.*, Springer, Chapter 11, pp. 237-259.

Philip, S., Martin, R.V., van Donkelaar, A., Lo, J.W., Wang, Y., Chen, D., Zhang, L., Kasibhatla, P.S., Wang, S., Zhang, Q., Lu, Z., Streets, D.G., Bittman, S., and Macdonald, D.J. (2014). "Global Chemical Composition of Ambient Fine Particulate Matter for Exposure Assessment.", *Environmental Science & Technology*, 48(22), pp. 13060-13068. doi: 10.1021/es502965b

Bittman, S., Dedina, M., Howard, C.M., Oenema, O., and Sutton, M. (2014). *Options for Ammonia Mitigation. Guidance from the UNECE Task Force on Reactive Nitrogen.*, UK: Centre for Ecology and Hydrology, UK. (Book)



Oenema, O., Sutton, M., Bittman, S., Dedina, M., and Howard, C.M. (2014). "Executive Summary.", in Bittman, S., Dedina, M., Howard, C.M., Oenema, O., and Sutton, M. (eds.) - Options for Ammonia Mitigation. Guidance from the UNECE Task Force on Reactive Nitrogen., Centre for Ecology and Hydrology, UK, pp. VII-XII.

Oenema, O., Sutton, M., Bittman, S., Dedina, M., and Howard, C.M. (2014). "Introduction.", in Bittman, S., Dedina, M., Howard, C.M., Oenema, O., and Sutton, M. (eds.) - Options for Ammonia Mitigation. Guidance from the UNECE Task Force on Reactive Nitrogen., Centre for Ecology and Hydrology, UK, Chapter 1, pp. 1-3.

Chantigny, M.H., Lamey, F.J., Bittman, S., Lapen, D.R., Angers, D.A., Rochette, P., and Hunt, D.E. (2014). "Transformations and fate of fall-applied nitrogen as a function of winter conditions – a multi-site experiment", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014, Extended Abstract – reviewed. (Abstract)

Bittman, S., Sheppard, S.C., and Hunt, D.E. (2014). "Trends in agricultural ammonia emission in Canada and possibilities for mitigation.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014. (Abstract)

Bittman, S. and Sheppards, S.C. (2014). "Ammonia workshop 2012 Saint Petersburg. Abating ammonia emissions in the UNECE and EECCA region.", in Van der Hoek, K.W. and Kozlova, N.P. (eds.) - Ammonia workshop 2012 Saint Petersburg. Abating ammonia emissions in the UNECE and EECCA region. Семинар по аммиаку 2012, Санкт Петербург. Снижение выбросов аммиака в регионах ЕЭК ООН и ВЕКЦА. RIVM Report 680181001/SZNIIMESH Report., pp. 29-46.

Oenema, O., Bittman, S., Dedina, M., Howard, C.M., and Sutton, M. (2014). "Supplementary information: Nitrogen management.", in Bittman, S., Dedina, M., Howard, C.M., Oenema, O., and Sutton, M. (eds.) - Options for Ammonia Mitigation. Guidance from the UNECE Task Force on Reactive Nitrogen., Centre for Ecology and Hydrology, UK, Chapter Appendix 1, pp. 50-61.

Bittman, S., Dedina, M., Howard, C.M., Oenema, O., and Sutton, M. (2014). "Non-agricultural stationary and mobile sources.", in Bittman, S., Dedina, M., Howard, C.M., Oenema, O., and Sutton, M. (eds.) - Options for Ammonia Mitigation. Guidance from the UNECE Task Force on Reactive Nitrogen., Centre for Ecology and Hydrology, UK, Chapter 10, pp. 47-49.

Bittman, S. and Sutton, M. (2014). "Other measures related to agricultural nitrogen.", in Bittman, S., Dedina, M., Howard, C.M., Oenema, O., and Sutton, M. (eds.) - Options for Ammonia Mitigation. Guidance from the UNECE Task Force on Reactive Nitrogen., Centre for Ecology and Hydrology, UK, Chapter 9, pp. 45-46.

Webb, J., Lalor, S., Bittman, S., Misselbrook, T., Sutton, M., Menzi, H., Döhler, H., Smith, K., Gyldenkaerne, S., Hutchings, N., van der Hoek, K., Fiani, E., Lukin, S., and Klimont, Z. (2014). "Manure application techniques.", in Bittman, S., Dedina, M., Howard, C.M., Oenema, O., and Sutton, M. (eds.) - Options for Ammonia Mitigation. Guidance from the UNECE Task Force on Reactive Nitrogen., Centre for Ecology and Hydrology, UK, Chapter 7, pp. 29-40.

Oenema, O., Bittman, S., Dedina, M., Howard, C.M., Sutton, M., and Hutchings, N. (2014). "Nitrogen management, taking into account of the whole Nitrogen cycle.", in Bittman, S., Dedina, M., Howard, C.M., Oenema, O., and Sutton, M. (eds.) - Options for Ammonia Mitigation. Guidance from the UNECE Task Force on Reactive Nitrogen., Centre for Ecology and Hydrology, UK, Chapter 3, pp. 5-9.

Oenema, O., Bittman, S., Dedina, M., and Sutton, M. (2014). "Livestock production and developments.", in Bittman, S., Dedina, M., Howard, C.M., Oenema, O., and Sutton, M. (eds.) - Options for Ammonia Mitigation. Guidance from the UNECE Task Force on Reactive Nitrogen., Centre for Ecology and Hydrology, UK, Chapter 2, pp. 4-5.

Bittman, S. and Hunt, D.E. (2014). "Fertilization of maize with manure – without use of mineral starter fertilizers.", Danish Crop Production Conference, January 15, 2014. (Abstract)

## 2013

Bittman, S. and Hunt, D.E. (2013). "How Grasses Respond to Drought-A Model.", in Bittman, S. and Hunt, D. (eds.) - Cool Forages- Advanced management of temperate forages, Pacific Field Corn Association, Agassiz, BC, Canada.

Bittman, S. and Hunt, D.E. (2013). Cool Forages: Advanced management of temperate forages., Pacific Field Corn Association, Agassiz, BC, Canada. (Book)

Hunt, D.E., Bittman, S., and Fretwell, R. (2013). "Real-time Simulation Models – A Novel Tool for Farm Nitrogen management. In: Cool Forages: Advanced management of temperate forages.", in Bittman, S. and Hunt, D.E. (eds.) - Cool Forages: Advanced management of temperate forages, Pacific Field Corn Association, Agassiz, BC, Canada.

Hunt, D.E., Bittman, S., and Kowalenko, C.G. (2013). "Can Slurry Manure Replace Commercial Fertilizer?," .

Hunt, D.E., Bittman, S., Kowalenko, C.G., and van Vliet, L.J.P. (2013). "Aerating Grassland Prior to Manure Application Reduces Runoff and Nutrient Loads.", in Bittman, S. and Hunt, D.E. (eds.) - Cool Forages: Advanced management of temperate forages, Pacific Field Corn Association, Agassiz, BC, Canada.

Bittman, S., Hunt, D.E., Swift, M.-L., Casler, M.D., Undersander, D.J., and Papadopoulos, A.P. (2013). "How to Improve Nutrient Efficiency of Whole Dairy Farms.", in Bittman, S. and Hunt, D. (eds.) - Cool Forages- Advanced management of temperate forages, Pacific Field Corn Association, Agassiz, BC, Canada.

Casler, M.D., Papadopoulos, Y.A., Bittman, S., Mathison, R.D., Min, D.H., Robins, J.G., Cherney, J.H., Acharya, S.N., Belesky, D.P., Bowley, S., Coulman, B.E., Drapeau, R., Ehlerke, N.J., Hall, M.H., Leep, R.H., Michaud, R., Rowsell, J., Shewmaker, G.E., Teutsch, C.D., and Coblenz, W.K. (2013). "Sparse-flowering Orchardgrass is Stable Across Temperate North America.", *Crop Science*, 53(5), pp. 1870-1877. doi: 10.2135/cropsci2013.01.0055

Bittman, S. and Hunt, D.E. (2013). "Intra-Specific Competition and Self-Thinning in Orchardgrass.", in Bittman, S and Hunt, D. (eds.) - *Cool Forages - Advanced management of temperate forages*, Pacific Field Corn Association, Agassiz, BC, Canada.

Bittman, S., Hunt, D.E., McCartney, D.H., Waddington, J., and Nuttall, W.F. (2013). "Shifts in Pasture Communities Due to Nutrient Imbalances in the Aspen Parkland.", in Bittman, S and Hunt, D. (eds.) - *Cool Forages - Advanced management of temperate forages*, Pacific Field Corn Association, Agassiz, BC, Canada.

Bittman, S., McCartney, D.H., Hunt, D.E., and Waddington, J. (2013). "The Value of Pasture Weeds.", in Bittman, S and Hunt, D. (eds.) - *Cool Forages - Advanced management of temperate forages*, Pacific Field Corn Association, Agassiz, BC, Canada.

Bittman, S., McCartney, D.H., and Hunt, D.E. (2013). "Persistence of Alfalfa Genotypes in Mixed Stands.", in Bittman, S and Hunt, D. (eds.) - *Cool Forages - Advanced management of temperate forages*, Pacific Field Corn Association, Agassiz, BC, Canada.

Casler, M.D., Undersander, D.J., Papadopoulos, Y.A., Bittman, S., Hunt, D.W.A., Mathison, R.D., Min, D.H., Robins, J.G., Cherney, J.H., Acharya, S.N., Belesky, D.P., Bowley, S., Coulman, B.E., Drapeau, R., Ehlerke, N.J., Hall, M.H., Leep, R.H., Michaud, R., Rowsell, J., Shewmaker, G.E., Teutsch, C.D., and Coblenz, W.K. (2013). "Sparse-Flowering orchardgrass represents an improvement in forage quality during reproductive growth.", *Crop Science*, 54(1), pp. 421-429. doi: 10.2135/cropsci2013.04.0227

Hassan, S.E.D., Liu, A., Bittman, S., Forge, T.A., Hunt, D.E., Hijri, M., and St-Arnaud, M. (2013). "Impact of 12-year field treatments with organic and inorganic fertilizers on crop productivity and mycorrhizal community structure.", *Biology and Fertility of Soils*. doi: 10.1007/s00374-013-0813-7

Hunt, D.E., Bittman, S., and Swift, M.-L. (2013). "Lower DCAD Values in a Tall Fescue Variety Selected for Low Grass Tetany.", in Bittman, S and Hunt, D. (eds.) - *Cool Forages - Advanced management of temperate forages*, Pacific Field Corn Association, Agassiz, BC, Canada.

Hunt, D.E., Bittman, S., Kowalenko, C.G., Forge, T.A., Grant, C.A., Gawalko, E.J., and Raworth, D.A. (2013). "Long Term Effects of Manure.", in Bittman, S and Hunt, D. (eds.) - *Cool Forages - Advanced management of temperate forages*, Pacific Field Corn Association, Agassiz, BC, Canada.

Bittman, S., Hunt, D.E., Lau, A.K., and Kowalenko, C.G. (2013). "Grass Height Affects Emission of Ammonia from Applied Broiler Manure.", in Bittman, S and Hunt, D. (eds.) - *Cool Forages - Advanced management of temperate forages*, Pacific Field Corn Association, Agassiz, BC, Canada.

Bittman, S., Hunt, D.E., and Swift, M.-L. (2013). "About Tillers, Maturity and Forage Quality.", in Bittman, S and Hunt, D. (eds.) - *Cool Forages - Advanced management of temperate forages*, Pacific Field Corn Association, Agassiz, BC, Canada.

Bittman, S., Massé, D.I., and Pattey, E. (2013). "Effect of Agriculture on Air Quality in Canada.", in Taylor, E and McMillan, A. (eds.) - *Air quality management. Canadian perspectives on a global issue.*, Springer, Chapter 11. Part III Management of Emission., pp. 237-261.

## 2012

Grant, C.A., Wu, R.G., Selles, F., Harker, K.N., Clayton, G.W., Bittman, S., Zebbarh, B.J., and Lupwayi, N.Z. (2012). "Crop yield and nitrogen concentration with controlled release urea and split applications of nitrogen as compared to non-coated urea applied at seeding", *Field Crops Research*, 127(27), pp. 170-180. doi: 10.1016/j.fcr.2011.11.002

Merchant, L.E., Rempel, H., Forge, T.A., Kannangara, T., Bittman, S., Delaquis, P.J., Topp, E., Ziebell, K.A., and Diarra, M.S. (2012). "Characterization of antibiotic-resistant and potentially pathogenic *Escherichia coli* from soil fertilized with litter of broiler chickens fed antimicrobial-supplemented diets.", *Canadian Journal of Microbiology*, 58(9), pp. 1084-1098. doi: 10.1139/W2012-082

Nyiraneza, J., Zebbarh, B.J., Ziadi, N., Burton, D.L., Drury, C.F., Bittman, S., and Grant, C.A. (2012). "Prediction of soil nitrogen supply in corn production using soil chemical and biological indices.", *Soil Science Society of America Journal*, 76(3), pp. 925-935. doi: 10.2136/sssaj2011.0318

Bittman, S., Liu, A., Hunt, D.E., Forge, T.A., Kowalenko, C.G., Chantigny, M.H., and Buckley, K.E. (2012). "Precision Placement of Separated Dairy Sludge Improves Early Phosphorus Nutrition and Growth in Corn (*Zea mays* L.).", *Journal of Environmental Quality*, 41(2), pp. 582-591. doi: 10.2134/jeq2011.0284

Vela, J., Hildebrandt, K., Metcalfe, A., Rempel, H., Bittman, S., Topp, E., and Diarra, M.S. (2012). "Characterization of *Staphylococcus xylophilus* isolated from broiler chicken barn bioaerosol.", *Poultry Science*, 91(12), pp. 3003-3012. doi: 10.3382/ps.2012-02302

Sheppard, S.C. and Bittman, S. (2012). "Farm practices as they affect NH<sub>3</sub> emissions from beef cattle.", *Canadian Journal of Animal Science*, 92(4), pp. 525-543. doi: 10.4141/cjas2012-055

Gasser, M.-O., Chantigny, M.H., Angers, D.A., Bittman, S., Buckley, K.E., Rochette, P., and Massé, D.I. (2012). "Plant-available and water-soluble phosphorus in soils amended with separated manure solids.", *Journal of Environmental Quality*, 41(4), pp. 1290-1300. doi: 10.2134/jeq2011.0290

2011

Sheppard, S.C., Bittman, S., Swift, M.-L., and Tait, J. (2011). "Modelling monthly NH<sub>3</sub> emissions from dairy in 12 Ecoregions of Canada.", *Canadian Journal of Animal Science*, 91(4), pp. 649-661. doi: 10.4141/CJAS2010-005

Sheppard, S.C., Bittman, S., Swift, M.-L., Beaulieu, M.S., and Sheppard, M.I. (2011). "Ecoregion and farm size differences in dairy feed and manure nitrogen management: A survey.", *Canadian Journal of Animal Science*, 91(3), pp. 459-473. doi: 10.4141/CJAS2010-004

Sheppard, S.C. and Bittman, S. (2011). "Farm survey used to guide estimates of nitrogen intake and ammonia emissions for beef cattle, including early season grazing and phosphorus effects.", *Animal Feed Science and Technology*, 166-167, pp. 688-698. doi: 10.1016/j.anifeedsci.2011.04.048

Bittman, S., Hunt, D.E., Kowalenko, C.G., Chantigny, M.H., Buckley, K.E., and Bounaix, F. (2011). "Removing solids improves response of grass to surface-banded dairy manure slurry: A multiyear study.", *Journal of Environmental Quality*, 40(2), pp. 393-401. doi: 10.2134/jeq2010.0177

## Other Science Related Publications:

2015

Chai, L.L., Kröbel, R., Macdonald, D.J., Bittman, S., Beauchemin, K.A., Janzen, H.H., and McGinn, S.M. (2015). "Developing nitrogen loss fractions for beef and dairy cattle manure storage systems in Canadian ecoregions: a comparison between West and East.", *Canadian Society for Bioengineering Conference/CSBE/SCGAB 2015 Annual Conference*, Edmonton, AB, Canada, July 5-8, 2015.

Chai, L.L., Kröbel, R., Beauchemin, K.A., Macdonald, D.J., Janzen, H.H., McGinn, S.M., and Bittman, S. (2015). "Greenhouse gases and ammonia emissions from grazing beef cattle in Alberta and Ontario Canada.", *Canadian Society for Bioengineering Conference/CSBE/SCGAB 2015 Annual Conference*, Edmonton, AB, Canada, July 5-8, 2015, Presentation.

2014

Chantigny, M.H., Lamey, F.J., Bittman, S., Lapen, D.R., Angers, D.A., Rochette, P., and Hunt, D.W.A. (2014). "Transformation and fate of fall-applied nitrogen as a function of winter conditions – a multi-site experiment.", *18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security*, Lisbon, Portugal, June 30-July 3, 2014. (Poster)

Royer, I., Chantigny, M.H., Angers, D.A., Rochette, P., Massé, D.I., Bittman, S., and Benchaar, C. (2014). "Trace metals content of soils and plants from different dairy manure types based on feeding and manure storage strategies", *Annual meeting of the Canadian Soil Science Society*, Banff, Alberta, Canada, May 4-7, 2014.

Royer, I., Chantigny, M.H., Angers, D.A., Rochette, P., Massé, D.I., Bittman, S., and Benchaar, C. (2014). "La stratégie d'alimentation et de stockage du fumier de bovin laitier influence-t-elle le contenu en éléments traces métalliques des sols?", *Congrès annuel de l'AQSSS à Victoriaville*, Québec, Canada, du 26 au 29 mai 2014.

Sheppard, S.C., Bittman, S., Donohoe, G., Flaten, D.N., Wittenberg, K.M., Small, J.A., Berthiaume, R.R., McAllister, T.A., Beauchemin, K.A., McKinnon, J.J., and Ominski, K.H. (2014). "A new farm survey of beef management practices in Canada.", *Canadian Society of Soil Science Annual Meetings*, Banff, AB, Canada, May 4-7, 2014. (Abstract)

Bittman, S., Hunt, D.E., and Neufeld, K. (2014). "The nitrogen dilemma: on the stress between productivity and sustainability.", *Annual Meeting of Canadian Society of Agronomy*, Lethbridge, AB, Canada, July 10-12, 2014. (Abstract)

Hunt, D.E. and Bittman, S. (2014). "A long term trial evaluating nitrogen recovery of applied dairy manure by three forage species.", *Annual Meeting of American Society Agronomy*, Long Beach, CA, USA, November 2-5, 2014. (Abstract)

Deen, B., Bittman, S., and Hunt, D.E. (2014). "Predicting Nitrogen Needs From All Sources.", *Southwest Agricultural Conference*, University of Guelph, Ridgetown, ON, Canada, January 7-8, 2014. (Abstract)

Neufeld, K., Smukler, S., Grayston, S.J., Bittman, S., Hunt, D.E., and Krzic, M. (2014). "Soil Microbial Community Composition and Activity after Ten Years of Application of Whole and Separated Dairy Slurry and Ammonium Nitrate Fertilizer on a Tall Fescue Grassland.", *Canadian Society of Soil Science Annual Meetings*, Banff, AB, Canada, May 4-7, 2014. (Abstract)

Bittman, S. and Hunt, D.E. (2014). "Managing Nutrients in the Fraser Valley.", *Manure Management Technologies*, Abbotsford, BC, Canada, March 11, 2014. (Presentation)

Clair, T.A., Leip, A., Pelletier, N., Bittman, S., Arp, P., Moran, M.D., Dennis, I., Niemi, D., Sterling, S., Drury, C.F., and Yang, J. (2014). "Interactions between reactive nitrogen and the Canadian landscape: a budget approach.", UNECE – Task Force on Reactive Nitrogen, Madrid, Spain, March 2014, Presentation.

Bittman, S., Hunt, D.E., Poon, D., and Sheppard, S.C. (2014). "Phosphorus budget and flows for a peri-urban region - a case study of the Lower Fraser Valley British Columbia, Canada.", Metro Vancouver Environmental Monitoring Committee, Burnaby, BC, Canada, April 17, 2014. (Presentation)

Bittman, S. (2014). "The Nitrogen Dilemma: A Canadian Perspective.", Tetrupartite Meeting, Vancouver, BC, Canada, June 4, 2014.

Hunt, D.E. and Bittman, S. (2014). "iNLOS: an online, real-time N management tool.", Regional Research Users Meeting Nutrient Management, Agassiz, BC, Canada, March 18, 2014. (Presentation)

Hunt, D.E. and Bittman, S. (2014). "Real time modeling of soil N incorporating seasonal weather forecasts.", Annual Meeting of American Society Agronomy, Long Beach, CA, USA, November 2-5, 2014. (Abstract)

Bittman, S. and Hunt, D.E. (2014). "Research context and approaches. Nutrient Management in the Lower Mainland, BC.", Regional Research Users Meeting Nutrient Management, Agassiz, BC, Canada, March 18, 2014. (Presentation)

Bittman, S. and Hunt, D.E. (2014). "Perspectives on wintertime N losses.", Managing Dairy Nutrients for Stewardship, Olympia, WA, USA, May 2, 2014. (Abstract)

## 2013

Hunt, D.E., Bittman, S., Kowalenko, C.G., Chantigny, M.H., and Lemke, R.L. (2013). "Winter time nitrous oxide emission from grass receiving whole and separated dairy slurry or fertilizer in a mild maritime climate.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013. (Abstract)

Bittman, S., Hunt, D.E., and Kowalenko, C.G. (2013). "Precision-Placed Separated Slurry Sludge Provides P and N For Silage Corn.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013. (Abstract)

Hunt, D.E., Bittman, S., and Kowalenko, C.G. (2013). "Summer time nitrous oxide emissions from long term plots receiving separated and whole dairy slurry manure.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013. (Abstract)

Chai, L.L., Kröbel, R., Janzen, H.H., Beauchemin, K.A., McGinn, S.M., Bittman, S., Atia, A., and Edeogu, I. (2013). "A mass balance model based on total ammoniacal nitrogen for estimating ammonia volatilization from beef cattle manure management in Alberta in Canada.", ASABE Annual International Meeting, Kansas City, MO, USA, July 21 -24, 2013, paper #: 1596572.

Herath, A., Zhang, T.Q., Tan, C.S., Hamel, C., Bittman, S., Parkin, G.W., and Goss, M.J. (2013). "Development of a soil test for prediction of long-term potential for phosphorus loss in typical Canadian soils.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013.

Chantigny, M.H., Lamey, F.J., Angers, D.A., Bittman, S., Lapen, D.R., and Rochette, P. (2013). "Overwinter transformation and fate of fall-applied nitrogen in various Canadian ecozones.", Canadian Society of Soil Science - Manitoba Soil Science Soc. - Can. Soc. Agric. Forest Meteorology Joint Ann. Meeting, Winnipeg, MB, Canada, July 22-25, 2013, pp. 46. (Abstract)

Bittman, S., Hunt, D.E., Kowalenko, C.G., and Poon, D. (2013). "Effect of Local Food Production on Phosphorus Budgets and Flows in Metro Vancouver and Peri-Urban Lower Fraser Valley.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013. (Abstract)

## 2012

Hunt, D.E., Bittman, S., Chantigny, M.H., Kowalenko, C.G., and Lemke, R.L. (2012). "Removing solids from dairy slurry: Effect on N use efficiency and emissions of N<sub>2</sub>O.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012. (Abstract)

Nyiraneza, J., Zebarth, B.J., Ziadi, N., Sharifi, M., Burton, D.L., Drury, C.F., Bittman, S., and Grant, C.A. (2012). "The ability of soil chemical and biological N availability indices to predict soil nitrogen supply of contrasting soils under corn.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012. (Poster)

Hunt, D.E., Bittman, S., and Ball Coelho, B.R. (2012). "Introducing NLOS On the Web (NOW): A New Nitrogen Management Tool for Extension, Education and Research.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012. (Abstract)

Bittman, S., Hunt, D.E., Chantigny, M.H., Kowalenko, C.G., and Lemke, R.L. (2012). "Precision Manure Injection on Nitrogen Use and N<sub>2</sub>O Emissions in Corn.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012. (Abstract)

Seeton, D., Bittman, S., Hunt, D.E., and Krzic, M. (2012). "Does Ammonia Deposition From Poultry Barn Exhaust Contribute to Soil Nitrate Contamination?", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012. (Abstract)

Bittman, S., Hunt, D.E., Casler, M.D., Papadopoulos, Y.A., Undersander, D.J., and Swift, M.-L. (2012). "Interaction between Harvest Frequency and Variety Maturity On Yield and Quality of Orchardgrass.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012. (Abstract)

## 2011

Diarra, M.S., Vela, J., Hilderbrand, K., Metcalfe, A., Rempel, H., Bittman, S., and Topp, E. (2011). "Antibiotic resistance of *Staphylococcus xylophilus* isolated from broiler barn bioaerosol.", 51st Annual Conference of the Pacific Northwest International Section (PNWIS) of the Air & Waste Management Association, Harrison, BC, Canada, November 8-11, 2011, Oral presentation.

Hunt, D.E., Bittman, S., and Kowalenko, C.G. (2011). "Emissions of N<sub>2</sub>O from grass stands: effects of historical nutrient applications and stand termination methods.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Abstract)

Bittman, S., Sheppard, S.C., and Hunt, D.E. (2011). "Atmospheric Ammonia Indicator for Agriculture In Canada.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Abstract)

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## Research Publications :

2014

Peters, R.D., Al-Mughrabi, K.I., Kalischuk, M.L., Dobinson, K.F., Conn, K.L., Alkher, H.A., Islam, M.R., Daayf, F., Lynn, J., Bizimungu, B., De Koeyer, D.L., Lévesque, C.A., and Kawchuk, L.M. (2014). "Characterization of *Phytophthora infestans* population diversity in Canada reveals increased migration and genotype recombination.", *Canadian Journal of Plant Pathology*, 36(1), pp. 73-82. doi: 10.1080/07060661.2014.892900

2013

Legge, W.G., Tucker, J.R., Bizimungu, B., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Tekauz, A., Turkington, T.K., Savard, M.E., and Choo, T.-M. (2013). "Cerveza barley.", *Canadian Journal of Plant Science*, 93(3), pp. 557-564. doi : 10.4141/cjps2012-299

Gao, X., Tenuta, M., Nelson, A.G., Sparling, B., Tomasiewicz, D.J., Mohr, R.M., and Bizimungu, B. (2013). "Effect of nitrogen fertilizer rate on nitrous oxide emission from irrigated potato on a clay loam soil in Manitoba, Canada.", *Canadian Journal of Soil Science*, 93(1), pp. 1-11. doi : 10.4141/cjss2012-057

Bizimungu, B., Kawchuk, L.M., Wahab, J., Waterer, D.R., and Howard, R.J. (2013). "Sentinel: An Early Yellow-Fleshed Potato Cultivar Suitable for Fresh Market and Chip Processing.", *American Journal of Potato Research*. doi : 10.1007/s12230-013-9309-0

Legge, W.G., Tucker, J.R., Bizimungu, B., Tekauz, A., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Turkington, T.K., Martin, R.A., Choo, T.-M., Vigier, B.J., Blackwell, B.A., and Savard, M.E. (2013). "Taylor barley.", *Canadian Journal of Plant Science*, 93(5), pp. 969-977. doi : 10.4141/cjps2013-126

2012

Wang, Q., Yang, X., Leonard, S., Archbold, T., Sullivan, J.A., Duncan, A.M., Ma, W.D.L., Bizimungu, B., Murphy, A.M., Htoo, J.K., and Fan, M.Z. (2012). "Responses of dietary ileal amino acid digestibility to consumption of different cultivars of potatoes and conventional fibers in grower pigs fed a high-fat basal diet.", *Journal of Animal Science*, 90(Suppl. 4), pp. 356-358. doi : 10.2527/jas.53807

Bach, S., Yada, R.Y., Bizimungu, B., and Sullivan, J.A. (2012). "Genotype by environment interaction effects on fibre components in potato (*Solanum tuberosum* L.).", *Euphytica*, 187(1), pp. 77-86. doi : 10.1007/s10681-012-0734-9

2011

Lu, Z.-H., Yada, R.Y., Liu, Q., Bizimungu, B., Murphy, A.M., De Koeyer, D.L., and Li, X.-Q., Pinhero, R.G. (2011). "Correlation of physicochemical and nutritional properties of dry matter and starch in potatoes grown in different locations food chemistry.", *Food Chemistry*, 126(3), pp. 1246-1253. doi : 10.1016/j.foodchem.2010.12.037

Zhang, J., Xing, T., Liu, G.S., Liu, Q., Bizimungu, B., Leclerc, Y., and Li, X.-Q. (2011). "Starch granule sizes of surface and inside tissues of potato strips after deep-freezing storage.", *The Americas Journal of Plant Science and Biotechnology*, 5(Spec. Issue 2), pp. 129-131.

Hill, B.D., Kalischuk, M.L., Waterer, D.R., Bizimungu, B., Howard, R.J., and Kawchuk, L.M. (2011). "An environmental model predicting bacterial ring rot symptom expression.", *American Journal of Potato Research*, 88(3), pp. 294-301. doi : 10.1007/s12230-011-9193-4

Kinnear, T., Wolever, T.M.S., Murphy, A.M., Sullivan, J.A., Liu, Q., and Bizimungu, B. (2011). "Effect of preparation method on the glycaemic index of novel potato clones.", *Food & Function*, 2(8), pp. 438-444. doi : 10.1039/C1FO10042D

Legge, W.G., Tucker, J.R., Bizimungu, B., Tekauz, A., Noll, J.S., Fetch Jr., T.G., Menzies, J.G., Haber, S.M., Savard, M.E., Vigier, B.J., Choo, T.-M., Martin, R.A., Turkington, T.K., Rossnagel, B.G., and Harvey, B.L. (2011). "Norman barley.", *Canadian Journal of Plant Science*, 91(6), pp. 1105-1113. doi : 10.4141/cjps2010-020

Zhang, J., Murphy, A.M., Liu, G.S., Bizimungu, B., Liu, Q., Leclerc, Y., Xing, T., and Li, X.-Q. (2011). "Starch granule size variation and relationship with tuber dry matter content in heritage potato varieties.", *Scientia Horticulturae*, 130(3), pp. 503-509. doi : 10.1016/j.scienta.2011.08.006

Bizimungu, B., Holm, D.G., Kawchuk, L.M., Korschuh, M.N., Schaupmeyer, C.A., Wahab, J., Waterer, D.R., Driedger, D., Wolfe, H., McAllister, P., Howard, R.J., Platt, H.W., and Lynch, D.R. (2011). "Alta Crown: A new russet potato cultivar with resistance to common scab and a low incidence of tubers deformities.", *American Journal of Potato Research*, 88, pp. 72-81. doi : 10.1007/s12230-010-9165-0

## Other Science Related Publications:

2014

Fuller, K.D., Nyiraneza, J., Thompson, B., Bizimungu, B., Bishop, G.A., Jiang, Y., Grimmett, M.G., Khiari, L., Rodd, A.V., and Anderson, S. (2014). "Optimum rates of phosphorus for potato production in soils of varying P status in Atlantic Canada... an AAFC Science & Technology Branch Project.", *Scotia Horticultural Congress 2014*, Kentville, NS, Canada, January 27-28, 2014.

De Koeyer, D.L., Douglass, K., Lague, M., Bizimungu, B., Murphy, A.M., Bonierbale, M., and Mosquera, T. (2014). "Next-generation SNP genotyping platforms for characterizing potato germplasm.", in S. Dias, E. Dulloo, N. Maxted, S. Kell, E. Thöm, L. Smith, J. Preston, S. Hutchinson (eds.) - *International Conference on ENHANCED GENEPOOL UTILIZATION - Capturing wild relative and landrace diversity for crop improvement*, Cambridge University Press, UK, pp. 17.

Nyiraneza, J., Thompson, B., Fuller, K.D., Bizimungu, B., Bishop, G.A., Jiang, Y., Grimmett, M.G., Khiari, L., Rodd, A.V., and Anderson, S. (2014). "Potato response to phosphorus fertilization in Atlantic Canada and assessment of the degree of soil phosphorus saturation.", *Northeast Potato Technology Forum 2014*, Fredericton, NB, Canada, March 12-13, 2014.

2013

Bizimungu, B., Kawchuk, L.M., Wahab, J., Waterer, D.R., Korschuh, M.N., and Lynch, D.R. (2013). "AAC Alta Strong potato variety- A new option for French fry processing and fresh market uses.", *97th Annual Meeting of the Potato Association of America (PAA)*, Québec City, QC, Canada, July 28-August 2, 2013.

Donnelly, D.J., Nassar, A.M.K., Kubow, S., Leclerc, Y., Li, X.-Q., Haroon, M., Molen, T.A., Bizimungu, B., Bamberg, J., and Martin, M. (2013). "History of 'Russet Burbank'.", *97th Annual Meeting of the Potato Association of America (PAA)*, Québec City, QC, Canada, July 28-August 2, 2013.

Li, X.-Q., Haroon, M., Luo, S., Bizimungu, B., Xiong, X., Zebarth, B.J., and Tai, H.H. (2013). "In vitro and field testing of drought tolerance of potato clones.", *97th Annual Meeting of the Potato Association of America (PAA)*, Québec City, QC, Canada, July 28-August 2, 2013.

Nyiraneza, J., Fuller, K.D., Bizimungu, B., Bishop, G.A., Grimmett, M.G., Rodd, A.V., Jiang, Y., Mills, A.A.S., Gregory, D., Enman, B., and others (2013). "Increasing phosphorus use efficiency in potato production in Atlantic Canada.", *Open houses organized by AAFC, Crop and Livestock Research Centre*, August 16, 2013. (Presentation)

2012

Bizimungu, B., Wahab, J., and Larson, G.L. (2012). "Performance of a low glycemic index potato selection (AR2012-04) under small potato production management.", *2012 Annual Meeting of Potato Growers of Alberta*, Red Deer, AB, Canada, November 13-15, 2012 (Poster). (Poster)

Bizimungu, B. (2012). "Searching for traits associated with drought tolerance in potato.", *20th Annual Northeast Potato Technology Forum*, The University of Maine, Orono, ME, USA, March 7-8, 2012, pp. 20.

Bizimungu, B., Hawkins, G., Murphy, A.M., and Mikitzel, L.J. (2012). "NIRS predictions of potato processing quality in breeding germplasm and cultivars.", *96th Annual Meeting of the Potato Association of America (PAA)*, Crowne Plaza Denver International Airport, Denver, CO, USA, August 12-16, 2012, Oral presentation.

Qi, W., Yang, X., Leonard, S., Archbold, T., Sullivan, A., Bizimungu, B., Murphy, A.M., Ma, D.Y., Duncan, A.M., and Htoo, J.K. (2012). "Responses of dietary ileal amino acid digestibility to consumption of different varieties of potatoes and conventional fibres in pigs fed a high-fat basal diet.", *12th International Symposium on Digestive Physiology in Pigs*, Keystone, CO, USA, May 30 - June 1, 2012. (Poster)

2011

Bizimungu, B. (2011). "Can Drought Tolerant Potato Clones be Selected on Irrigated Land?", *19th Annual Northeast Potato Technology Forum*, Crowne Plaza Fredericton Lord Beaverbrook Hotel, Fredericton, NB, Canada, March 16-17, 2011.

Bizimungu, B. and Kereliuk, G. (2011). "New Tool for Quality Evaluation in Potato Breeding: Potential Application of Near Infrared Spectroscopy.", *19th Annual Northeast Potato Technology Forum*, Crowne Plaza Fredericton Lord Beaverbrook Hotel, Fredericton, NB, Canada, March 16-17, 2011.

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## Research Publications:

2015

Forge, T.A., Lamey, F.J., Kawchuk, L.M., Pearson, D.C., Koch, C.A., and Blackshaw, R.E. (2015). "Crop rotation effects on *Pratylenchus neglectus* populations in the root zone of irrigated potatoes in southern Alberta.", *Canadian Journal of Plant Pathology*, 37(3), pp. 363-368. doi: 10.1080/07060661.2015.1066864

St. Luce, M., Grant, C.A., Zebarth, B.J., Ziadi, N., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Khakbazan, M., and Smith, E.G. (2015). "Legumes can reduce economic optimum nitrogen rates and increase yields in a wheat-canola cropping sequence in western Canada.", *Field Crops Research*, 179, pp. 12-25. doi: 10.1016/j.fcr.2015.04.003

McNaughton, K.E., Blackshaw, R.E., Waddell, K.A., Gulden, R.H., Sikkema, P.H., and Gillard, C.L. (2015). "Effect of application timing of glyphosate and saflufenacil as desiccants in dry edible bean (*Phaseolus vulgaris* L.).", *Canadian Journal of Plant Science*, 95(2), pp. 369-375. doi: 10.4141/CJPS-2014-157

Tozzi, E., Harker, K.N., Blackshaw, R.E., O'Donovan, J.T., Strelkov, S.E., and Willenborg, C.J. (2015). "Late glyphosate applications alter yield and yield components in glyphosate-resistant canola (*Brassica napus* L.).", *Weed Technology*, 29(4), pp. 675-683. doi: 10.1614/WT-D-15-00009.1

Turkington, T.K., O'Donovan, J.T., Harker, K.N., Xi, K., Blackshaw, R.E., Johnson, E.N., Peng, G., Kutcher, H.R., May, W.E., Lafond, G.P., Mohr, R.M., Irvine, R.B., and Stevenson, C. (2015). "The impact of fungicide and herbicide timing on foliar disease severity, and barley productivity and quality.", *Canadian Journal of Plant Science*, 95(3), pp. 525-537. doi: 10.4141/CJPS-2014-364

Swanton, C.J., Nkoa, R., and Blackshaw, R.E. (2015). "Experimental methods for crop-weed competition studies.", *Weed Science*, 63(SP1), pp. 2-11. doi: 10.1614/WS-D-13-00062.1

Duddu, H.S., Johnson, E.N., Blackshaw, R.E., and Shirliffe, S.J. (2015). "Evaluation of seed persistence in cow cockle.", *Crop Science*, 55(2), pp. 899-909. doi: 10.2135/cropsci2014.04.0334

Lupwayi, N.Z., Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Hall, L.M., Willenborg, C.J., Gan, Y.T., Lafond, G.P., May, W.E., and Grant, C.A. (2015). "Relating soil microbial properties to yields of no-till canola on the Canadian prairies.", *European Journal of Agronomy*, 62, pp. 110-119. doi: 10.1016/j.eja.2014.10.004

Li, L., Lamey, F.J., Angers, D.A., Pearson, D.C., and Blackshaw, R.E. (2015). "Surface soil quality attributes following 12 years of conventional and conservation management on irrigated rotations in southern Alberta.", *Soil Science Society of America Journal*, 79(3), pp. 930-942. doi: 10.2136/sssaj2015.02.0051

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Dossall, L.M., Hall, L.M., Kutcher, H.R., Willenborg, C.J., Peng, G., Irvine, R.B., and Mohr, R.M. (2015). "Canola cultivar mixtures and rotations do not mitigate the negative impacts of continuous canola.", *Canadian Journal of Plant Science*, 95(6), pp. 1085-1099. doi: 10.4141/cjps-2015-126

Harker, K.N., Yu, A.Z., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Johnson, E.N., Gan, Y.T., Kutcher, H.R., Dossall, L.M., Peng, G. (2015). "Canola rotation frequency impacts canola yield and associated pest species.", *Canadian Journal of Plant Science*, 95(1), pp. 9-20. doi: 10.4141/cjps-2014-289

2014

Beckie, H.J., Sikkema, P.H., Soltani, N., Blackshaw, R.E., and Johnson, E.N. (2014). "Environmental impact of glyphosate-resistant weeds in Canada.", *Weed Science*, 62(2), pp. 385-392. doi: 10.1614/WS-D-13-00093.1

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Turkington, T.K., Lupwayi, N.Z., Stevenson, F.C., McLaren, D.L., Khakbazan, M., and Smith, E.G. (2014). "Rotational effects of legumes and non-legumes on hybrid canola and malting barley.", *Agronomy Journal*, 106(6), pp. 1921-1932. doi: 10.2134/agronj14.0236

Khakbazan, M., Grant, C.A., Huang, J., Smith, E.G., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Lafond, G.P., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., and Lupwayi, N.Z. (2014). "Economic effects of preceding crops and nitrogen application on canola and subsequent barley.", *Agronomy Journal*, 106(6), pp. 2055-2066. doi: 10.2134/agronj14.0253



Eddy, P.R., Smith, A.M., Hill, B.D., Peddle, D.R., Coburn, C.A., and Blackshaw, R.E. (2014). "Weed and crop discrimination using hyperspectral image data and reduced bandsets.", *Canadian Journal of Remote Sensing*, 39(6), pp. 481-490. doi : 10.5589/m14-001

Hall, L.M., Beckie, H.J., Low, R., Shirriff, S.W., Blackshaw, R.E., Kimmel, N., and Neeser, C. (2014). "Survey of glyphosate-resistant kochia (*Kochia scoparia* L. Schrad.) in Alberta.", *Canadian Journal of Plant Science*, 94(1), pp. 127-130. doi : 10.4141/CJPS2013-204

## 2013

Beckie, H.J., Blackshaw, R.E., Low, R., Hall, L.M., Sauder, I.C.A., Martin, S.L., Brandt, R.N., and Shirriff, S. (2013). "Glyphosate- and acetolactate synthase inhibitor-resistant kochia (*Kochia scoparia*) in Western Canada.", *Weed Science*, 61(2), pp. 310-318. doi : 10.1614/WS-D-12-00140.1

St. Luce, M., Ziadi, N., Zebarth, B.J., Whalen, J.K., Grant, C.A., Gregorich, E.G., Lafond, G.P., Blackshaw, R.E., Johnson, E.N., O'Donovan, J.T., and Harker, K.N. (2013). "Particulate organic matter and soil mineral nitrogen concentrations are good predictors of the soil nitrogen supply to canola following legume and non-legume crops in western Canada.", *Canadian Journal of Soil Science*, 93(5), pp. 607-620. doi : 10.4141/cjss2013-005

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Hall, L.M., Willenborg, C.J., Kutcher, H.R., Gan, Y.T., Lafond, G.P., May, W.E., Grant, C.A., Barthelet, V., McDonald, T., Wispinski, D., and Hartman, M. (2013). "Effect of agronomic inputs and crop rotation on biodiesel quality and fatty acid profiles of direct-seeded canola.", *Canadian Journal of Plant Science*, 93(4), pp. 577-588. doi : 10.4141/cjps2012-277

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Johnson, E.N., Brandt, S.A., Kutcher, H.R., and Clayton, G.W. (2013). "Weed interference impacts and yield recovery after four years of variable crop inputs in no-till barley and canola.", *Weed Technology*, 27(2), pp. 281-290. doi : 10.1614/WT-D-12-00115.1

Lupwayi, N.Z. and Blackshaw, R.E. (2013). "Soil microbial properties in Bt (*Bacillus thuringiensis*) corn cropping systems.", *Applied Soil Ecology*, 63, pp. 127-133. doi : 10.1016/j.apsoil.2012.09.005

Benefer, C.M., van Herk, W.G., Ellis, J.S., Blackshaw, R.E., Vernon, R.S., and Knight, M.E. (2013). "The molecular identification and genetic diversity of economically important wireworm species (Coleoptera: Elateridae) in Canada.", *Journal of Pest Science*, 86(1), pp. 19-27. doi : 10.1007/s10340-012-0454-x

## 2012

Lupwayi, N.Z. and Blackshaw, R.E. (2012). "Soil microbiology in Glyphosate-Resistant corn cropping systems.", *Agronomy Journal*, 104(4), pp. 1041-1048. doi : 10.2134/agronj2012.0054

Hao, X., Indraratne, S.P., and Blackshaw, R.E. (2012). "Will genetically engineered crop production affect soil carbon?", *Canadian Journal of Soil Science*, 92(6), pp. 841-844. doi : 10.4141/CJSS2011-072

Li, C.L., Hao, X., Blackshaw, R.E., O'Donovan, J.T., Harker, K.N., and Clayton, G.W. (2012). "Nitrous oxide emissions in response to ESN and urea, herbicide management and canola cultivar in a no-till cropping system.", *Soil & Tillage Research*, 118, pp. 97-106. doi : 10.1016/j.still.2011.10.017

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Beckie, H.J., Mallory-Smith, C., and Maxwell, B.D. (2012). "Our view.", *Weed Science*, 60(2), pp. 143-144. doi : 10.1614/WS-D-11-00177.1

Dosdall, L.M., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Kutcher, H.R., Gan, Y.T., and Johnson, E.N. (2012). "Crop Sequence Effects on Root Maggot (Diptera: Anthomyiidae: *Delia* spp.) Infestations in Canola.", *Journal of Economic Entomology*, 105(4), pp. 1261-1267. doi : 10.1603/EC11440

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Johnson, E.N., Lafond, G.P., and May, W.E. (2012). "Seeding depth and seeding speed effects on no-till canola emergence, maturity, yield and seed quality.", *Canadian Journal of Plant Science*, 92(4), pp. 795-802. doi : 10.4141/CJPS2011-189

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Klein-Gebbinck, H.W., Dosdall, L.M., Hall, L.M., Willenborg, C.J., Kutcher, H.R., Malhi, S.S., Vera, C.L., Gan, Y.T., Lafond, G.P., May, W.E., Grant, C.A., and McLaren, D.L. (2012). "High-yield no-till canola production on the Canadian prairies.", *Canadian Journal of Plant Science*, 92(2), pp. 221-233. doi : 10.4141/CJPS2011-125

## 2011

Blackshaw, R.E., Hao, X., Harker, K.N., O'Donovan, J.T., Johnson, E.N., and Vera, C.L. (2011). "Barley productivity response to polymer-coated urea in a no-till production system.", *Agronomy Journal*, 103(4), pp. 1100-1105. doi : 10.2134/agronj2010.0494

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Johnson, E.N., Holm, F.A., and Clayton, G.W. (2011). "Environmental effects on the relative competitive ability of canola and small-grain cereals in a direct-seeded system.", *Weed Science*, 59(3), pp. 404-415. doi : 10.1614/WS-D-10-00121.1

Blackshaw, R.E., Hao, X., Brandt, R.N., Clayton, G.W., Harker, K.N., O'Donovan, J.T., Johnson, E.N., and Vera, C.L. (2011). "Canola response to ESN and urea in a four-year no-till cropping system.", *Agronomy Journal*, 103(1), pp. 92-99. doi : 10.2134/agronj2010.0299

Ma, B.-L., Blackshaw, R.E., Roy, J., and He, T. (2011). "Investigation on gene transfer from genetically modified corn (*Zea mays* L.) plants to soil bacteria.", *Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Wastes*, 46(7), pp. 590-599. doi: 10.1080/03601234.2011.586598

Blackshaw, R.E., Johnson, E.N., Gan, Y.T., May, W.E., McAndrew, D.W., Barthet, V., McDonald, T., and Wispinski, D. (2011). "Alternative oilseed crops for biodiesel feedstock on the Canadian prairies.", *Canadian Journal of Plant Science*, 91(5), pp. 889-896. doi: 10.4141/cjps2011-002

## Other Science Related Publications:

2015

Morrison, M.J., Blackshaw, R.E., O'Donovan, J.T., Harker, K.N., and Holzapfel, C.B. (2015). "Innovations underpinning yield improvements in the Canadian canola industry.", *Crop Updates*, Perth, Australia, February 24-25, 2015.

Turkington, T.K., Xi, K., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., McAllister, T.A., and Lupwayi, N.Z. (2015). "The impact of barley variety rotation, mixtures, and intercropping on leaf disease and silage production.", *Canadian Journal of Plant Pathology*. (Abstract)

Turkington, T.K., O'Donovan, J.T., Harker, K.N., Xi, K., Blackshaw, R.E., Johnson, E.N., Peng, G., Kutcher, H.R., May, W.E., Lafond, G.P., Mohr, R.M., and Irvine, R.B. (2015). "The impact of fungicide and herbicide timing on foliar disease severity, and barley productivity and quality.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015, ID: P HERBI 7. (Poster)

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2015). "Legumes in rotation affect hybrid canola and malting barley.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015, Keynote Theme D oral presentation.

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Johnson, E.N., Pageau, D., Shirliffe, S.J., Gulden, R.H., Rowsell, J., Hall, L.M., and Willenborg, C.J. (2015). "Cultural techniques for integrated wild oat management.", *Canadian Weed Science Society Meeting*, Edmonton, AB, Canada, November 23-26, 2015, Oral presentation. (Abstract)

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Johnson, E.N., Kutcher, H.R., Willenborg, C.J., Gan, Y.T., Dossall, L.M., Hall, L.M., Peng, G., Irvine, R.B., and Mohr, R.M. (2015). "Sustainable canola production increases with cropping system diversity.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. (Poster)

Turkington, T.K., Xi, K., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., McAllister, T.A., and Lupwayi, N.Z. (2015). "The impact of barley variety rotation, mixtures, and intercropping on leaf disease and silage production.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015.

2014

Lamey, F.J., Li, L., Pearson, D.C., Blackshaw, R.E., and Balasubramanian, P.M. (2014). "Conservation management practices and rotations for irrigated dry bean production in southern Alberta.", *ASA, CSSA and SSSA International Annual Meeting 2014*, Long Beach, CA, USA, November 2-5, 2014.

Blackshaw, R.E., Harker, K.N., O'Donovan, J.T., Johnson, E.N., Gan, Y.T., and Peng, G. (2014). "How frequently can oilseed rape be grown in sustainable cropping systems.", 13th Congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014, Available online at <http://www.esa2014.hu/news/post-conference-updates-8.html>, pp. 331-332. (Poster)

Lamey, F.J., Li, L., Lupwayi, N.Z., Angers, D.A., Pearson, D.C., and Blackshaw, R.E. (2014). "Irrigated crop rotations: soil quality.", *Irrigated Crop Production Update*, Lethbridge, AB, Canada, January 21-22, 2014.

Lupwayi, N.Z., Lamey, F.J., Pearson, D.C., Kanashiro, D.A., and Blackshaw, R.E. (2014). "Shifts in soil microbial community structure after 12 years of conservation management on irrigated crop rotations.", 51st Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 12-14, 2014, pp. 37. (Abstract)

Lupwayi, N.Z., Harker, K.N., Lamey, F.J., Blackshaw, R.E., and O'Donovan, J.T. (2014). "Correlating soil microbial properties with crop yields in the Canadian prairies: two case studies.", *Soil's Role in Restoring Ecosystem Services Conference*, Sacramento, CA, USA, March 6-9, 2014. (Abstract)

Blackshaw, R.E., Torbiak, A., Hall, L.M., and Beckie, H.J. (2014). "Glyphosate-resistant kochia (*Kochia scoparia* (L.) Schrad.) management.", 2014 CWSS Annual Meeting, Montreal, QC, Canada, November 17-20, 2014. (Abstract)

Lamey, F.J., Li, L., Lupwayi, N.Z., Angers, D.A., Pearson, D.C., and Blackshaw, R.E. (2014). "Soil quality changes over 12 years of conservation management on irrigated crop rotations in southern Alberta.", Canadian Geophysical Union-Canadian Society of Soil Science (CGU/CCSS) Joint Annual Meeting, Banff, AB, Canada, May 4-8, 2014, Poster. (Abstract)

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Baron, V.S., Blackshaw, R.E., Hall, L.M., Johnson, E.N., Willenborg, C.J., Shirliff, S.J., Gulden, R.H., Kobler, J.F., and Pageau, D. (2014). "Delaying herbicide resistance with integrated wild oat (*Avena fatua*) management.", 2014 Weed Science Society of America (WSSA) and the Canadian Weed Science Society (CWSS) Annual Meeting, Vancouver, B.C., Canada, February 3-6, 2014. (Abstract)

O'Donovan, J.T., Harker, K.N., Turkington, T.K., Blackshaw, R.E., Beres, B.L., Clayton, G.W., Lafond, G.P., Lupwayi, N.Z., and Dossall, L.M. (2014). "The role of agronomic research in meeting cropping system challenges in western Canada.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

O'Donovan, J.T., Blackshaw, R.E., Grant, C.A., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., and Turkington, T.K. (2014). "Legume crops grown in rotation enhance canola and barley productivity in western Canada.", 13th Congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014, pp. 357-358.

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Lafond, G.P., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2014). "Rotational Effects of Legumes and Non-Legumes on Hybrid Canola, and Malting Barley.", American Society of Agronomy Annual Meeting 2014, Long Beach, CA, USA, November 3-5, 2014.

Turkington, T.K., Xi, K., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., McAllister, T.A., and Lupwayi, N.Z. (2014). "The impact of barley variety monoculture, rotation and mixtures, and intercropping on leaf disease and silage production.", 1st International Workshop on Barley Leaf Diseases, Salsomaggiore Terme, Italy, June 3-6, 2014, pp. 73. (Abstract)

Beckie, H.J., Hall, L.M., Low, R., Blackshaw, R.E., Kimmel, N., and Shirriff, S.W. (2014). "Survey of glyphosate-resistant kochia in western Canada.", 2014 Weed Science Society of America (WSSA) and the Canadian Weed Science Society (CWSS) Annual Meeting, Vancouver, B.C., Canada, February 3-6, 2014. (Abstract)

## 2013

Pearson, D.C., Lamey, F.J., Blackshaw, R.E., and Lupwayi, N.Z. (2013). "Soil carbon changes over 12 years on the Vauxhall irrigated rotation study.", 50th Annual Alberta Soil Science Workshop, Lethbridge, AB, Canada, February 19-21, 2013. (Abstract)

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Turkington, T.K., Johnson, E.N., Lafond, G.P., May, W.E., Gan, Y.T., Edney, M., and Juskiw, P.E. (2013). "Effect of legume crops grown two years prior to barley on malting barley yield and quality.", ASA/CSSA/SSSA International annual meeting: Water, Food, Energy and Innovation for a Sustainable World, Tampa, Florida, USA, November 3-6, 2013.

O'Donovan, J.T., Harker, K.N., Turkington, T.K., Lafond, G.P., Lupwayi, N.Z., Blackshaw, R.E., Clayton, G.W., and Dossall, L.M. (2013). "The Role of Agronomic Research in Meeting Current and Future Cropping System Challenges in Western Canada.", ASA/CSSA/SSSA International annual meeting: Water, Food, Energy and Innovation for a Sustainable World, Tampa, Florida, USA, November 3-6, 2013.

## 2012

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., and Regitnig, P.J. (2012). "What have we learned about potatoes in the 12 yr Vauxhall irrigated rotation study.", Potato Growers of Alberta Annual Meeting, Red Deer, AB, Canada, November 13-15, 2012. (Poster)

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Kawchuk, L.M., Pearson, D.C., Blackshaw, R.E., and Gan, Y.T. (2012). "Characterization of bacterial endophytes associated with *Solanum tuberosum* in irrigated cropping systems.", 112th General Meeting of American Society for Microbiology, San Francisco, CA, USA, June 15-19, 2012. (Abstract)

Beaudoin, N., Sansoulet, J.B., Pattey, E., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., O'Donovan, J.T., and Germon, J.C. (2012). "Adaptation de STICS à la culture de canola au Canada à partir du module colza en vue de simuler les émissions de N<sub>2</sub>O par Modulo STICS.", IXe Séminaire du modèle de culture STICS, Sainte-Montaine, France, October 16-19, 2012. (Poster)

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Kawchuk, L.M., Pearson, D.C., Blackshaw, R.E., and Gan, Y.T. (2012). "Preceding crop, rotation length and soil management effects on bacterial endophytes.", 49th Annual Alberta Soil Science Workshop, Ramada Inn, Edmonton, AB, Canada, February 14-16, 2012. (Abstract)

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., and Regitnig, P.J. (2012). "Building soil quality on irrigated rotations in southern Alberta.", 49th Annual Alberta Soil Science Workshop, Ramada Inn, Edmonton, AB, Canada, February 14-16, 2012. (Abstract)

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., Regitnig, P.J., and Balasubramanian, P.M. (2012). "Irrigated crop rotation research: Findings from the Vauxhall rotation study over 12 years (2000-11).", 2012 Irrigated Crop Production Update Conference, Lethbridge, AB, Canada, January 31-February 1, 2012. (Abstract)

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., and Balasubramanian, P.M. (2012). "Irrigated dry bean response to cropping history and soil management practices in southern Alberta.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Abstract)

2011

O'Donovan, J.T., Harker, K.N., and Blackshaw, R.E. (2011). "Implications of sub-economic threshold wild oat densities in a cereal/field pea rotation under no-till.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 46. (Abstract)

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., Regitnig, P.J., and Balasubramanian, P.M. (2011). "Dry bean performance in the Vauxhall irrigated rotation study over 12 growing seasons (2000-11).", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011. (Abstract)

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Kawchuk, L.M., Pearson, D.C., Blackshaw, R.E., and Gan, Y.T. (2011). "Preceding crop, rotation length and soil management effects on bacterial endophytes.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011. (Abstract)

Blackshaw, R.E., Harker, K.N., and O'Donovan, J.T. (2011). "Polymer-coated urea compared with urea reduces N uptake by weeds.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 65. (Poster)

Blackshaw, R.E. (2011). "Including cover crops in prairie no-till systems.", 23rd Annual Conference of the Saskatchewan Soil Conservation Association (SSCA), Saskatoon Inn, Saskatoon, SK, Canada, January 13, 2011, pp. 3.

Blackshaw, R.E., Molnar, L.J., and Moyer, J.R. (2011). "Weed Suppression and Soil Nitrogen Benefits Associated with Legume Cover Crop-Winter Wheat Intercrops.", 51st Meeting Weed Science Society of America, Hilton Portland & Executive Tower Hotel, Portland, OR, USA, February 7-10, 2011. (Presentation)

Blackshaw, R.E. (2011). "Integrated Cropping Practices Reduce the Risk of Resistance Development.", 51st Meeting Weed Science Society of America, Hilton Portland & Executive Tower Hotel, Portland, OR, USA, February 7-10, 2011. (Presentation)

Harker, K.N., Brandt, S.A., O'Donovan, J.T., Blackshaw, R.E., Johnson, E.N., and Kutcher, H.R. (2011). "The Impact of Two Years of Wild Oat Management After Four Years of Low Crop Inputs in Barley and Canola.", 51st Meeting Weed Science Society of America, Hilton Portland & Executive Tower Hotel, Portland, OR, USA, February 7-10, 2011, pp. 62. (Presentation)

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., and Regitnig, P.J. (2011). "A soil conservation package for irrigated rotations in southern Alberta.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Abstract)

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Pearson, D.C., and Blackshaw, R.E. (2011). "Soil microbial biomass and diversity in irrigated crop systems.", Soil Ecology Society Meeting, Kelowna, BC, Canada, May 24-27, 2011. (Abstract)

Blackshaw, R.E., Hao, X., Clayton, G.W., Harker, K.N., O'Donovan, J.T., Johnson, E.N., and Vera, C.L. (2011). "Canola response to polymer-coated urea versus urea in a four-year zero-tillage cropping system on the Canadian prairies.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, pp. 61-64.

Lovell, A. and Blackshaw, R.E. (2011). "Slow release N a good fit in wet areas.", Grain News, 37(2), pp. 6.

O'Donovan, J.T., Blackshaw, R.E., Grant, C.A., Harker, K.N., Lafond, G.P., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., and Lupwayi, N.Z. (2011). "Legume Crops to Improve Soil Fertility for Enhanced Canola Production.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Poster)

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., and Regitnig, P.J. (2011). "Potato performance in the Vauxhall irrigated rotation study over 12 growing seasons (2000-11).", 2011 Annual Meeting of Potato Growers of Alberta, Calgary, AB, Canada, November 15-18, 2011. (Abstract)

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## Research Publications:

2015

Bahadoor, A., Schneiderman, D., Gemmill, L., Bosnich, W., Blackwell, B.A., Melanson, J., McRae, G., and Harris, L.J. (2015). "Hydroxylation of longiborneol by a Clm2-encoded CYP450 mono-oxygenase to produce culmorin in *Fusarium graminearum*.", *Journal of Natural Products*, pp. 1-8. doi : 10.1021/acs.jnatprod.5b00676

Walkowiak, S., Bonner, C., Wang, L., Blackwell, B.A., Rowland, O., and Subramaniam, R. (2015). "Intraspecies interaction of *Fusarium graminearum* contributes to reduced toxin production and virulence.", *Molecular Plant-Microbe Interactions*, 28(11), pp. 1256-1267. doi : 10.1094/MPMI-06-15-0120-R

Choo, T.-M., Vigier, B.J., Savard, M.E., Blackwell, B.A., Martin, R.A., Wang, J.M., Yang, J., and Abdel-Aal, E-S.M. (2015). "Black Barley as a Means of Mitigating Deoxynivalenol Contamination.", *Crop Science*, 55(May-June), pp. 1096-1103. doi : 10.2135/cropsci2014.05.0405

2014

McCartney, C.A., Brûlé-Babel, A.L., Fedak, G., Martin, R.C., McCallum, B.D., Gilbert, J.R., Blackwell, B.A., Spaner, D.M., Pozniak, C.J., and N'Daiye, A. (2014). "Studies of the genetics of FHB resistance.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Choo, T.-M., Martin, R.A., Savard, M.E., and Blackwell, B.A. (2014). "Effects of planting date and earliness on deoxynivalenol contamination in barley under natural epidemic conditions.", *Canadian Journal of Plant Science*, 94(8), pp. 1363-1371. doi : 10.4141/CJPS2013-369

2013

Legge, W.G., Tucker, J.R., Bizimungu, B., Tekauz, A., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Turkington, T. K., Martin, R.A., Choo, T.-M., Vigier, B.J., Blackwell, B.A., and Savard, M.E. (2013). "Taylor barley.", *Canadian Journal of Plant Science*, 93(5), pp. 969-977. doi : 10.4141/cjps2013-126

2012

Trimble, L.A., Sumarah, M.W., Blackwell, B.A., Wrona, M.D., and Miller, J.D. (2012). "Characterization of (16R) and (16S)-hydroxyroquefortine C; diastereomeric metabolites from *Penicillium crustosum* DAOM 215343.", *Tetrahedron Letters*, 53(8), pp. 956-958. doi : 10.1016/j.tetlet.2011.12.052

McMullin, D.R., Sumarah, M.W., Blackwell, B.A., and Miller, J.D. (2012). "New azaphilones from *Chaetomium globosum* isolated from the built environment.", *Tetrahedron Letters*, 54(6), pp. 568-572. doi : 10.1016/j.tetlet.2012.11.084

2011

Rampitsch, C., Leung, W.W.Y., Blackwell, B.A., and Subramaniam, R. (2011). "MAP kinase Mgv1: a potential shared control point of butenolide and deoxynivalenol biosynthesis in *Fusarium graminearum*.", *Plant Breeding and Seed Science*, 54, pp. 81-88.

Shank, R.A., Foroud, N.A., Hazendonk, P., Eudes, F., and Blackwell, B.A. (2011). "Current and future experimental strategies for structural analysis of trichothecene mycotoxins-a prospectus.", *Toxins*, 3(12), pp. 1518-1553. doi : 10.3390/toxins3121518

## Other Science Related Publications:

2015

Harris, L.J., Bosnich, W., Johnston, A., Kwan, R., Schneiderman, D., Blackwell, B.A., and Bahadoor, A. (2015). "A *F. graminearum* ABC transporter is induced during interactions with *F. avenaceum* and by enniatin B1.", 13th European *Fusarium* Seminar, Martina Franca, Italy, May 10-14, 2015, Poster, pp. 121. (Abstract)

Harris, L.J., Bosnich, W., Johnston, A., Kwan, R., Schneiderman, D., Blackwell, B.A., and Bahadoor, A. (2015). "Interaction studies between *Fusarium graminearum* and *F. avenaceum* during durum wheat infection.", 28th Fungal Genetics Conference, Pacific Grove, CA, USA, March 17-22, 2015. (Abstract)

Humphreys, D.G., Cao, W., Kalikililo, A., Langille, L., McCartney, C.A., Blackwell, B.A., and Graf, R.J. (2015). "Enhancing Tools for *Fusarium* Resistance Breeding in Canadian Winter Wheat.", National *Fusarium* Head Blight Forum, St. Louis, MO, USA, December 6-8, 2015. (Poster)

## 2014

Rioux, S., Vanasse, A., Pageau, D., and Blackwell, B.A. (2014). "Les traitements fongicides dans les champs de céréale.", Clubs conseils en agroenvironnement Beauce Agri-Nature, Saint-Joseph-de Beauce, QC, Canada, 18 novembre AM 2014.

Pageau, D., Rioux, S., Vanasse, A., and Blackwell, B.A. (2014). "Les champs de céréale ont-ils vraiment besoin de traitements fongicides?", la Journée d'information du Syndicat des producteurs de Cultures Commerciales du Saguenay-Lac-St-Jean, Alma, QC, Canada, 19 mars 2014.

Pageau, D., Rioux, S., Vanasse, A., and Blackwell, B.A. (2014). "Les maladies des céréales: comment les combattre.", Journée d'information de la Financière Agricole du Saguenay-Lac-St-Jean, Alma, QC, Canada, 27 mars 2014.

Rioux, S., Vanasse, A., Pageau, D., and Blackwell, B.A. (2014). "Les traitements fongicides dans les champs de céréale.", Clubs conseils en agroenvironnement Beauce Agri-Nature, Saint-Joseph-de Beauce, QC, Canada, 18 novembre AM 2014.

Legge, W.G., Tucker, J.R., Banik, M., Tekauz, A., Martin, R.A., Choo, T.-M., Blackwell, B.A., and Savard, M.E. (2014). "Development of TR10214 two-row malting barley with low deoxynivalenol accumulation.", 21st North American Barley Research Workshop, Minneapolis, Minnesota, USA, June 29- July 2, 2014. (Poster)

Pageau, D., Rioux, S., Vanasse, A., and Blackwell, B.A. (2014). "La fusariose de l'épi, un ennemi coriace!", Journée d'information de la Financière Agricole du Saguenay-Lac-St-Jean, Alma, QC, Canada, 27 mars 2014.

## 2013

Harris, L.J., Johnston, A., Bosnich, W., LeBlanc, A., Blackwell, B.A., and Schneiderman, D. (2013). "Elucidation of the *Fusarium graminearum* butenolide biosynthetic gene cluster.", The 12th European *Fusarium* Seminar, Bordeaux, France, May 12-16, 2013, Invited talk, pp. 42.

Bala, K., Blackwell, B.A., Morales, A.Z., Johnston, A., Brown, C., Schneiderman, D., Gleddie, S.C., and Harris, L.J. (2013). "Interactions between different *Fusarium* species to uncover multi-toxin synergistic mechanisms.", The 12th European *Fusarium* Seminar, Bordeaux, France, May 12-16, 2013, pp. 100.

Harris, L.J., Johnston, A., Bosnich, W., LeBlanc, A., Schneiderman, D., and Blackwell, B.A. (2013). "Elucidation of the *Fusarium graminearum* butenolide biosynthetic gene cluster.", Gordon Research Conference, Mycotoxins & Phycotoxins, Easton, MA, USA, June 16-21, 2013. (Poster)

Pageau, D., Lajeunesse, J., Lafond, J., Rioux, S., and Blackwell, B.A. (2013). "Effet des rotations sur le contenu en désoxynivalénol (DON) chez les céréales.", Conférence présentée lors du Colloque sur les Céréales, Beloeil, QC, Canada, 11 décembre 2013.

Rioux, S., Vanasse, A., Pageau, D., and Blackwell, B.A. (2013). "Les champs de céréales ont-ils vraiment besoin de traitements fongicides? Journée Analyse de groupe Grandes cultures.", Groupe conseil agricole Piekouagan du Réseau agri-conseils du Saguenay-Lac-Saint-Jean, Saint-Félicien, QC, Canada, 28 novembre 2013.

Rioux, S., Pageau, D., Vanasse, A., Dion, Y., and Blackwell, B.A. (2013). "Devrait-on utiliser des fongicides dans les céréales?", Dans *Revue Grandes Cultures*, 23(3), pp. 16-17.

## 2011

Blackwell, B.A. (2011). "Trichothecenes and other secondary metabolites from *Fusarium graminearum*.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

Pageau, D., Lajeunesse, J., Rioux, S., Vanasse, A., and Blackwell, B.A. (2011). "Les maladies du canola et des céréales: mieux vaut prévenir que guérir!", Journée Végétale – La Coop 2011, Alma, QC, Canada, November 30, 2011.

Rioux, S., Pageau, D., Vanasse, A., and Blackwell, B.A. (2011). "Évaluation de fongicides dans les cultures de céréale.", Journée d'information scientifique sur les grandes cultures, Drummondville, QC, Canada, February 17, 2011.

Rioux, S., Pageau, D., Vanasse, A., and Blackwell, B.A. (2011). "Les fongicides en production céréalière: utiles ou inutiles?", Journée d'information en grandes cultures au Saguenay-Lac-St-Jean, Alma, QC, Canada, March 15, 2011.

Blackwell, B.A., Séguin, C., and Overy, D.P. (2011). "Trichothecenes and other secondary metabolites from *Fusarium graminearum*. - Is it just about DON?", GRC on Mycotoxins and Phycotoxins, Waterville, ME, USA, June 12-17, 2011. (Poster)

Blackwell, B.A., Séguin, C., and Overy, D.P. (2011). "Trichothecenes and other secondary metabolites from *Fusarium graminearum*.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 77.

Legge, W.G., Tucker, J.R., Tekauz, A., Martin, R.A., Choo, T.-M., Blackwell, B.A., and Savard, M.E. (2011). "Development of two-row malting barley with improved fusarium head blight resistance at Agriculture and Agri-Food Canada's Brandon Research Centre.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, Published in: Gilbert, J. and Tekauz, A. (Eds.), Proceedings of the 7th Canadian Workshop on Fusarium Head Blight, pp. 105.

Blackwell, B.A., Séguin, C., and Overy, D.P. (2011). "Trichothecenes and other secondary metabolites from *Fusarium graminearum* – is it just about DON?", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 78.

Comeau, A., Langevin, F., Voldeng, H.D., Haber, S.M., Gilbert, J., Randhawa, H.S., Dion, Y., Rioux, S., Eudes, F., Blackwell, B.A., and Martin, R.A. (2011). "One quick solution to FHB problems: the systemic approach.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 72.

Comeau, A., Langevin, F., Voldeng, H.D., Haber, S.M., Gilbert, J., Randhawa, H.S., Dion, Y., Rioux, S., McCallum, B.D., Fetch Jr., T.G., Eudes, F., Blackwell, B.A., Martin, R.A., Scheeren, P., Caetano, V., Frégeau-Reid, J.A., and Fedak, G. (2011). "The systemic approach : faster genetic progress for complex goals.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

# Blatt, Suzanne, Ph.D.

Research Scientist

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## Research Publications:

2015

Blatt, S.E., Ryan, A., Adams, S., Franklin, J.L., and Driscoll, J. (2015). "Use of Trichogramma and Bt for control of Pieris rapae in cabbage on Prince Edward Island.", *Journal of the Acadian Entomological Society*, 11, pp. 26-31.

Blatt, S.E., Ryan, A., Adams, S., and Driscoll, J. (2015). "Onion thrips (*Thrips tabaci* (Thysanoptera: Thripidae)) in cabbage on Prince Edward Island: observations on planting date and variety choice.", *SpringerPlus*, 4(1: Article number 430), pp. 1-10. doi: 10.1186/s40064-015-1221-2

Robinson, T.L., Blatt, S.E., and Embree, C.G. (2015). "Performance of Pyrus rootstocks in Eastern North America.", *Acta Horticulturae (ISHS)*, 1094, pp. 145-148. doi: 10.17660/ActaHortic.2015.1094.16

2014

Lang, G., Blatt, S.E., Embree, C.G., Grant, J., Hoying, S., Ingels, C.A., Neilsen, D., Neilsen, G.H., and Robinson, T. (2014). "Developing and evaluating intensive sweet cherry orchard systems: the NC140 regional research trial.", *Acta Horticulturae (ISHS)*, 1058, pp. 113-120.

2013

Hardman, J.M., Van der Werf, W., Blatt, S.E., Franklin, J.L., Karsten, R.H., and Teismann, H. (2013). "Simulating effects of environmental factors on biological control of *Tetranychus urticae* by *Typhlodromus pyri* in apple orchard.", *Experimental and Applied Acarology*. doi: 10.1007/s10493-012-9640-z

## Other Science Related Publications:

2015

VanDyk, D., Blatt, S.E., and McDonald, M.R. (2015). "Improving carrot insect monitoring methods in the Holland Marsh, Ontario.", 2015 International IPM Conference, Salt Lake City, Utah, USA, March 2015.

Blatt, S.E. (2015). "Rootstocks and fireblight and spotted wing... oh my! Updates on a few things of interest.", Nova Scotia Fruit Growers Association Annual Convention, Greenwich, Nova Scotia, Canada, January 2015. (Presentation)

2014

Lang, G., Blatt, S.E., Grant, J., Hoying, S., Ingels, C.A., Neilsen, D., Robinson, T., and Neilsen, G.H. (2014). "Innovative high density sweet cherry training systems: five years of comparative trials across North America.", 29th International Horticultural Congress Symposium on Physiology of Perennial Fruit Crops & Production Systems, Brisbane, Australia, August 2014, <http://www.ihc2014.org/Abstract>, pp. 56. (Abstract)

Robinson, T.L., Blatt, S.E., and Embree, C.G. (2014). "Performance of Pyrus Rootstocks in Eastern North America.", 12th International Pear Symposium, pp. 50. (Abstract)

Cossentine, J.E., Blatt, S.E., Mason, P.G., Franklin, J.L., Brauner, A.M., Robertson, M.C., Appleby, M.E., Grigg-McGuffin, K., Fraser, H.M., Hueppelshouser, T., and Garipey, T.D. (2014). "Adventures in moving: The challenges in introducing a classical biological control agent into other provinces.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014, Poster Presentation.

Blatt, S.E. (2014). "The Pine Sawyer Beetle and Pine Wood Nematode: A Love Story.", Lunenburg Christmas Tree Council Spring Workshop, Bridgewater, March 2015. (Presentation)

Blatt, S.E. and Pruski, K. (2014). Annual Report for NC-140 Committee Meeting, Clemson University, Clemson, South Carolina, November. (Report)

Blatt, S.E., Scott-Dupree, C.D., McDonald, M.R., Hiltz, K., and Driscoll, J. (2014). "Carrot weevil and carrot rust fly in Nova Scotia, Prince Edward Island and Ontario.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014.



McDonald, M.R., Scott-Dupree, C.D., VanDyk, D., and Blatt, S.E. (2014). "A comparison of trapping methods for carrot insect pests.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014.

Cossentine, J.E., Blatt, S.E., Mason, P.G., Franklin, J.L., Brauner, A.M., Robertson, M.C., Appleby, M.E., Grigg-McGuffin, K., Fraser, H.M., Hueppelshouser, T., and Garipey, T.D. (2014). "Adventures in moving. The challenges in introducing a classical biological control agent into other provinces.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014.

Blatt, S.E. (2014). "Expanding our use of the NC-140 trials.", NC-140 Annual Meeting, Clemson, South Carolina, USA, November 2014. (Presentation)

Blatt, S.E. (2014). "Integrated Pest Management – Intentional actions grounded in science.", Dalhousie Seminar Series, Truro, NS, Canada, March 2014. (Presentation)

Blatt, S.E. (2014). "Adventures in the Apple Orchard: Host Volatiles and Bee-Vectoring.", Nova Scotia Fruit Growers Association Annual Convention, Greenwich, Nova Scotia, Canada, January 2014. (Presentation)

Pratt, W. and Blatt, S.E. (2014). "Brown Marmorated Stink Bug." (Factsheet)

## 2013

Cossentine, J.E., Blatt, S.E., Mason, P.G., Franklin, J.L., Brauner, A.M., Appleby, M.E., Grigg-McGuffin, K., Fraser, H., and Garipey, T.D. (2013). "A difficult directed biological control decision.", Joint Annual Entomological Society of Ontario and Canada meeting, Guelph, ON, Canada, October, 2013. (Poster)

## 2012

Burgart, C.S.F., Blatt, S.E., and Hillier, N.K. (2012). "Apple cultivar preference in the European Apple Sawfly and Apple Maggot Fly.", 72nd Annual Meeting of the Acadian Entomological Society: Bugs, Forests, and Food, Lord Beaverbrook Hotel, Fredericton, NB, Canada, August 15-17, 2012, pp. 13. (Poster)

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## Research Publications:

2015

Padhi, E., Blewett, H.J., Duncan, A.M., Guzman, R.P., Hawke, A., Seetharaman, K., Tsao, R., Wolever, T.M.S., and Ramdath, D.D. (2015). "Whole Soy Flour Incorporated into a Muffin and Consumed at 2 Doses of Soy Protein Does Not Lower LDL Cholesterol in a Randomized, Double-Blind Controlled Trial of Hypercholesterolemic Adults.", *Journal of Nutrition*, 145(12), pp. 2665-2674. doi: 10.3945/jn.115.219873

Padhi, E., Ramdath, D.D., Carson, S.J., Hawke, A., Blewett, H.J., Wolever, T.M.S., Vella, D., Seetharaman, K., Duizer, L.M., and Duncan, A.M. (2015). "Liking of soy flour muffins over time and the impact of a health claim on willingness to consume.", *Food Research International*, 77(Part 3), pp. 491-497. doi: 10.1016/j.foodres.2015.09.006

Ames, N.P., Blewett, H.J., Storsley, J., Thandapilly, S.J., Zahradka, P., and Taylor, C.G. (2015). "A double-blind randomised controlled trial testing the effect of a barley product containing varying amounts and types of fibre on the postprandial glucose response of healthy volunteers.", *British Journal of Nutrition*, 113(9), pp. 1373-1383. doi: 10.1017/S0007114515000367

2013

Zahradka, P., Wright, B., Weighell, W., Blewett, H.J., Baldwin, A., O, K., Guzman, R.P., and Taylor, C.G. (2013). "Daily non-soy legume consumption reverses vascular impairment due to peripheral artery disease.", *Atherosclerosis*, 230(2), pp. 310-314. doi: 10.1016/j.atherosclerosis.2013.07.048

Stringer, D.M., Taylor, C.G., Appahd, P., Blewett, H.J., and Zahradka, P. (2013). "Consumption of buckwheat modulates the postprandial response of selected gastrointestinal satiety hormones in individuals with type 2 diabetes mellitus.", *Metabolism*, 62(7), pp. 1021-1031. doi: 10.1016/j.metabol.2013.01.021

2012

Baranowski, M., Enns, J.E., Blewett, H.J., Yakandawala, U., and Zahradka, P. (2012). "Dietary flaxseed oil reduces adipocyte size, adipose monocyte chemoattractant protein-1 levels and T-cell infiltration in obese, insulin-resistant rats.", *Cytokine*, 59(2), pp. 382-391. doi: 10.1016/j.cyto.2012.04.004

Blewett, H.J. and Taylor, C.G. (2012). "Dietary Zinc Deficiency in Rodents: Effects on T-Cell Development, Maturation and Phenotypes.", *Nutrients*, 4(6), pp. 449-466. doi: 10.3390/nu4060449

## Other Science Related Publications:

2015

Siow, Y.L., Debnath, S.C., Brown, D.C.W., Blewett, H.J., and Rossebath, R. (2015). "Lingonberries the next super fruit.", *Farm Focus*, April 1, 2015.

Siow, Y.L., Brown, D.C.W., Blewett, H.J., Debnath, S.C., and Ross, K.A. (2015). Lingonberry: characterization and preserving an emerging bioresource for Canada. Project ID: 13-1129; Research Project Annual Report 2014-2015., AAFC Science and Technology Branch. (Report)

Siow, Y.L., Debnath, S.C., Brown, D.C.W., Blewett, H.J., and Rossebath, R. (2015). Lure of the lingonberry: win-win for northern agriculture and heart health., Agriculture and Agri-Food Canada.

2014

Siow, Y.L., Brown, D.C.W., Blewett, H.J., Debnath, S.C., and Ross, K.A. (2014). Lingonberry: characterization and preserving an emerging bioresource for Canada. Project ID: 13-1129; Research Project Annual Report 2013-2014, AAFC Science and Technology Branch. (Report)

2011

Blewett, H.J., Taylor, C.G., and Zahradka, P. (2011). "Daily intake of pulses lowered serum short-chain acylcarnitine levels in subjects with Peripheral Arterial Disease.", Experimental Biology 2011, Washington, DC, USA, April 9-13, 2011, Abstract #435.4. (Presentation)

Ames, N.P., Blewett, H.J., Storsley, J., Zahradka, P., and Taylor, C.G. (2011). "Utilization of high fibre barley fractions in tortillas to reduce glycemic fractions in tortillas to reduce glycemic response in humans.", Cereal Foods World, 56(4, Suppl.), pp. A28. (Abstract)

# Block, Hushton C., Ph.D., P. Agr.

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## Research Publications:

2015

Mapiye, C., Vahmani, P., Aalhus, J.L., Rolland, D.C., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R (2015). "Fatty acid composition of beef steers as affected by diet and fat depot.", *South African Journal of Animal Sciences*, 45(4), pp. 386-394.

Khakbazan, M., Durunna, O.N., Sirski, T.K., Brewin, D.G., Huang, J., Berry, N., Iwaasa, A.D., Scott, S.L., Robins, C.D., Block, H.C., and Lardner, H.A. (2015). "The effects of spring versus summer calving on beef cattle economic performance in western Canada.", *Canadian Journal of Animal Science*, 95(3), pp. 475-486. doi : 10.4141/CJAS-2015-046

Durunna, O.N., Baron, V.S., Scott, S.L., Robins, C.D., Khakbazan, M., and Block, H.C. (2015). "Effects of resting perennial pastures during the sensitive pre-dormancy period in western Manitoba: Pasture productivity and beef cattle performance.", *Canadian Journal of Animal Science*, 95(2), pp. 129-141. doi : 10.4141/CJAS-2014-046

Turner, T.D., Aalhus, J.L., Mapiye, C., Rolland, D.C., Larsen, I.L., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R (2015). "Effects of diets supplemented with sunflower or flax seeds on quality and fatty acid profile of hamburgers made with perirenal or subcutaneous fat.", *Meat Science*, 99, pp. 123-131. doi : 10.1016/j.meatsci.2014.08.006

2014

Durunna, O.N., Girardin, L.C., Scott, S.L., Robins, C.D., Block, H.C., Iwaasa, A.D., Khakbazan, M., and Lardner, H.A. (2014). "The effects of spring versus summer calving on beef cattle reproductive and growth performance in western Canada.", *Canadian Journal of Animal Science*, 94(2), pp. 259-271. doi : 10.4141/CJAS2013-180

Khakbazan, M., Carew, R., Scott, S.L., Chiang, P., Block, H.C., Robins, C.D., Durunna, O.N., and Huang, J. (2014). "Economic analysis and stochastic simulation of alternative beef calving and feeding systems in western Canada.", *Canadian Journal of Animal Science*, 94(2), pp. 299-311. doi : 10.4141/CJAS2013-185

Durunna, O.N., Block, H.C., Iwaasa, A.D., Scott, S.L., Robins, C.D., Khakbazan, M., Dugan, M.E.R, Aalhus, J.L., Aliani, M., and Lardner, H.A. (2014). "Impact of calving seasons and feeding systems in western Canada. II. Meat composition and organoleptic quality of steaks.", *Canadian Journal of Animal Science*, 94(4), pp. 583-593. doi : 10.4141/CJAS-2014-034

Durunna, O.N., Block, H.C., Iwaasa, A.D., Thompson, L.C., Scott, S.L., Robins, C.D., Khakbazan, M., and Lardner, H.A. (2014). "Impact of calving seasons and feeding systems in western Canada. I. Postweaning growth performance and carcass characteristics of crossbred steers.", *Canadian Journal of Animal Science*, 94(4), pp. 571-582. doi : 10.4141/CJAS-2014-033

Mapiye, C., Aalhus, J.L., Vahmani, P., Rolland, D.C., McAllister, T.A., Block, H.C., Uttaro, B., Proctor, S.D., and Dugan, M.E.R (2014). "Improving beef hamburger quality and fatty acid profiles through dietary manipulation and exploitation of fat depot heterogeneity.", *Journal of Animal Science and Biotechnology*, 5(54). doi : 10.1186/2049-1891-5-54

Mapiye, C., Aalhus, J.L., Turner, T.D., Vahmani, P., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R (2014). "Inclusion of sunflower seed and wheat dried distillers' grains with solubles in a red clover silage-based diet enhances steers performance, meat quality and fatty acid profiles.", *Animal*, 8(12), pp. 1999-2010. doi : 10.1017/S1751731114001955

2013

Mapiye, C., Turner, T.D., Rolland, D., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Adipose tissue and muscle fatty acid profiles of steers fed red clover silage with and without flaxseed.", *Livestock Science*, 151(1), pp. 11-20. doi : 10.1016/j.livsci.2012.10.021

Mapiye, C., Dugan, M.E.R, Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Aalhus, J.L. (2013). "Erythrocytes assayed early ante mortem can predict adipose tissue and muscle trans-18:1 isomeric profiles of steers fed red clover silage supplemented with flaxseed.", *Canadian Journal of Animal Science*, 93(1), pp. 149-153. doi : 10.4141/CJAS2012-054

Rosser, C.L., Górká, P., Beattie, A.D., Block, H.C., McKinnon, C.M., Lardner, H.A., and Penner, G.B. (2013). "Effect of Maturity at Harvest on Yield, Chemical Composition, and In Situ Degradability for Annual Cereals used for Swathgrazing.", *Journal of Animal Science*, 91(8), pp. 3815-3826. doi: 10.2527/jas.2012-5677

Mapiye, C., Aalhus, J.L., Turner, T.D., Rolland, D.C., Basarab, J.A., McAllister, T.A., Block, H.C., Uttaro, B., López-Campos, Ó., Proctor, S.D., and Dugan, M.E.R (2013). "Effects of feeding flaxseed or sunflower-seed in high-forage diets on beef production, quality and fatty acid composition.", *Meat Science*, 95(1), pp. 98-109. doi: 10.1016/j.meatsci.2013.03.033

2012

Legesse, G., Small, J.A., Scott, S.L., Kebreab, E., Crow, G.H., Block, H.C., Robins, C.D., Khakbazan, M., and McCaughey, W.P. (2012). "Bioperformance evaluation of various summer pasture and winter feeding strategies for cow-calf production.", *Canadian Journal of Animal Science*, 92(1), pp. 89-102. doi: 10.4141/CJAS2011-082

Amat, S., Hendrick, S., McAllister, T.A., Block, H.C., and McKinnon, J.J. (2012). "Effects of distillers' dried grains with solubles from corn, wheat or a 50:50 corn:wheat blend on performance, carcass characteristics and serum sulphate levels of feedlot steers.", *Canadian Journal of Animal Science*, 92(3), pp. 343-351. doi: 10.4141/cjas2011-127

2011

Legesse, G., Small, J.A., Scott, S.L., Crow, G.H., Block, H.C., Alemu, A.W., Robins, C.D., and Kebreab, E. (2011). "Predictions of enteric methane emissions for various summer pasture and winter feeding strategies for cow calf production.", *Animal Feed Science and Technology*, 166-167, pp. 678-687. doi: 10.1016/j.anifeeds.2011.04.082

## Other Science Related Publications:

2014

Fitzsimmons, C.J., Muhire, G., Paradis, F., McKeown, L.E., Straathof, C., Block, H.C., Colazo, M.G., Li, C., Yaremció, B., Basarab, J.A., and Bruce, H.L. (2014). "Pregnant beef heifers categorized by residual feed intake measured in adolescence exhibit differential intake and feeding behaviors when fed a restricted diet. 2014.", *ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014. (Poster)*

Mapiye, C., Aalhus, J.L., Vahmani, P., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Proctor, S.D., and Dugan, M.E.R (2014). "Subcutaneous biohydrogenation product profiles of steers fed forage-based diets with sunflower-seed and wheat dried distillers' grains with solubles.", *ICoMST, Uruguay, August, 2015. (Abstract)*

2013

Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Effects of feeding flaxseed or sunflower-seed in high forage diets on biohydrogenation intermediates in adipose tissues of yearling steers.", *ADSA-ASAS Joint Annual Meeting, Indianapolis, USA, July 2013. (Abstract)*

Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Composition of biohydrogenation intermediates in intramuscular fat of yearling steers fed forage-based diets with supplemental flaxseed or sunflower-seed.", *CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P28, pp. 36. (Poster)*

Turner, T.D., Aalhus, J.L., Mapiye, C., Rolland, D.C., Larsen, I.L., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R (2013). "Enriching hamburger with PUFA biohydrogenation products by supplementing steers fed high forage diets with either flaxseed or sunflower seed: Effects of adipose tissue source on palatability and fatty acid composition.", *CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P20, pp. 32. (Poster)*

Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Beef production and quality of yearling steers fed high-forage diets with flaxseed or sunflower-seed.", *CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P29, pp. 37. (Poster)*

Rosser, C.L., Beattie, A.D., Block, H.C., McKinnon, J.J., Lardner, H.A., and Penner, G.B. (2013). "Effect of Harvest Maturity of Whole-Crop Oat (*Avena* spp.) on Forage Intake, Rumen Fermentation and Total Tract Digestibility.", *CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O03-GS, pp. 4.*

Block, H.C., Durunna, O.N., Robins, C.D., Entz, M.H., Khakbazan, M., and Scott, S.L. (2013). "Effect of rested grazing and alfalfa inclusion in bromegrass pastures on cow-calf productivity.", *CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O36, pp. 17.*

Block, H.C., Rosser, C.L., Beattie, A.D., McKinnon, J.J., Lardner, H.A., and Penner, G.B. (2013). "Effect of harvest maturity and crop on forage yield and the productivity weaned beef calves strip-grazing annual swaths.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O37, pp. 18.

Straathof, C., Paradis, F., Block, H.C., Colazo, M.G., Yaremcio, B., Li, C., Bruce, H.L., and Fitzsimmons, C.J. (2013). "Investigating RFI and diet interactions on ADG, body weight, rib and backfat thickness in pregnant Angus heifers.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P25, pp. 35. (Poster)

Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Effects of feeding flaxseed and sunflower seed diets in high forage diets on biohydrogenation intermediates in adipose tissues of yearling steers.", ADSA-ASAS Joint Annual Meeting, Indianapolis, USA, July 2013. (Abstract)

Turner, T.D., Mapiye, C., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Lopez-Campos, O., López-Campos, O., Aalhus, J.L., and Dugan, F.M. (2013). "Inclusion of perirenal fat to enhance the bioactive fatty acid content of hamburger.", 2013, Banff, Alberta, Canada, June 18-20, 2013.

## 2012

Badea, A., Block, H.C., Iwaasa, A.D., McLeod, G.J., and Therrien, M.C. (2012). "An innovative approach in extended swath-grazing waxy forage barley.", 7th Canadian Barley Symposium, Calgary, AB, Canada, July 8-10, 2012, pp. 32. (Poster)

Mapiye, C., Dugan, M.E.R, Turner, T.D., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., and Aalhus, J.L. (2012). "Relationships of trans-18:1 isomers between red blood cells and beef tissues in steers fed red clover silage with/without flaxseed.", 58th International Congress of Meat Science and Technology, Montreal, Canada, August 12-17, 2012.

# Boiteau, Gilles, Ph.D.

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## Research Publications:

2015

Boiteau, G. and MacKinley, P.D. (2015). "Contribution of habitat type to residency and dispersal choices by overwintered and summer adult Colorado potato beetles.", *Entomologia Experimentalis et Applicata*, 155(3), pp. 249-256. doi : 10.1111/eea.12306

2014

Boiteau, G., Lowery, D.T., and Boisclair, J. (2014). "Insect Pest Management in Organic Cropping Systems Based on Ecological Principles.", in Martin, R.C. and MacRae, R. (eds.) - *Managing Energy, Nutrients, and Pests in Organic Field Crops*, CRC Press, Chapter 8, pp. 175-214.

Boiteau, G., Goyer, C., Rees, H.W., and Zebarth, B.J. (2014). "Differentiation of potato ecosystems on the basis of relationships among physical, chemical and biological soil parameters.", *Canadian Journal of Soil Science*, 94(4), pp. 463-476. doi : 10.4141/cjss2013-095

Boiteau, G. and MacKinley, P.D. (2014). "Geotaxis in the springtail *Folsomia candida*.", *Entomologia Experimentalis et Applicata*, 152(1), pp. 16-22. doi : 10.1111/eea.12195

Lee, D.H., Park, C.G., Seo, B.Y., Boiteau, G., Vincent, C., and Leskey, T.C. (2014). "Detectability of *Halyomorpha halys* (Hemiptera: Pentatomidae) by portable harmonic radar in agricultural landscapes.", *Florida Entomologist*, 97(3), pp. 1131-1138. doi : 10.1653/024.097.0320

Boiteau, G., Vincent, C., Leskey, T.C., Colpitts, B.G., MacKinley, P.D., and Lee, D.H. (2014). "Impact of host plant connectivity, crop border and patch size on adult Colorado potato beetle retention.", *PLoS ONE*, 9(5:e95717). doi : 10.1371/journal.pone.0095717

2013

Boiteau, G. and MacKinley, P.D. (2013). "Role of avoidance behavior in the response of *Folsomia candida* to above-freezing cooling temperatures.", *Entomologia Experimentalis et Applicata*, 147(1), pp. 50-60. doi : 10.1111/eea.12048

Boiteau, G. and MacKinley, P.D. (2013). "Dispersal of adult Colorado potato beetles (Coleoptera: Chrysomelidae) on plant models.", *Canadian Entomologist*, 145(1), pp. 20-28. doi : 10.4039/tce.2012.85

Boiteau, G. and Heikkilä, J. (2013). "Successional and invasive colonization of the potato crop by the Colorado potato beetle: Managing spread.", in Giordanengo, P., Vincent, C., and Alyokhin, A. (eds.) - *Insect Pests of Potato: Global Perspectives on Biology and Management*, Academic Press, San Diego, USA, Chapter 12, pp. 339-371.

Vahl, W.K., Boiteau, G., de Heij, M.E., MacKinley, P.D., and Kokko, H. (2013). "Female Fertilization: Effects of Sex-Specific Density and Sex Ratio Determined Experimentally for Colorado Potato Beetles and *Drosophila* Fruit Flies.", *PLoS ONE*, 8(4, Article No. E60381). doi : 10.1371/journal.pone.0060381

Lee, D.H., Wright, S.E., Vincent, C., Boiteau, G., and Leskey, T.C. (2013). "Effectiveness of Glues for Harmonic Radar Tag Attachment on *Halyomorpha halys* (Hemiptera: Pentatomidae) and Their Impact on Adult Survivorship and Mobility.", *Environmental Entomology*, 42(3), pp. 515-523. doi : 10.1603/EN12320

2012

Huang, X.Q., Li, Z.-Y., Li, C.-R., Boiteau, G., and Gui, L.-Y. (2012). "Wing loading and extra loading capacity of adults of the Chinese citrus fruit fly, *Bactrocera (Tetracus) minax* (Diptera: Tephritidae).", *Acta Entomologica Sinica*, 55(5), pp. 606-611.

Boiteau, G., Singh, R.P., McCarthy, P.C., and MacKinley, P.D. (2012). "Wood Ash Potential for Colorado Potato Beetle Control.", *American Journal of Potato Research*, 89(2), pp. 129-135. doi : 10.1007/s12230-012-9234-7

Gui, L.-Y., Boiteau, G., Colpitts, B.G., MacKinley, P.D., and McCarthy, P.C. (2012). "Random movement pattern of fed and unfed adult Colorado potato beetles in bare-ground habitat.", *Agricultural and Forest Entomology*, 14(1), pp. 59-68. doi : 10.1111/j.1461-9563.2011.00539.x

Boiteau, G. and MacKinley, P.D. (2012). "Locomotor response of *Folsomia candida* (Collembola: Isotomidae) to cooling temperatures.", *Environmental Entomology*, 41(4), pp. 916-924. doi : 10.1603/en12008

2011

Gui, L.-Y., Huang, X.Q., Chuan-Ren, L., and Boiteau, G. (2011). "Validation of harmonic radar tags to study movement of Chinese citrus fly.", *Canadian Entomologist*, 143(4), pp. 415-422. doi : 10.4039/n11-017

Boiteau, G., Lynch, D.H., and MacKinley, P.D. (2011). "Avoidance tests with *Folsomia candida* for the assessment of copper contamination in agricultural soils.", *Environmental Pollution*, 159(4), pp. 903-906. doi : 10.1016/j.envpol.2010.12.023

Nelson, K.L., Boiteau, G., Lynch, D.H., Peters, R.D., and Fillmore, S.A.E. (2011). "Influence of agricultural soils on the growth and reproduction of the bio-indicator *Folsomia candida*.", *Pedobiologia*, 54(2), pp. 79-86. doi : 10.1016/j.pedobi.2010.09.003

Boiteau, G., Vincent, C., Meloche, F., Leskey, T.C., and Colpitts, B.G. (2011). "Evaluation of tag entanglement as a factor in harmonic radar studies of insect dispersal.", *Environmental Entomology*, 40(1), pp. 94-102. doi : 10.1603/EN10158

Boiteau, G., Vincent, C., Meloche, F., Leskey, T.C., and Colpitts, B.G. (2011). "Harmonic radar: efficacy at detecting and recovering insects on agricultural host plants.", *Pest Management Science*, 67(2), pp. 213-219. doi : 10.1002/ps.2054

## **Other Science Related Publications:**

2013

Boiteau, G., Vincent, C., Leskey, T.C., and Colpitts, B.G. (2013). "Differential impact of mixed crop borders on the walking and flight dispersal of adult Colorado Potato Beetles from the potato patch.", Joint meeting, Entomological Society of Canada/ Entomological Society of Ontario, Guelph, Ontario, Canada, October 20-22, 2013, CP11. (Poster)

Boiteau, G., Vincent, C., Leskey, T.C., and Colpitts, B.G. (2013). "Role of crop border and host patch size on retention of electronically tagged walking adult Colorado potato beetle.", Annual Meeting, Entomological Society of America, Austin, Texas, USA, November 10-13, 2013, D0344. (Poster)

2012

Boiteau, G., Vincent, C., Meloche, F., Leskey, T.C., Gui, L.-Y., and Colpitts, B.G. (2012). "Harmonic radar finders as insect monitoring devices.", 24th International Congress of Entomology (ICE 2012) and International Organization for Biological Control (IOBC) Global Symposium, Daegu, South Korea, August 19-25, 2012, PS4TH043. (Poster)

2011

Boiteau, G., Vincent, C., Meloche, F., Leskey, T.C., and Colpitts, B.G. (2011). "Validation of harmonic radar finders as insect monitoring devices.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011. (Poster)

Gui, L.-Y., Boiteau, G., Colpitts, B.G., MacKinley, P.D., and McCarthy, P.C. (2011). "Walking Pattern of Fed and Unfed Adult Colorado Potato Beetles in Arable Land.", 19th Annual Northeast Potato Technology Forum, Crowne Plaza Fredericton Lord Beaverbrook Hotel, Fredericton, NB, Canada, March 16-17, 2011.



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## Research Publications:

2016

Wajnberg, E., Roitberg, B.D., and Boivin, G. (2016). "Using optimality models to improve the efficacy of parasitoids in biological control programmes.", *Entomologia Experimentalis et Applicata*, 158(1), pp. 2-16. doi : 10.1111/eea.12378

2015

Abram, P.K., Doyon, J., Brodeur, J., Garipey, T.D., and Boivin, G. (2015). "Susceptibility of *Halyomorpha halys* (Hemiptera: Pentatomidae) eggs to different life stages of three generalist predators.", *The Canadian Entomologist*, 147(2), pp. 222-226. doi : 10.4039/tce.2014.41

Abram, P.K., Cusumano, A., Peri, E., Brodeur, J., Boivin, G., and Colazza, S. (2015). "Thermal stress affects patch time allocation by preventing forgetting in a parasitoid wasp.", *Behavioral Ecology*, 26(5), pp. 1326-1334. doi : 10.1093/beheco/arv084

Abram, P.K., Parent, J.-P., Brodeur, J., and Boivin, G. (2015). "Size-induced phenotypic reaction norms in a parasitoid wasp: An examination of life-history and behavioural traits.", *Biological Journal of the Linnean Society*. doi : 10.1111/bij.12658

Lanteigne, M.-E., Brodeur, J., Jenni, S., and Boivin, G. (2015). "Patch Experience Changes Host Acceptance of the Aphid Parasitoid *Aphidius ervi*.", *Journal of Insect Behavior*. doi : 10.1007/s10905-015-9515-3

Abram, P.K., Guerra-Grenier, E., Després-Einspänner, M.-L., Ito, S., Wakamatsu, K., Boivin, G., and Brodeur, J. (2015). "An Insect with Selective Control of Egg Coloration.", *Current Biology*, 25(15), pp. 2007-2011. doi : 10.1016/j.cub.2015.06.010

Lanteigne, M.-E., Brodeur, J., Jenni, S., and Boivin, G. (2015). "Partial aphid resistance in lettuce negatively affects parasitoids.", *Environmental Entomology*, 43(5), pp. 1240-1246. doi : 10.1603/EN14080

Moiroux, J., Boivin, G., and Brodeur, J. (2015). "Temperature influences host instar selection in an aphid parasitoid: Support for the relative fitness rule.", *Biological Journal of the Linnean Society*, 115(4), pp. 792-801. doi : 10.1111/bij.12545

2014

Abram, P.K., Garipey, T.D., Boivin, G., and Brodeur, J. (2014). "An invasive stinkbug as an evolutionary trap for an indigenous egg parasitoid.", *Biological Invasions*, 16(7), pp. 1387-1395. doi : 10.1007/s10530-013-0576-y

Lepage, M.-P., Boivin, G., Brodeur, J., Bourgeois, G., and others (2014). "Oviposition pattern of early- and late-emerging genotypes of *Delia radicum* at different temperatures.", *Environmental Entomology*, 43(1), pp. 178-186. doi : 10.1603/EN13146

Garipey, V., Boivin, G., and Brodeur, J. (2014). "Why two species of parasitoids showed promise in the laboratory but failed to control the soybean aphid under field conditions.", *Biological Control*, 80, pp. 1-7. doi : 10.1016/j.biocontrol.2014.09.006

Zhou, Y., Abram, P.K., Boivin, G., and Brodeur, J. (2014). "Increasing host age does not have the expected negative effects on the fitness parameters of an egg parasitoid.", *Entomologia Experimentalis et Applicata*, 151(2), pp. 106-111. doi : 10.1111/eea.12173

Moiroux, J., Brodeur, J., and Boivin, G. (2014). "Sex ratio variations with temperature in an egg parasitoid: Behavioural adjustment and physiological constraint.", *Animal Behavior*, 91, pp. 61-66. doi : 10.1016/j.anbehav.2014.02.021

2013

Boivin, G. (2013). "Sperm as a limiting factor in mating success in Hymenoptera parasitoids.", *Entomologia Experimentalis et Applicata*, 146(1), pp. 149-155. doi : 10.1111/j.1570-7458.2012.01291.x

Lessard, É. and Boivin, G. (2013). "Effect of age and hunger on host-feeding behaviour by female *Trichogramma euproctidis* (Hymenoptera: Trichogrammatidae).", *Canadian Entomologist*, 145(1), pp. 53-60. doi : 10.4039/tce.2012.86

Abram, P.K., Boivin, G., Haye, T., and Mason, P.G. (2013). "Contarinia nasturtii Kieffer, swede midge (Diptera: Cecidomyiidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, pp. 134-138.

2012

Abram, P.K., Haye, T., Mason, P.G., Cappuccino, N., Boivin, G., and Kuhlmann, U. (2012). "Biology of Synopeas myles, a parasitoid of the swede midge, Contarinia nasturtii, in Europe.", *BioControl*, 57(6), pp. 789-800. doi : 10.1007/s10526-012-9459-x

Boivin, G., Hance, T., and Brodeur, J. (2012). "Aphid parasitoids in biological control.", *Canadian Journal of Plant Science*, 92(1), pp. 1-12. doi : 10.4141/cjps2011-045

Boivin, G. and Martel, V. (2012). "Size-induced reproductive constraints in an egg parasitoid.", *Journal of Insect Physiology*, 58(12), pp. 1694-1700. doi : 10.1016/j.jinsphys.2012.10.014

Lessard, É. and Boivin, G. (2012). "Effect of low temperature on emergence, fecundity, longevity and host-feeding by *Trichogramma brassicae*.", *BioControl*. doi : 10.1007/s10526-012-9493-8

Lepage, M.-P., Bourgeois, G., Brodeur, J., and Boivin, G. (2012). "Effect of soil temperature and moisture on survival of eggs and first-instar larvae of *Delia radicum*.", *Environmental Entomology*, 41(1), pp. 159-165. doi : 10.1603/EN10313

Firlej, A., Girard, P.-A., Brehélin, M., Coderre, D., and Boivin, G. (2012). "Immune Response of *Harmonia axyridis* (Coleoptera: Coccinellidae) Supports the Enemy Release Hypothesis in North America.", *Annals of the Entomological Society of America*, 105(2), pp. 328-338. doi : 10.1603/AN11026

Abram, P.K., Haye, T., Mason, P.G., Cappuccino, N., Boivin, G., and Kuhlmann, U. (2012). "Identity, distribution, and seasonal phenology of parasitoids of the swede midge, *Contarinia nasturtii* (Kieffer) (Diptera: Cecidomyiidae) in Europe.", *Biological Control*, 62(3), pp. 197-205. doi : 10.1016/j.biocontrol.2012.04.003

2011

Martel, V., Darrouzet, E., and Boivin, G. (2011). "Phenotypic plasticity in the reproductive traits of a parasitoid.", *Journal of Insect Physiology*, 57(6), pp. 682-687. doi : 10.1016/j.jinsphys.2011.01.018

Wu, G.-M., Barrette, M., Boivin, G., Brodeur, J., Giraldeau, L.-A., and Hance, T. (2011). "Temperature influences the handling efficiency of an aphid parasitoid through body size-mediated effects.", *Environmental Entomology*, 40(3), pp. 737-742. doi : 10.1603/en11018

Durocher-Granger, L., Martel, V., and Boivin, G. (2011). "Gamete number and size correlate with adult size in the egg parasitoid *Trichogramma euproctidis*.", *Entomologia Experimentalis et Applicata*, 140(3), pp. 262-268. doi : 10.1111/j.1570-7458.2011.01158.x

Martel, V. and Boivin, G. (2011). "Do Choice Tests Really Test Choice?", *Journal of Insect Behavior*, 24(5), pp. 329-336. doi : 10.1007/s10905-011-9257-9

Colinet, H. and Boivin, G. (2011). "Insect parasitoids cold storage: A comprehensive review of factors of variability and consequences.", *Biological Control*, 58(2), pp. 83-95. doi : 10.1016/j.biocontrol.2011.04.014

## Other Science Related Publications:

2012

Abram, P.K., Haye, T., Mason, P.G., Cappuccino, A.A., Boivin, G., and Kuhlmann, U. (2012). "La biologie de *Synopeas myles*, un parasitoïde de la cécidomyie du chou, *Contarinia nasturtii*, en Europe.", 139e réunion annuelle de la Société d'entomologie du Québec, Boucherville, QC, Canada, November 1-2, 2012.

Bourgeois, G., Boivin, G., Brodeur, J., Firlej, A., and Moiroux, J. (2012). "Estimation de températures cardinales associées au taux de développement des insectes.", 139e réunion annuelle de la Société d'entomologie du Québec, Boucherville, QC, Canada, November 1-2, 2012.

Moiroux, J., Firlej, A., Bourgeois, G., Cloutier, C., Boivin, G., and Brodeur, J. (2012). "Variations interspécifiques des limites et exigences thermiques chez les arthropodes: influence du niveau trophique, du groupe taxonomique et de l'origine géographique.", 5e Symposium scientifique d'ouranos, Université du Québec à Montréal, Montréal, QC, Canada, November 24, 2012. (Poster)

Moiroux, J., Brodeur, J., and Boivin, G. (2012). "Influence de la température sur le sexe ratio d'un parasitoïde: modification comportementale ou contrainte physiologique?", 139e réunion annuelle de la Société d'entomologie du Québec, Boucherville, QC, Canada, November 1-2, 2012.

Boivin, G. (2012). "Charançon de la carotte: quand le climat s'en mêle.", 17e année Journée Horticoles de St Rémi, Centre communautaire de Saint-Rémi, Saint-Rémi, QC, Canada, December 5-7, 2012. (Presentation)

Boivin, G. (2012). "Size-induced reproductive constraints in an egg parasitoid.", 24th International Congress of Entomology (ICE 2012) and International Organization for Biological Control (IOBC) Global Symposium, Daegu, South Korea, August 19-25, 2012.

Boivin, G. and Martel, V. (2012). "Influence de la taille sur les capacités reproductives d'un Mymaridae.", 139<sup>e</sup> réunion annuelle de la Société d'entomologie du Québec, Boucherville, QC, Canada, November 1-2, 2012.

Abram, P.K., Haye, T., Mason, P.G., Cappuccino, N., Boivin, G., and Kuhlmann, U. (2012). "The biology of *Synopeas myles*, a parasitoid of the swede midge, *Contarinia nasturtii*.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #2. (Abstract)

Boivin, G. and Bourgeois, G. (2012). "Estimation de la température de base de développement d'un insecte.", 5e Symposium scientifique d'ouranos, Université du Québec à Montréal, Montréal, QC, Canada, November 24, 2012.

## 2011

Gariépy, V., Boivin, G., and Brodeur, J. (2011). "Évaluation du potentiel des parasitoïdes *Binodoxys communis*, *Aphidius colemani* et *Aphelinus certus* pour la lutte biologique au puceron du soya.", XXI<sup>e</sup> symposium du département de sciences biologiques, Pavillon Marie-Victorin de l'Université de Montréal, Montréal, QC, Canada, March 16, 2011.

Boivin, G. (2011). "Does the Temperature-Size rule apply to idiobiont parasitoids?", 2nd Entomophagous Insect Conference, Antibes, France, June 20-23, 2011,.

Lessard, É. and Boivin, G. (2011). "L'effet des basses températures sur la valeur adaptative et le comportement de nutrition sur l'hôte de *Trichogramma brassicae*.", 138<sup>e</sup> réunion annuelle de la Société d'Entomologie du Québec, Orford, QC, Canada, October 13-14, 2011.

Boivin, G. (2011). "Peut-on appliquer la règle taille-température aux parasitoïdes idiobiontes?", 138<sup>e</sup> réunion annuelle de la Société d'Entomologie du Québec, Orford, QC, Canada, October 13-14, 2011.

Lessard, É. and Boivin, G. (2011). "Effect of low temperatures on emergence. Fecundity and host-feeding in *Trichogramma brassicae* (Hymenoptera: Trichogrammatidae).", Entomological Society of Canada 61<sup>st</sup> and Acadian Entomological Society 71<sup>st</sup> joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011.

Peach, D.A.H., Abram, P.K., Haye, T., Mason, P.G., Cappuccino, N., Boivin, G., and Kuhlmann, U. (2011). "Is more really merrier? Superparasitism of swede midge (*Contarinia nasturtii*) by *Synopeas myles*.", Entomological Society of Canada 61<sup>st</sup> and Acadian Entomological Society 71<sup>st</sup> joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011.

Mimee, B., Bélair, G., and Boivin, G. (2011). "*Bradynema listronoti*, a new nematode parasite of the carrot weevil *Listronotus oregonensis*.", *Journal of Nematology*, 43(3-4), pp. 223-297. (Abstract)

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## Research Publications:

2015

Ghanbarnia, K., Fudal, I., Larkan, N.J., Links, M.G., Balesdent, M.H., Profotová, B., Fernando, W.G.D., Rouxel, T., and Borhan, M.H. (2015). "Rapid identification of the *Leptosphaeria maculans* avirulence gene AvrLm2 using an intraspecific comparative genomics approach.", *Molecular Plant Pathology*, 16(7), pp. 699-709. doi: 10.1111/mpp.12228

Larkan, N.J., Ma, L., and Borhan, M.H. (2015). "The *Brassica napus* receptor-like protein RLM2 is encoded by a second allele of the LepR3/Rlm2 blackleg resistance locus.", *Plant Biotechnology Journal*, 13(7), pp. 983-992. doi: 10.1111/pbi.12341

2013

Larkan, N.J., Lydiate, D.J., Parkin, I.A.P., Nelson, M.N., Epp, D.J., Cowling, W.A., Rimmer, S.R., and Borhan, M.H. (2013). "The *Brassica napus* blackleg resistance gene LepR3 is a receptor-like protein triggered by the *Leptosphaeria maculans* effector AvrLm1.", *New Phytologist*, 197(2), pp. 595-605. doi: 10.1111/nph.12043

2012

Kagale, S., Uzuhashi, S., Wigness, M., Bender, T., Yang, W., Borhan, M.H., and Rozwadowski, K. (2012). "TMV-Gate vectors: Gateway compatible tobacco mosaic virus based expression vectors for functional analysis of proteins.", *Scientific Reports*, 2(Article No. 874), pp. 1-10. doi: 10.1038/srep00874

2011

Links, M.G., Holub, E.B., Jiang, R.H.Y., Sharpe, A.G., Hegedus, D.D., Beynon, E., Sillito, D., Clarke, W.E., Uzuhashi, S., and Borhan, M.H. (2011). "de novo sequence assembly of *Albugo candida* reveals a small genome relative to other biotrophic oomycetes.", *BMC Genomics*, 12(503). doi: 10.1186/1471-2164-12-503

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## Research Publications:

2014

Bostanian, N.J., Bourgeois, G., Plouffe, D., and Vincent, C. (2014). "Modeling phytophagous mirid nymphs in cool-climate vineyards.", *Phytoparasitica*, 42(1), pp. 13-22. doi : 10.1007/s12600-013-0332-y

2013

Thistlewood, H.M.A., Bostanian, N.J., and Hardman, J.M. (2013). "European Red Mite, *Panonychus ulmi* (Koch), (Acari: Tetranychidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Wallingford, UK, Chapter 34, pp. 238-243.

2012

Lefebvre, M., Bostanian, N.J., Mauffette, Y., Racette, G., Thistlewood, H.M.A., and Hardman, J.M. (2012). "Laboratory-Based Toxicological Assessments of New Insecticides on Mortality and Fecundity of *Neoseiulus fallacis* (Acari: Phytoseiidae).", *Journal of Economic Entomology*, 105(3), pp. 866-871. doi : 10.1603/EC11260

2011

Mason, P.G., Goulet, H., and Bostanian, N.J. (2011). "Effect of harvest on Euphorine (Hymenoptera: Braconidae) parasitism of *Lygus lineolaris* and *Adelphocoris lineolatus* (Hemiptera: Miridae) in alfalfa.", *Journal of the Entomological Society of Ontario*, 142, pp.3-10.

Lefebvre, M., Bostanian, N.J., Thistlewood, H.M.A., Mauffette, Y., and Racette, G. (2011). "A laboratory assessment of the toxic attributes of six 'reduced risk insecticides' on *Galendromus occidentalis* (Acari: Phytoseiidae).", *Chemosphere*, 84(1), pp. 25-30. doi : 10.1016/j.chemosphere.2011.02.090

## Other Science Related Publications:

2012

Vincent, C. and Bostanian, N.J. (2012). "Nouveau livre sur la gestion des arthropodes de la vigne.", *Journée viticole*, St-Rémi, QC, Canada, 6 décembre 2012. (Presentation)

Bostanian, N.J., Vincent, C., Bourgeois, G., and Plouffe, D. (2012). "Tarnished plant bug dynamics in Québec vineyards.", *Entomological Society of America (ESA) 60th Annual Meeting*, Knoxville Convention Centre, Knoxville, TN, USA, November 11 -14, 2012, D0283. (Poster)

Isaacs, R., Saunders, M.C., and Bostanian, N.J. (2012). "Pest Thresholds: Their Development and Use in Vineyards for Arthropod Management.", in Bostanian, N.J., Vincent, C., and Isaacs, R. (eds.) - *Arthropod Management in Vineyards: Pests, Approaches, and Future Directions*, Springer Dordrecht, The Netherlands, Chapter 2, pp. 17-36.

Bostanian, N.J., Wise, J.C., and Isaacs, R. (2012). "Pesticides for Arthropod Control in Vineyards.", in Bostanian, N.J., Vincent, C., and Isaacs, R. (eds.) - *Arthropod Management in Vineyards: Pests, Approaches, and Future Directions*, Springer Dordrecht, The Netherlands, Chapter 4, pp. 53-90.

Isaacs, R., Vincent, C., and Bostanian, N.J. (2012). "Vineyard IPM in a Changing World: Adapting to New Pests, Tactics, and Challenges.", in Bostanian, N.J., Vincent, C., and Isaacs, R. (eds.) - *Arthropod Management in Vineyards: Pests, Approaches, and Future Directions*, Springer Dordrecht, The Netherlands, Chapter 20, pp. 475-484.

Vincent, C., Isaacs, R., Bostanian, N.J., and Lasnier, J. (2012). "Principles of Arthropod Pest Management in Vineyards.", in Bostanian, N.J., Vincent, C., and Isaacs, R. (eds.) - *Arthropod Management in Vineyards: Pests, Approaches, and Future Directions*, Springer Dordrecht, The Netherlands, Chapter 1, pp. 1-16.

Bostanian, N.J., Vincent, C., and Isaacs, R. (Eds.) (2012). *Arthropod Management in Vineyards: Pests, Approaches, and Future Directions*, Springer Dordrecht, The Netherlands. (Book)

2011

Vincent, C., Fleury, D., Mauffette, Y., Lasnier, J., and Bostanian, N.J. (2011). "Tamished plantbug and cool-climate vineyards.", Entomological Society of America (ESA) 59th Annual Meeting, Reno-Sparks Convention Center, Reno, NV, USA, November 13-16, 2011.

Saguez, J., Bostanian, N.J., and Vincent, C. (2011). "Toxicological assays for leafhoppers associated with vineyards.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011. (Poster)

Vincent, C., Bostanian, N.J., and Côté, J.-C. (2011). "Issues involved in developing biopesticides with small companies: three case studies from Canada.", OECD Workshop on Integrated Pest Management (IPM): Technology and Information, Berlin, Germany, October 16-19, 2011. (Poster)

# Bouchard, Patrice, Ph.D.

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## Research Publications:

2014

Hopp, K.J., Ivie, M.A., Bouchard, P., Steiner, W.E., and Aalbu, R.L. (2014). "Case 3477: *Nesocytosoma* Marcuzzi, 1976 (Insecta, Coleoptera): proposed establishment of availability and designation of *Cytosoma inflatum* Marcuzzi, 1976 as the type species.", *Bulletin of Zoological Nomenclature*, 70(4), pp. 230-233.

Kergoat, G.J., Soldati, L., Clamens, A.-L., Jourdan, H., Jabbour-Zahab, R., Genson, G., Bouchard, P., and Condamine, F.L. (2014). "Higher-level molecular phylogeny of darkling beetles (Coleoptera, Tenebrionidae).", *Systematic Entomology*, 39(3), pp. 486-499. doi: 10.1111/syen.12065

Bousquet, Y. and Bouchard, P. (2014). "Review of the species of *Paratenetus* Spinola inhabiting America, north of Mexico (Coleoptera, Tenebrionidae).", *ZooKeys*(415 Spec. issue), pp. 23-51. doi: 10.3897/zookeys.415.6524

Mason, P.G., Miall, J.H., Bouchard, P., Brauner, A.M., Gillespie, D.R., and Gibson, G.A.P. (2014). "The parasitoid communities associated with *Ceutorhynchus* spp. (Coleoptera: Curculionidae) in Ontario and Quebec, Canada.", *Canadian Entomologist*, 146(2), pp. 224-235. doi: 10.4039/tce.2013.65

Bousquet, Y., Bouchard, P., and Bologna, M.A. (2014). "Case 3657: *STENODERINI* Selander, 1991 (Insecta, Coleoptera): proposed emendation of spelling to *STENODERAINI* to remove homonymy with *STENODERINI* Pascoe, 1867 (Insecta, Coleoptera); and *STENODERINI* Pascoe, 1867: proposed precedence over *SYLLITINI* Thomson, 1864.", *Bulletin of Zoological Nomenclature*, 71(3), pp. 158-161.

Kergoat, G.J., Bouchard, P., Clamens, A.-L., Abbate, J.L., Jourdan, H., Jabbour-Zahab, R., Genson, G., Soldati, L., and Condamine, F.L. (2014). "Cretaceous environmental changes led to high extinction rates in a hyperdiverse beetle family.", *BMC Evolutionary Biology*, 14(Article 220), pp. 1-13. doi: 10.1186/s12862-014-0220-1

2013

Bousquet, Y., Bouchard, P., Davies, A.E., and Sikes, D.S. (2013). "Checklist of beetles (Coleoptera) of Canada and Alaska. Second edition. Data paper.", *ZooKeys*, 360, pp. 1-44.

Douglas, H., Bouchard, P., Anderson, R.S., de Tonnancour, P., Vigneault, R., and Webster, R.P. (2013). "New Curculionoidea (Coleoptera) records for Canada.", *ZooKeys*, 309, pp. 13-48. doi: 10.3897/zookeys.309.4667

Bousquet, Y., Bouchard, P., Davies, A.E., and Sikes, D.S. (2013). Checklist of beetles (Coleoptera) of Canada and Alaska. Second edition., Pensoft Publishers, Sofia, Bulgaria. (Book)

Bouchard, P., Bousquet, Y., Kubáň, V., and Bílý, S. (2013). "Case 3615: *Polybothris* Dupont, 1833 (Insecta, Coleoptera): proposed conservation as the correct original spelling.", *Bulletin of Zoological Nomenclature*, 70(1), pp. 19-21.

Bousquet, Y. and Bouchard, P. (2013). "The Genera in the Second Catalogue (1833-1836) of Dejean's Coleoptera Collection.", *ZooKeys*, 282, pp. 1-219. doi: 10.3897/zookeys.282.4401

Bousquet, Y. and Bouchard, P. (2013). "The Genera in the Third Catalogue (1836-1837) of Dejean's Coleoptera Collection.", *ZooKeys*, 282, pp. 221-239. doi: 10.3897/zookeys.282.4402

2012

Webster, R.P., Sweeney, J.D., DeMerchant, I., Bouchard, P., and Bousquet, Y. (2012). "New Coleoptera records from New Brunswick, Canada: Tenebrionidae and Zopheridae.", *ZooKeys*, 179, pp. 257-277. doi: 10.3897/zookeys.179.2465

Bouchard, P., Gagnier, D.L., and Hunt, D.W.A. (2012). "*Cercopeusschwarzi* Sleeper, 1955 (Coleoptera: Curculionidae: Entiminae) new to Canada.", *Coleopterists Bulletin*, 66(2), pp. 116-117. doi: 10.1649/072.066.0204

Nabozhenko, M.V., Bousquet, Y., and Bouchard, P. (2012). "Nomenclatural notes on the species recorded and described under the name "*Helops gracilis*" (Coleoptera: Tenebrionidae).", *Annales Zoologici*, 64(4), pp. 725-731. doi: 10.3161/000345412x659777

2011

Mason, P.G., Miall, J.H., Bouchard, P., Gillespie, D.R., Broadbent, A.B., and Gibson, G.A.P. (2011). "The parasitoid communities associated with an invasive canola pest, *Ceutorhynchus obstrictus* (Coleoptera: Curculionidae), in Ontario and Quebec, Canada.", *Canadian Entomologist*, 143(5), pp. 524-537. doi : 10.4039/n11-041

Bouchard, P., Bousquet, Y., Davies, A.E., Alonso-Zarazaga, M.A., Lawrence, J.F., Lyal, C.H.C., Newton, A.F., Reid, C.A.M., Schmitt, M., Ślipiński, S.A., and Smith, A.B.T. (2011). "Family-Group Names in Coleoptera (Insecta).", *ZooKeys*, 88, pp. 1-972. doi : 10.3897/zookeys.88.807

## Other Science Related Publications:

2014

Anderson, R.S., Bouchard, P., and Douglas, H. (2014). "Weevils (Coleoptera: Dryophthoridae, Brachyceridae, Curculionidae) of the Prairie Ecozone in Canada.", in Passarakis, M. (ed.) - *Handbook of Plant and Crop Physiology*, 3rd Edition, CRC Press.

Bouchard, P. and Bousquet, Y. (2014). "Darkling beetles (Coleoptera: Tenebrionidae) of Canadian grasslands.", in Cárcamo, H.A. and Giberson, D. (eds.) - *Arthropods of Canadian Grasslands. Vol. 3: Biodiversity of Arthropods in Canadian Grasslands*, Biological Survey of Canada (BSC).

Bouchard, P., Lévesque, A., and Lévesque, C.A. (2014). "The GRDI shared-priorities project on Quarantine and Invasive Species: scientific context and overall goals.", *CFIA's Plant Research Seminar Series*, Ottawa, Canada, April 9, 2014, Invited oral presentation.

Smith, A.D., Aalbu, R.L., and Bouchard, P. (2014). "Third international Tenebrionoidea symposium (Editorial).", *ZooKeys* (415 Spec. issue), pp. 1-8.

Bouchard, P. (2014). *The book of beetles: A life-size guide to six hundred of nature's gems*. (with contributions from Bouchard, P., Bousquet, Y., Carlton, C., Chamorro, M.L., Escalona, H.E., Evans, A.V., Konstantinov, A., Leschen, R.A.B., Le Tirant, S. and Lingafelter, S.W.). (Book)

Bouchard, P. and Smith, A.D. (2014). *Proceedings of the Third International Tenebrionoidea Symposium*, USA: ZooKeys. (Book)

Bouchard, P., Mullineux, S.-T., Lewis, C.T., Kandalaf, I., Maw, H.E.L., Humble, L.H., and Footitt, R.G. (2014). "Rapid detection of quarantine and invasive species using Next Generation Sequencing technologies.", *Joint Annual Meeting of the Entomological Societies of Canada and Saskatchewan. Symposium: Arthropod "omics" – Impact on Management*, Saskatoon, Canada, September 26-October 1, 2014, Oral presentation.

Bouchard, P., Bilodeau, G.J., Abbott, C.L., Footitt, R.G., Rott, M., Lewis, C.T., Macklin, J.A., Neuspiel, M., Esber, P., Sharpe, A.G., Lévesque, A., and Lévesque, C.A. (2014). "Development of novel genomics tools for the rapid detection of quarantine and invasive species in Canada: A new inter-departmental approach to address a complex problem.", *Global Summit on Regulatory Science (GSRS14)*, Montreal, Canada, August 21-22, 2014, Invited poster presentation. (Poster)

Bouchard, P., Lévesque, A., and Lévesque, C.A. (2014). "Applications of DNA barcoding for the identification and monitoring of quarantine and invasive organisms: a new multi-departmental approach from the Government of Canada.", *Informal meeting with International Barcode of Life (iBOL) and the Government of Canada at the Secretariat of the Convention on Biological Diversity*, Montreal, Canada, May 1, 2014. (Presentation)

2012

Mason, P.G., Haye, T., Gillespie, D.R., Miall, J.H., Gibson, G.A.P., Dosdall, L.M., Kuhlmann, U., and Bouchard, P. (2012). "Risk assessment of biocontrol agents: the case of cabbage seedpod weevil, *Ceutorhynchus obstrictus*.", *Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting*, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #126. (Abstract)

Mason, P.G., Haye, T., Gillespie, D.R., Miall, J.H., Gibson, G.A.P., Kuhlmann, U., and Bouchard, P. (2012). "Environmental risk assessment of biological control agents in Canada: the cabbage seedpod weevil, *Ceutorhynchus obstrictus*, case study.", *24th International Congress of Entomology (ICE 2012) and International Organization for Biological Control (IOBC) Global Symposium*, Daegu, South Korea, August 19-25, 2012. (Presentation)

2011

Bouchard, P., Bousquet, Y., Davies, A.E., Alonso-Zarazaga, M.A., Lyal, C.H.C., Newton, A.F., and Smith, A.B.T. (2011). "Towards a complete list of family-group names in Coleoptera (Insecta) with comments on dates of publication.", *Special meeting of the Society for the History of Natural History, the International Commission on Zoological Nomenclature and the Linnean Society of London: Anchoring Biodiversity Information: From Sherborn to the 21st century and beyond*, The Natural History Museum, London, UK, October 28, 2011. (Poster)



Bouchard, P. and Bousquet, Y. (2011). "Tenebrionidae of Canada and Alaska.", 59th Annual Meeting of the Entomological Society of America, Reno-Sparks Convention Center, Reno, NV, USA, November 13-16, 2011. (Presentation)

Bouchard, P. (2011). "Biggest bugs (life-size!). Beccaloni, G. 2010. 84 pp. Natural History Museum, London. ISBN 9781554076994. (Book Review).", Bulletin of the Entomological Society of Canada, 43(2), pp. 86-87.

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## Research Publications:

2016

Andersen, J.C., Bourchier, R.S., Grevstad, F., Van Driesche, R.G., and Mills, N.J. (2016). "Development and verification of SNP arrays to monitor hybridization between two host-associated strains of knotweed psyllid, *Aphalara itadori*.", *Biological Control*, 93, pp. 49-55. doi : 10.1016/j.biocontrol.2015.11.007

2014

Hinz, H.L., Gassmann, A., Schwarzländer, M., and Bourchier, R.S. (2014). "Successes we might never have had: a retrospective comparison of predicted versus realized host range of established weed biological control agents in North America (Review).", *Invasive Plant Science and Management*, 7(4), pp. 565-579. doi : 10.1614/IPSM-D-13-00095.1

Gaskin, J.F., Schwarzländer, M., Grevstad, F., Haverhals, M.A., Bourchier, R.S., and Miller, T.W. (2014). "Extreme differences in population structure and genetic diversity for three invasive congeners: knotweeds in western North America.", *Biological Invasions*, 16(10), pp. 2127-2136. doi : 10.1007/s10530-014-0652-y

2013

Hinz, H.L., Bourchier, R.S., and Schwarzländer, M. (2013). "Lepidium draba L., L. chalepense L., L. appelianum Al-Shehbaz, Hoary Cresses (Brassicaceae)", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Wallingford, UK, pp. 332-337.

Grevstad, F., Shaw, R., Bourchier, R.S., Sanguankeo, P., Cortat, G., and Reardon, R.C. (2013). "Efficacy and host specificity compared between two populations of the psyllid *Aphalara itadori*, candidates for biological control of invasive knotweeds in North America.", *Biological Control*, 65(1), pp. 53-62. doi : 10.1016/j.biocontrol.2013.01.001

de Moraes, E.G.F., Picanço, M.C., Lopes-Mattos, K.L.B., Bourchier, R.S., Meira, R.M.S.A., and Barreto, R.W. (2013). "Dielisphlebia smithi (Hemiptera: Psyllidae), a potential biocontrol agent for *Miconia calvenscens* in the Pacific: Population dynamics, climate-match, host-specificity, host-damage and natural enemies.", *Biological Control*, 66(1), pp. 33-40. doi : 10.1016/j.biocontrol.2013.03.008

Bourchier, R.S. and Van Hezewijk, B.H. (2013). "Euphorbia esula (L.) (Leafy Spurge) Euphorbiaceae.", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Wallingford, UK, pp. 315-320.

Bourchier, R.S. and Van Hezewijk, B.H. (2013). "Centaurea diffusa Lamarck Diffuse Knapweed and *Centaurea stoebe* subsp. micranthos (S.G. Gmel. ex Gugler) Hayek [= *Centaurea maculosa* Lamarck], Spotted Knapweed (Asteraceae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Wallingford, UK, pp. 302-307.

Bourchier, R.S., Grevstad, F., and Shaw, R. (2013). "Fallopia japonica (Houtt.) Ronse Decraene, Japanese Knotweed; Fallopia sachalinensis (F. Schmidt) Ronse Decraene, Giant Knotweed; Fallopia x bohemica (Chrtk & Chrtková) J. P. Bailey, Bohemian Knotweed (Polygonaceae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Wallingford, UK, pp. 321-328.

Bourchier, R.S., Weed, A., Casagrande, R., Gassmann, A., Smith, S., and Cappuccino, N. (2013). "Vincetoxicum nigrum (L.) Moench, V. rossicum (Kleopow) Barbar., swallow-worts, dog strangling vine (Apocynaceae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Wallingford, UK, pp. 402-407.

2012

Van Hezewijk, B.H. and Bourchier, R.S. (2012). "Impact of *Cyphocleonus achates* on diffuse knapweed and its interaction with *Larinus minutus*.", *Biological Control*, 62(2), pp. 113-119. doi : 10.1016/j.biocontrol.2012.03.008

2011

Bourchier, R.S. and Crowe, M.L. (2011). "Role of plant phenology in mediating interactions between two biological control agents for spotted knapweed.", *Biological Control*, 58(3), pp. 367-373. doi : 10.1016/j.biocontrol.2011.05.003

Casagrande, R., Weed, A., Hazlehurst, A.F., Tewksbury, L., Schwarzländer, M., Gassmann, A., Bourchier, R.S. (2011). "A Petition for Experimental Open-Field Release of *Hypena opulenta* a Potential Biological Control Agent of Swallowworts (*Vincetoxicum nigrum* and *V. rossicum*) in North America. Submitted to Canadian Biological Control Review Committee-CFIA and USDA-APHIS Technical Advisory Group for Biological Control of Weeds.", 48 pages.

Roehrdanz, R.L., Bourchier, R.S., Cortilet, A., Olson, D., and Sears, S. (2011). "Phylogeny and genetic diversity of flea beetles (*Aphthona* sp.) introduced to North America as biological control agents for leafy spurge Biological Control.", *Annals of the Entomological Society of America*, 104(5), pp. 966-975. doi : 10.1603/AN10145

Mráz, P., Bourchier, R.S., Treier, U.A., Schaffner, U., and Müller-Schärer, H. (2011). "Polyploidy in phenotypic space and invasion context: A morphometric study of *centaurea stoebe* s.l.", *International Journal of Plant Sciences*, 172(3), pp. 386-402. doi : 10.1086/658151

## Other Science Related Publications:

2014

Bourchier, R.S., Hinz, H.L., and Schaffner, U. (2014). "Addressing urban myths about classical weed biocontrol.", *Weeds Across Borders 2014*, Ottawa, Canada, October 14-17, 2014. (Abstract)

Bourchier, R.S., Coghlin, P.C., Dunlop, B., Ostrander, D., LeSage, L., and Floate, K.D. (2014). "Assessment of the diversity of *Aphthona* beetles for the biological control of leafy spurge on the prairies.", 62nd Annual Meeting of the Entomological Society of Alberta, Lethbridge, AB, Canada, October 16-18, 2014. (Poster)

Schaffner, U., Hinz, H.L., and Bourchier, R.S. (2014). "Misconceptions about classical biological control of weeds.", *Terrestrial Invasive Plant Species Conference II*, Mississauga, ON, Canada, August 6-8, 2014. (Abstract)

Bourchier, R.S., Coghlin, P.C., Dunlop, B., Ostrander, D., LeSage, L., and Floate, K.D. (2014). "Assessment of the diversity of *Aphthona* flea beetles for biological control of leafy spurge on the prairies.", 62nd Annual Meeting of the Entomological Society of Alberta, Lethbridge, AB, Canada, October 16-18, 2014. (Poster)

Bourchier, R.S., Weed, A., Tewksbury, L., Cappuccino, N., Smith, S.E., Gassmann, A., and Casagrande, R. (2014). "Release of *Hypena opulenta* for biological control of dog-strangling vine (*Vincetoxicum*) in North America.", *Terrestrial Invasive Plant Species Conference II*, Mississauga, ON, Canada, August 6-8, 2014. (Abstract)

Gaskin, J.F., Schwarzländer, M., Grevstad, F., Haverhals, M.A., Bourchier, R.S., and Miller, T.W. (2014). "Extreme differences in population structure and genetic diversity for three invasive congeners: knotweeds in western North America.", *Terrestrial Invasive Plant Species Conference II*, Mississauga, ON, Canada, August 6-8, 2014. (Abstract)

Tanner, R., Bourchier, R.S., and Ellison, C.A. (2014). "The potential for the biological control of Himalayan balsam using the rust pathogen *Puccinia cf. komarovii*: opportunities for Europe and North America.", *Northern Rockies Invasive Plant Council Meeting*, Spokane, Washington, USA, February 10-13, 2014. (Abstract)

Bourchier, R.S., Coghlin, P.C., Dunlop, B., Ostrander, D., LeSage, L., and Floate, K.D. (2014). "Assessment of the diversity of *Aphthona* beetles for the biological control of leafy spurge on the prairies.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014. (Poster)

2013

Bourchier, R.S. and Smith, S.M. (2013). "Targeting New and Old Worts: Biological Control of Invasive Plants in Ontario.", *Ontario Invasive Plant Council Annual Conference*, Orillia, Ontario, Canada. (Presentation)

Dejonge, R., Bourchier, R.S., and Smith, S.M. (2013). "Chrysochus auratus and *C. cobaltinus*: native candidates for biological control of Dog strangling vine (*Vincetoxicum rossicum*)?", *Entomological Society of Canada Meeting*, Guelph, ON, Canada, October 2013.

Courtney, M., Bourchier, R.S., and Jamaat, A. (2013). "The influence of canopy cover and knotweed stem density on growth and functional traits of invasive knotweeds (*Fallopia* sp.)", *Canadian Society for Evolution and Ecology Kelowna*, May, 2013, pp. 9. (Poster)

Kloppenburg, C., Smith, A.M., Staenz, K., Bourchier, R.S., and Coburn, C.A. (2013). "Detecting Leafy Spurge in Native Grassland Using Hyperspectral Image Analysis.", *34th Canadian Symposium on Remote Sensing*, Victoria, BC, Canada, August 27-30, 2013.

Oseen, I., Smith, A.M., Kloppenburg, C., Larson, G.L., and Bouchier, R.S. (2013). "Mapping the invasive weed species leafy spurge: the influence of image spatial and spectral resolution.", 34th Canadian Symposium on Remote Sensing, Victoria, BC, Canada, August 27-30, 2013.

## 2012

De Clerck-Floate, R.A. and Bouchier, R.S. (2012). "Classical weed biocontrol in Canada: How do new agents against emerging invasive plants happen?", Terrestrial Invasive Plant Species Conference: Understanding Plant Invasions in a Changing World, Sault Ste. Marie, ON, Canada, August 20-22, 2012, pp. 40. (Abstract)

Tiberg, K., Blair, L.H., Bouchier, R.S., and Wilson, R. (2012). "Biological Control of Invasive Plants.", Southern Weed School, Medicine Hat, AB, Canada, June 13, 2012. (Presentation)

Tiberg, K., Blair, L.H., Bouchier, R.S., and Wilson, R. (2012). "Biological Control of Invasive Plants.", Central Alberta Weed School, Calgary, AB, June 7, 2012. (Presentation)

Bouchier, R.S., Floate, K.D., and LeSage, L. (2012). "Assessment of the diversity of biocontrol agents at historic leafy spurge release sites in Southern Alberta.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #18. (Abstract)

Bouchier, R.S., Mason, P.G., and Floate, K.D. (2012). "Agriculture and Agri-Food Canada and Invasive Species.", National Invasive Species Forum, Delta Ottawa Hotel & Suites, Ottawa, ON, Canada, February 28-March 1, 2012. (Presentation)

Bouchier, R.S., Mason, P.G., and Floate, K.D. (2012). "Agriculture Information and IAS Management National Invasive Species Forum.", National Invasive Species Forum, Delta Ottawa Hotel & Suites, Ottawa, ON, Canada, February 28-March 1, 2012. (Presentation)

Bouchier, R.S., Weed, A., Hazelhurst, A., Tewksbury, L., Gassmann, A., Smith, S.M., and Casagrande, R. (2012). "Proposed release of *Hypena opulenta*: A potential biocontrol agent for dog-strangling vine.", Terrestrial Invasive Plant Species Conference: Understanding Plant Invasions in a Changing World, Sault Ste. Marie, ON, Canada, August 20-22, 2012, pp. 41.

Van Hezewijk, B.H., Bouchier, R.S., and Wilson, R. (2012). "Biological Control activities in Southern Alberta 2011.", Association of Alberta Agriculture Fieldmen, March 2012. (Presentation)

Van Hezewijk, B.H., Bouchier, R.S., and Wilson, R. (2012). Biological Control activities in Southern Alberta 2011. (Report)

Bouchier, R.S., Floate, K.D., and Mason, P.G. (2012). "Biocontrol Data: Agriculture and Agri-Food Canada.", National Invasive Species Forum, Delta Ottawa Hotel & Suites, Ottawa, ON, Canada, February 28-March 1, 2012. (Presentation)

Grevstad, F., Bouchier, R.S., Shaw, R., Sanguankeo, P., Cortat, G., and Reardon, R. (2012). "A Petition for Field Release of *Aphalara itadori* into North America for Biological Control of Invasive Knotweeds. Submitted to Canadian Biological Control Review Committee and USDA-APHIS Technical Advisory Group for Biological Control of Weeds.", 51 pages.

Dejonge, R., Bouchier, R.S., and Smith, S.M. (2012). "Will Native Dogbane Beetles (*Chrysochus auratus*) Adapt to Dog-Strangling Vine (*Vincetoxicum* spp.)?", Terrestrial Invasive Plant Species Conference: Understanding Plant Invasions in a Changing World, Sault Ste. Marie, ON, Canada, August 20-22, 2012, pp. 43.

## 2011

Hinz, H.L., Gassmann, A., Bouchier, R.S., and Schwarzländer, M. (2011). "Successes we might never have had: a retrospective comparison of predicted versus realized host range of established weed biological control agents in North America.", 13th International Symposium on Biological Control of Weeds, Kona, HI, USA, September 11-16, 2011.

Bouchier, R.S. and Van Hezewijk, B.H. (2011). "Knotweeds and Biocontrol under Current and Future Climate – Send in the Clones Responding to Invasive Species.", 2nd Research Forum - BC Invasive Plant Council, Richmond, BC, Canada, October 18-19, 2011, pp. 38.

Bouchier, R.S. and Van Hezewijk, B.H. (2011). "Modeling current and future climate to predict the spread of invasive knotweeds and its biocontrol agent in western North America.", 13th International Symposium on Biological Control of Weeds, Kona, HI, USA, September 11-16, 2011.

Bouchier, R.S. (2011). "Biological Control of Invasive Plants.", Alberta Weed School, Calgary, AB, Canada, June 2011. (Presentation)

Van Hezewijk, B.H. and Bouchier, R.S. (2011). "Hares or Tortoises? How to choose an optimally dispersing biological control agent.", 13th International Symposium on Biological Control of Weeds, Kona, HI, USA, September 11-16, 2011.

Kloppenburg, C., Smith, A.M., Staenz, K., Bouchier, R.S., and Van Hezewijk, B.H. (2011). "Detecting leafy spurge (*Euphorbia esula* L.) in native grassland using hyperspectral image analysis.", 32nd Canadian Symposium on Remote Sensing/14e Congrès de l'association québécoise de télédétection, Bishop's University, Lennoxville, QC, Canada, June 13-16, 2011.

Bourchier, R.S. (2011). "Chasing after the world's largest female on both sides of the border, *Polygonum cuspidatum*/*Fallopia japonica*.", 96th Ecological Society of America (ESA) Annual Meeting, Austin Convention Center, Austin, TX, USA, August 7-12, 2011. (Presentation)

Van Hezewijk, B.H., Bourchier, R.S., and Wilson, R. (2011). "Biological Control activities in Southern Alberta 2010.", Association of Alberta Agricultural Fieldmen, March 2011. (Presentation)

Gassmann, A., Weed, A., Tewksbury, L., Leroux, A., Smith, S.M., Dejonge, R., and Bourchier, R.S. (2011). "Evaluating the potential for biological control of swallow-worts (*Vincetoxicum nigrum* and *V. rossicum*) in eastern North America.", 13th International Symposium on Biological Control of Weeds, Kona, HI, USA, September 11-16, 2011. (Poster)

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## Research Publications:

2015

Cormier, D., Chouinard, G., Vanoosthuysse, F., Pelletier, F., Bellerose, S., Bourgeois, G., Plouffe, D., and Joannin, R. (2015). "A phenology model for codling moth management in Quebec apple orchards.", *Acta Horticulturae (ISHS)*, 1068, pp. 51-56.

Bourgeois, G., Plouffe, D., Beaudry, N., Choquette, D., Chouinard, G., and Bellerose, S. (2015). "Using the DJPheno software for model calibration and validation of apple phenological stages.", *Acta Horticulturae (ISHS)*, 1068, pp. 117-124.

Bourgeois, G., Plouffe, D., De El, J., and Pitiot, C. (2015). "Evaluation of a preharvest bioclimatic model for predicting the risk of Low temperature disorders of stored apples in Canada and France.", *Acta Horticulturae (ISHS)*, 1068, pp. 243-252.

2014

Lepage, M.-P., Boivin, G., Brodeur, J., Bourgeois, G., and others (2014). "Oviposition pattern of early- and late-emerging genotypes of *Delia radicum* at different temperatures.", *Environmental Entomology*, 43(1), pp. 178-186. doi : 10.1603/EN13146

Bostanian, N.J., Bourgeois, G., Plouffe, D., and Vincent, C. (2014). "Modeling phytophagous mirid nymphs in cool-climate vineyards.", *Phytoparasitica*, 42(1), pp. 13-22. doi : 10.1007/s12600-013-0332-y

Launay, M., Caubel, J., Bourgeois, G., Huard, F., Garcia de Cortazar-Atauria, I., Bancal, M.-O., and Brisson, N. (2014). "Climatic indicators for crop infection risk: Application to climate change impacts on five major foliar fungal diseases in Northern France.", *Agriculture, Ecosystems and Environment*, 197, pp. 147-158. doi : 10.1016/j.agee.2014.07.020

2013

Lachapelle, M., Bourgeois, G., and De El, J.R. (2013). "Effects of Preharvest Weather Conditions on Firmness of 'McIntosh' Apples at Harvest Time.", *HortScience*, 48(4), pp. 474-480.

Perreault, S., Chokmani, K., Nolin, M.C., and Bourgeois, G. (2013). "Validation of a soil temperature and moisture model in Southern Quebec, Canada.", *Soil Science Society of America Journal*, 77, pp. 606-617. doi : 10.2136/sssaj2012.0311

Xie, M., Tremblay, N., Tremblay, G., Bourgeois, G., Bouroubi, M.Y., and Wei, Z. (2013). "Weather effects on corn response to in-season nitrogen rates.", *Canadian Journal of Plant Science*, 93(3), pp. 407-417. doi : 10.4141/cjps2012-145

Lachapelle, M., Bourgeois, G., De El, J.R., Stewart, K.A., and Séguin, P. (2013). "Modelling the effect of preharvest weather conditions on the incidence of soft scald in 'Honeycrisp' apples.", *Postharvest Biology and Technology*, 85, pp. 57-66. doi : 10.1016/j.postharvbio.2013.04.004

2012

Lepage, M.-P., Bourgeois, G., Brodeur, J., and Boivin, G. (2012). "Effect of soil temperature and moisture on survival of eggs and first-instar larvae of *Delia radicum*.", *Environmental Entomology*, 41(1), pp. 159-165. doi : 10.1603/EN10313

LeBlanc, D.I., Vigneault, C., Boutin, J., Toussaint, V., Charlebois, D., Fomey, C.F., Bourgeois, G., Clément, A., and Bezanson, G.S. (2012). "Design and performance of a controlled environment mini-chamber for measuring produce quality deterioration.", *Journal of Agricultural Science and Technology B*, 2, pp. 391-399.

2011

Jégo, G., Pattey, E., Bourgeois, G., Tremblay, N., and Drury, C.F. (2011). "Evaluation of the STICS crop growth model with maize cultivar parameters calibrated for Eastern Canada.", *Agronomy for Sustainable Development*, 31(3), pp. 557-570. doi : 10.1007/s13593-011-0014-4

## Other Science Related Publications:

2014

Bourgeois, G., Moiroux, J., Gendron-St-Marseille, A.-F., Gagnon, A.-È., Mimee, B., and Brodeur, J. (2014). "Quels enjeux représentent les changements climatiques en lien avec les espèces exotiques envahissantes pour la culture du soya au Québec?", Conférence présentée dans le cadre du Symposium Ouranos à Québec, QC, Canada.

Mimee, B., Brodeur, J., Bourgeois, G., Moiroux, J., Gendron-St-Marseille, A.-F., and Gagnon, A.-È. (2014). "Quels enjeux représentent les changements climatiques en lien avec les espèces exotiques envahissantes pour la culture du soya au Québec? Ouranos#550012-103. Québec, Canada. 51 p. (Report)

Qian, B., Neilsen, D., Bourgeois, G., and Zhang, X. (2014). "Historical trends in the risk of spring frost damage to fruit trees in eastern Canada.", 20th International Congress on Biometeorology, Cleveland, Ohio, USA, September 28 – October 1, 2014, Presentation.

Giroux, M., Vanasse, A., Bourgeois, G., Dion, Y., Rioux, S., Pageau, D., Zoghliami, S., Parent, C., and Vachon, E. (2014). "Évaluation de modèles prévisionnels de la fusariose de l'épi chez le blé sous les conditions de culture du Québec.", Conférence présentée à la Journée d'Information scientifique sur les Grandes Cultures, Drummondville, QC, Canada, 20 Février 2014.

Tremblay, N., Bourgeois, G., Audet, R., Fallon, E., Bélec, C., and Bouroubi, M.Y. (2014). "Managing spatial and temporal uncertainties in actual and forecast rainfall for optimal in-season nitrogen fertilizer rates recommendations in corn.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30 - July 3, 2014.

Moiroux, J., Bourgeois, G., Brodeur, J., Gagnon, A.-È., Gendron-St-Marseille, A.-F., and Mimee, B. (2014). "Quels enjeux représentent les changements climatiques en lien avec les espèces exotiques envahissantes pour la culture du soya au Québec? Feuillet technique. Ouranos. Québec, Canada. 11 p. ([http://www.agrireseau.qc.ca/documents/Document\\_87868.pdf](http://www.agrireseau.qc.ca/documents/Document_87868.pdf)). (Report)

Moiroux, J., Bourgeois, G., Brodeur, J., Gagnon, A.-È., Gendron-St-Marseille, A.-F., and Mimee, B. (2014). "Quelles espèces exotiques envahissantes menacent la culture du soya au Québec à la faveur des changements climatiques?", Conférence présentée dans le cadre de la Journée d'information scientifique grandes cultures du CRAAQ à Drummondville, QC, Canada.

Gendron-St-Marseille, A.-F., Mimee, B., Bourgeois, G., and Brodeur, J. (2014). "Modélisation bioclimatique de la phénologie du soja et du nématode à kyste dans un contexte de changements climatiques.", Congrès annuel de la Société de Protection des Plantes du Québec (SPPQ) à St-Marc-sur-Richelieu, QC, Canada. Résumé publié dans *Phytoprotection*.

2013

Giroux, M., Vanasse, A., Bourgeois, G., Dion, Y., Rioux, S., Pageau, D., Zoghliami, S., Parent, C., and Vachon, E. (2013). "Évaluation de modèles prévisionnels de la fusariose de l'épi chez le blé dans les conditions de culture du Québec.", Assemblée annuelle de la Société de protection des plantes du Québec, Québec, QC, Canada, 5 et 6 juin 2013.

Bourgeois, G. (2013). "Modélisation de la température de résistance hivernale des bourgeons de pommier.", 21<sup>ème</sup> Journées annuelles sur la recherche et l'innovation technologique du Réseau de recherche et d'expertise pomicole en production fruitière intégrée, Orford, QC, Canada, 7 et 8 février 2013.

Giroux, M., Vanasse, A., Bourgeois, G., Dion, Y., Rioux, S., Pageau, D., Zoghliami, S., Parent, C., and Vachon, E. (2013). "Évaluation de modèles prévisionnels de la fusariose de l'épi chez le blé dans les conditions de culture du Québec.", Conférence présentée à la Journée d'Information scientifique sur les Grandes Cultures, Drummondville, QC, Canada, 21 Février 2013.

Giroux, M., Vanasse, A., Bourgeois, G., Dion, Y., Rioux, S., Pageau, D., Zoghliami, S., Parent, C., and Vachon, E. (2013). "Evaluation of Predictive Models for Wheat Fusarium Head Blight under Growing Conditions of Quebec, Canada.", 12th European Fusarium Seminar: Fusarium – Mycotoxins, Taxonomy, Genomics, Biosynthesis, Pathogenicity, Resistance, Disease control, Bordeaux, France, May 12-16, 2013.

Ricard, M.P. and Bourgeois, G. (2013). "Modéliser la dormance hivernale pour mieux prédire le débourrement des bourgeons de pommier.", 21<sup>ème</sup> Journées annuelles sur la recherche et l'innovation technologique du Réseau de recherche et d'expertise pomicole en production fruitière intégrée, Orford, QC, Canada, 7 et 8 février 2013.

Giroux, M., Vanasse, A., Bourgeois, G., Dion, Y., Rioux, S., and Pageau, D. (2013). "Évaluation de modèles prévisionnels du risque de fusariose de l'épi chez le blé dans les conditions de culture du Québec.", Conférence présentée au 81<sup>ème</sup> Congrès de l'ACFAS - Association francophone pour le savoir, Québec, QC, Canada, 6-10 mai 2013.

Lachapelle, M., Bourgeois, G., and DeEll, J.R. (2013). "Effet des conditions climatiques pré-récolte sur la fermeté de la pomme 'McIntosh' à la récolte.", 21<sup>ème</sup> Journées annuelles sur la recherche et l'innovation technologique du Réseau de recherche et d'expertise pomicole en production fruitière intégrée, Orford, QC, Canada, 7 et 8 février 2013.

Plouffe, D. and Bourgeois, G. (2013). "Portrait récent des captures du carpocapse de la pomme au Québec.", 21<sup>ème</sup> Journées annuelles sur la recherche et l'innovation technologique du Réseau de recherche et d'expertise pomicole en production fruitière intégrée, Orford, QC, Canada, 7 et 8 février 2013.

Gagnon, A.-È., Arsenault-Labrecque, G., Bourgeois, G., Bourdages, L., Grenier, P., and Roy, M. (2013). Études de cas pour faciliter une gestion efficace des ennemis des cultures dans le contexte de l'augmentation des risques phytosanitaires liés aux changements climatiques. Ouranos, Rapport final projet # 550004-PXI. 183 pges. (Report)

2012

Lepage, M.-P., Bourgeois, G., and Bélanger, G. (2012). "Indices agrométéorologiques pour l'aide à la décision dans un contexte de climat variable et en évolution.", published by Centre de référence en agriculture et agroalimentaire du Québec (CRAAQ), Québec, QC, Canada. (Technology transfer)

Moiroux, J., Firlej, A., Bourgeois, G., Cloutier, C., Boivin, G., and Brodeur, J. (2012). "Variations interspécifiques des limites et exigences thermiques chez les arthropodes: influence du niveau trophique, du groupe taxinomique et de l'origine géographique.", 5<sup>e</sup> Symposium scientifique d'ouranos, Université du Québec à Montréal, Montréal, QC, Canada, November 24, 2012. (Poster)

Barriault, E., Bourgeois, G., and Michaud, A. (2012). "Guide Implantation Vigne.", published by Centre de référence en agriculture et agroalimentaire du Québec (CRAAQ), Québec, QC, Canada, 117 pages. (Technology transfer)

Bostanian, N.J., Vincent, C., Bourgeois, G., and Plouffe, D. (2012). "Tarnished plant bug dynamics in Québec vineyards.", Entomological Society of America (ESA) 60th Annual Meeting, Knoxville Convention Centre, Knoxville, TN, USA, November 11-14, 2012, D0283. (Poster)

Boivin, G. and Bourgeois, G. (2012). "Estimation de la température de base de développement d'un insecte.", 5<sup>e</sup> Symposium scientifique d'ouranos, Université du Québec à Montréal, Montréal, QC, Canada, November 24, 2012.

Plouffe, D. and Bourgeois, G. (2012). "Modèles bioclimatiques pour la prévision des risques associés aux ennemis des cultures dans un contexte de climat variable et en évolution.", published by Centre de référence en agriculture et agroalimentaire du Québec (CRAAQ), Québec, QC, Canada, 9 pages, PAGR0105. (Technology transfer)

Lepage, M.-P. and Bourgeois, G. (2012). "Modèles bioclimatiques pour la prédiction de la phénologie, de la croissance, du rendement et de la qualité des cultures.", published by Centre de référence en agriculture et agroalimentaire du Québec (CRAAQ), Québec, QC, Canada, 11 pages, PAGR0104. (Technology transfer)

Plouffe, D., Bourgeois, G., and Lepage, M.-P. (2012). "Les modèles bioclimatiques utilisés en agriculture.", Colloque en Agroclimatologie : Outils disponibles et changements climatiques, Drummondville, QC, Canada, 7 mars 2012, Publication PAGR0108, pp. 24-30.

Arsenault-Labrecque, G., Gagnon, A.-È., Bourdages, L., Bourgeois, G., Blondlot, A., and Roy, M. (2012). "Études de cas pour faciliter une gestion efficace des ennemis des cultures dans le contexte de l'augmentation des risques phytosanitaires liés aux changements climatiques.", 139<sup>e</sup> réunion annuelle de la Société d'entomologie du Québec, Boucherville, QC, Canada, November 1-2, 2012.

Audet, R., Beaudoin, M., Thibault, T., Mailhot, A., Bourdages, L., Brouillette, P., Savard, C., Chaumont, D., Bourgeois, G., and Bachand, D. (2012). "L'Atlas agroclimatique du Québec.", Colloque en Agroclimatologie : Outils disponibles et changements climatiques, Drummondville, QC, Canada, 7 mars 2012, Publication PAGR0108, pp. 10-13.

Bourgeois, G., Audet, R., Bélanger, L., Duchesne, I., Filion, P., Leclerc, B., and Tremblay, G. (2012). "Mise à jour des unités thermiques maïs (UTM) au Québec.", Colloque en Agroclimatologie : Outils disponibles et changements climatiques, Drummondville, QC, Canada, 7 mars 2012, pp. 15-17.

Bourgeois, G. and Bachand, D. (2012). "Sensibilisation et diffusion d'informations sur les opportunités et les risques associés aux changements climatiques pour l'agriculture au Québec.", 5<sup>e</sup> Symposium scientifique Ouranos sur la climatologie régionale et l'adaptation aux changements climatiques, Montréal, QC, Canada, 19 au 21 novembre 2012.

Lepage, M.-P., Bourdages, L., and Bourgeois, G. (2012). "Interpretation of Climate Change Scenarios in order to Improve Agricultural Risk Management", published in Centre de référence en agriculture et agroalimentaire du Québec (CRAAQ), Commission agrométéorologie, Publication no. PAGR0107. 11 p.

Pepin, S. and Bourgeois, G. (2012). "Outils agrométéorologiques pour la planification de l'irrigation des cultures.", Colloque en Agroclimatologie : Outils disponibles et changements climatiques, Drummondville, QC, Canada, 7 mars 2012, Publication PAGR0108, pp. 40-44.

Bourgeois, G., Boivin, G., Brodeur, J., Firlej, A., and Moiroux, J. (2012). "Estimation des températures cardinales associées au taux de développement des insectes.", 139<sup>e</sup> réunion annuelle de la Société d'entomologie du Québec, Boucherville, QC, Canada, November 1-2, 2012.



Lachapelle, M., Bourgeois, G., Stewart, K.A., and DeEll, J.R. (2011). "Effet des conditions climatiques pré-récolte sur l'incidence de deux désordres physiologiques post-récolte de la pomme 'Honeycrisp'.", 19<sup>ème</sup> Journées annuelles sur la recherche et l'innovation technologique; Groupe d'experts en protection des pommiers, Orford, QC, Canada, 2 et 3 février 2011.

Gagnon, A.-É., Roy, M., Bourdages, L., Bourgeois, G., and Blondlot, A. (2011). "Impact des changements climatiques sur cinq ennemis des cultures au Québec.", *Phytoprotection*, 92, pp. 45-46.

Cormier, D., Chouinard, G., Vanoosthuysse, F., Pelletier, F., Bellerose, S., Joannin, R., Bourgeois, G., and Plouffe, D. (2011). "A phenology model for codling moth management in Quebec apple orchards.", IX International Symposium on Modelling in Fruit Research and Orchard Management, Saint-Jean-sur-Richelieu, QC, Canada, June 19-23, 2011.

Lepage, M.-P. and Bourgeois, G. (2011). "Le réseau québécois de stations météorologiques et l'information générée pour le secteur agricole.", published by Centre de référence en agriculture et agroalimentaire du Québec (CRAAQ), Québec, QC, Canada, 11 pages, Publication no. PAGR0101. (Technology transfer)

Lepage, M.-P., Bourdages, L., and Bourgeois, G. (2011). "Interprétation des scénarios de changements climatiques afin d'améliorer la gestion des risques pour l'agriculture.", published by Centre de référence en agriculture et agroalimentaire du Québec (CRAAQ), Québec, QC, Canada, 11 pages, PAGR0102. (Technology transfer)

Caubel, J., Bourgeois, G., Launay, M., Huard, F., and Brisson, N. (2011). "A generic infection model to compare airborne fungal plant pathogens for climate change studies.", IX International Symposium on Modelling in Fruit Research and Orchard Management, Saint-Jean-sur-Richelieu, QC, Canada, June 19-23, 2011.

Bourgeois, G., Plouffe, D., DeEll, J.R., and Pitiot, C. (2011). "Evaluation of a pre-harvest bioclimatic model for predicting the risk of low temperature disorders of stored apples in Canada and France.", IX International Symposium on Modelling in Fruit Research and Orchard Management, Saint-Jean-sur-Richelieu, QC, Canada, June 19-23, 2011.

Plouffe, D. and Bourgeois, G. (2011). "Modèles bioclimatiques pour la prévision des risques associés aux ennemis des cultures dans un contexte de climat variable et en évolution.", published by Centre de référence en agriculture et agroalimentaire du Québec (CRAAQ), Québec, QC, Canada. (Technology transfer)

Bourgeois, G. (2011). "Impact des changements climatiques sur cinq ennemis des cultures au Québec.", Réunion annuelle conjointe Société de Protection des Plantes du Québec (SPPQ-SEQ), Montmagny, QC, Canada, June 14-15, 2011.

Sansoulet, J.B., Pattey, E., Jégo, G., Bourgeois, G., Tremblay, N., and Tremblay, G.F. (2011). "Performance of STICS Model to Predict Biomass and N Uptake of Corn and Spring Wheat In Eastern Canada.", 2011 ASA, CSSA, and SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011, Session: Soil-Plant-Water Relations: Modeling and Measurements. (Presentation)

Chouinard, G., Bellerose, S., Lamothe, S., and Bourgeois, G. (2011). "Impacts des changements climatiques sur la culture du pommier au Québec.", Colloque en Agroclimatologie : Outils disponibles et changements climatiques, Drummondville, QC, Canada, March 9, 2011, pp. 23-28.

Plouffe, D., Bourgeois, G., Audet, R., and Lepage, M.-P. (2011). "Indices agroclimatiques pour faciliter la prise de décision en agriculture.", Colloque en Agroclimatologie : Outils disponibles et changements climatiques, Drummondville, QC, Canada, March 9, 2011, pp. 15-19.

Bourgeois, G., Plouffe, D., Beaudry, N., Choquette, D., Chouinard, G., and Bellerose, S. (2011). "Using the DJPheno software for model calibration and validation of apple phenological stages.", IX International Symposium on Modelling in Fruit Research and Orchard Management, Saint-Jean-sur-Richelieu, QC, Canada, June 19-23, 2011.

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## Research Publications:

2014

Bousquet, Y. and Bouchard, P. (2014). "Review of the species of *Paratenetus* Spinola inhabiting America, north of Mexico (Coleoptera, Tenebrionidae).", *ZooKeys*(415 Spec. issue), pp. 23-51. doi : 10.3897/zookeys.415.6524

Bousquet, Y., Bouchard, P., and Bologna, M.A. (2014). "Case 3657: *STENODERINI* Selander, 1991 (Insecta, Coleoptera): proposed emendation of spelling to *STENODERAINI* to remove homonymy with *STENODERINI* Pascoe, 1867 (Insecta, Coleoptera); and *STENODERINI* Pascoe, 1867: proposed precedence over *SYLLITINI* Thomson, 1864.", *Bulletin of Zoological Nomenclature*, 71(3), pp. 158-161.

2013

Bousquet, Y. and Bouchard, P. (2013). "The Genera in the Second Catalogue (1833-1836) of Dejean's Coleoptera Collection.", *ZooKeys*, 282, pp. 1-219. doi : 10.3897/zookeys.282.4401

Bousquet, Y. and Bouchard, P. (2013). "The Genera in the Third Catalogue (1836-1837) of Dejean's Coleoptera Collection.", *ZooKeys*, 282, pp. 221-239. doi : 10.3897/zookeys.282.4402

Bousquet, Y., Bouchard, P., Davies, A.E., and Sikes, D.S. (2013). "Checklist of beetles (Coleoptera) of Canada and Alaska. Second edition. Data paper.", *ZooKeys*, 360, pp. 1-44.

Bousquet, Y., Bouchard, P., Davies, A.E., and Sikes, D.S. (2013). Checklist of beetles (Coleoptera) of Canada and Alaska. Second edition., Pensoft Publishers, Sofia, Bulgaria. (Book)

Work, T.T., Klimaszewski, J., Thiffault, E., Bourdon, C., Paré, D., Bousquet, Y., Venier, L., and Titus, B. (2013). "Initial responses of rove and ground beetles (Coleoptera, Staphylinidae, Carabidae) to removal of logging residues following clearcut harvesting in the boreal forest of Quebec, Canada.", *ZooKeys*, 258, pp. 31-52. doi : 10.3897/zookeys.258.4174

Bouchard, P., Bousquet, Y., Kubáň, V., and Bílý, S. (2013). "Case 3615: *Polybothris* Dupont, 1833 (Insecta, Coleoptera): proposed conservation as the correct original spelling.", *Bulletin of Zoological Nomenclature*, 70(1), pp. 19-21.

2012

Bousquet, Y. (2012). "Catalogue of Geadephaga (Coleoptera, Adephaga) of America, North of Mexico.", *ZooKeys*, 245, pp. 1-1722. doi : 10.3897/zookeys.245.3416

Webster, R.P., Sweeney, J.D., DeMerchant, I., Bouchard, P., and Bousquet, Y. (2012). "New Coleoptera records from New Brunswick, Canada: Tenebrionidae and Zopheridae.", *ZooKeys*, 179, pp. 257-277. doi : 10.3897/zookeys.179.2465

Bousquet, Y. (2012). Catalogue of Geadephaga (Coleoptera: Adephaga) of America, north of Mexico. Vol. 1-3., UK: Pensoft Publishers, Sofia, Bulgaria. (Book)

Bousquet, Y. and Skelley, P.E. (2012). "Description of two new species of *Clivina* Latreille (Coleoptera, Carabidae, Clivinini) from southeastern United States.", *ZooKeys*, 178, pp. 43-50. doi : 10.3897/zookeys.178.2817

Bousquet, Y. (2012). "Description of a new species of *Platynus* Bonelli from the Appalachian Mountains of eastern North America (Coleoptera, Carabidae)", *ZooKeys*, 163, pp. 69-81. doi : 10.3897/zookeys.163.2295

Nabozhenko, M.V., Bousquet, Y., and Bouchard, P. (2012). "Nomenclatural notes on the species recorded and described under the name "*Helops gracilis*" (Coleoptera: Tenebrionidae).", *Annales Zoologici*, 64(4), pp. 725-731. doi : 10.3161/000345412x659777

2011

Bouchard, P., Bousquet, Y., Davies, A.E., Alonso-Zarazaga, M.A., Lawrence, J.F., Lyal, C.H.C., Newton, A.F., Reid, C.A.M., Schmitt, M., Šlipiński, S.A., and Smith, A.B.T. (2011). "Family-Group Names in Coleoptera (Insecta).", *ZooKeys*, 88, pp. 1-972. doi : 10.3897/zookeys.88.807

## Other Science Related Publications:

2014

Bouchard, P. and Bousquet, Y. (2014). "Darkling beetles (Coleoptera: Tenebrionidae) of Canadian grasslands.", in Cárcamo, H.A. and Giberson, D. (eds.) - Arthropods of Canadian Grasslands. Vol. 3: Biodiversity of Arthropods in Canadian Grasslands, Biological Survey of Canada (BSC).

2012

Klimaszewski, J., Langor, D.W., Batista, R., Duval, J.-A., Majka, C.G., Scudder, G.G.E., and Bousquet, Y. (2012). Synopsis of adventive species of Coleoptera (Insecta) recorded from Canada. Part 1: Carabidae. Pensoft Series Faunistica No. 103., Pensoft Publishers, Sofia, Bulgaria. (Book)

2011

Bouchard, P., Bousquet, Y., Davies, A.E., Alonso-Zarazaga, M.A., Lyal, C.H.C., Newton, A.F., and Smith, A.B.T. (2011). "Towards a complete list of family-group names in Coleoptera (Insecta) with comments on dates of publication.", Special meeting of the Society for the History of Natural History, the International Commission on Zoological Nomenclature and the Linnean Society of London: Anchoring Biodiversity Information: From Sherborn to the 21st century and beyond, The Natural History Museum, London, UK, October 28, 2011. (Poster)

Bouchard, P. and Bousquet, Y. (2011). "Tenebrionidae of Canada and Alaska.", 59th Annual Meeting of the Entomological Society of America, Reno-Sparks Convention Center, Reno, NV, USA, November 13-16, 2011. (Presentation)

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## Research Publications:

2016

Holland, T.C., Bowen, P.A., Bogdanoff, C.P., Lowery, D.T., Shaposhnikova, O., Smith, C.A.S., and Hart, M.M. (2016). "Evaluating the diversity of soil microbial communities in vineyards relative to adjacent native ecosystems.", *Applied Soil Ecology*, 100, pp. 91-103. doi: 10.1016/j.apsoil.2015.12.001

2015

Urbez-Torres, J.R., Haag, P., Bowen, P.A., Lowery, T., and O'Gorman, D.T. (2015). "Development of a DNA microarray for the detection and identification of fungal pathogens causing decline of young grapevines.", *Phytopathology*, 105(10), pp. 1373-1388. doi: 10.1094/PHYTO-03-15-0069-R

Hannam, K.D., Neilsen, G.H., Neilsen, D., and Bowen, P.A. (2015). "Cluster thinning as a tool to hasten ripening of wine grapes in the Okanagan Valley, British Columbia.", *Canadian Journal of Plant Science*, 95(1), pp. 103-113. doi: 10.4141/cjps2013-397

2014

Holland, T.C., Bowen, P.A., Bogdanoff, C.P., and Hart, M.M. (2014). "How distinct are arbuscular mycorrhizal fungal communities associating with grapevines?", *Biology and Fertility of Soils*, 50(4), pp. 667-674. doi: 10.1007/s00374-013-0887-2

Urbez-Torres, J.R., Haag, P., Bowen, P.A., and O'Gorman, D.T. (2014). "Grapevine Trunk Diseases in British Columbia: Incidence and Characterization of the Fungal Pathogens Associated with Esca and Petri Diseases of Grapevine.", *Plant Disease*, 98(4), pp. 469-482. doi: 10.1094/PDIS-05-13-0523-RE

Urbez-Torres, J.R., Haag, P., Bowen, P.A., and O'Gorman, D.T. (2014). "Grapevine Trunk Diseases in British Columbia: Incidence and Characterization of the Fungal Pathogens Associated with Black Foot Disease of Grapevine.", *Plant Disease*, 98(4), pp. 456-468. doi: 10.1094/PDIS-05-13-0524-RE

Holland, T.C., Bowen, P.A., Bogdanoff, C.P., and Hart, M.M. (2014). "Arbuscular mycorrhizal fungal communities associated with vitis vinifera vines under different frequencies of irrigation.", *American Journal of Enology and Viticulture*, 65(2), pp. 222-229. doi: 10.5344/ajev.2014.13101

Shellie, K.C. and Bowen, P.A. (2014). "Isohydrodynamic behavior in deficit-irrigated Cabernet Sauvignon and Malbec and its relationship between yield and berry composition.", *Irrigation Science*, 32(2), pp. 87-97. doi: 10.1007/s00271-013-0416-y

2012

Holland, T.C., Reynolds, A.G., Bowen, P.A., Bogdanoff, C.P., Marciniak, M., Brown, R.B., and Hart, M.M. (2012). "The response of soil biota to water availability in vineyards.", *Pedobiologia*, 56(1), pp. 9-14. doi: 10.1016/j.pedobi.2012.08.004

Bowen, P.A., Bogdanoff, C.P., and Estergaard, B.F. (2012). "Effects of converting from sprinkler to drip irrigation on water conservation and the performance of Merlot grown on a loamy sand.", *American Journal of Enology and Viticulture*, 63(3), pp. 385-393. doi: 10.5344/ajev.2012.12002

## Other Science Related Publications:

2014

Urbez-Torres, J.R., Haag, P., Bowen, P.A., and O'Gorman, D.T. (2014). "Grapevine trunk diseases studies in British Columbia: the status of long known diseases in a young and emerging grape-growing region.", 9th International Workshop on Grapevine Trunk Diseases, Adelaide, Australia, November, 2014, Presentation.

Urbez-Torres, J.R., Haag, P., Dick, J., Bowen, P.A., and O'Gorman, D.T. (2014). "Design, development and implementation of an oligonucleotide array for identification and detection of fungal pathogens responsible for causing young vine decline.", 9th International Workshop on Grapevine Trunk Diseases, Adelaide, Australia, November, 2014, Presentation.

Urbez-Torres, J.R., Haag, P., Bowen, P.A., and O'Gorman, D.T. (2014). "Grapevine trunk diseases studies in British Columbia: the status of long known diseases in a young and emerging grape-growing region.", *Phytopathologia Mediterranea*, 53, pp. 565-566.

Urbez-Torres, J.R., Haag, P., Dick, J., Bowen, P.A., and O'Gorman, D.T. (2014). "Design, development and implementation of an oligonucleotide array for identification and detection of fungal pathogens responsible for causing young vine decline.", *Phytopathologia Mediterranea*, 53, pp. 567. (Abstract)

2012

Bowen, P.A., Bogdanoff, C.P., Usher, K.B., Estergaard, B.F., Cliff, M.A., and Stanich, K. (2012). "Irrigation frequency and rate effects on vine growth, leaf gas exchange, berry composition, and wine sensory quality in red winegrapes.", *American Journal of Enology and Viticulture*, 63(3), pp. 440A. (Abstract)

2011

Forge, T.A., Neilsen, G.H., Smit, R., Neilsen, D., Bowen, P.A., Hannam, K., and Hannam, K.D. (2011). "Nema tode parasites of grapevines in the Okanagan Valley: What are their potential impacts? What can we do about them?", 12th Annual Enology & Viticulture Conference and Trade Show, Penticton, BC, Canada, July 18-19, 2011.

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## Research Publications:

2015

Mupondwa, E.K., Li, X., Boyetchko, S.M., Hynes, R.K., and Geissler, H.J. (2015). "Technoeconomic analysis of large scale production of pre-emergent *Pseudomonas fluorescens* microbial bioherbicide in Canada.", *Bioresource Technology*, 175, pp. 517-528. doi : 10.1016/j.biortech.2014.10.130

2014

Svircev, A.M., Boyetchko, S.M., and Castle, A.J. (2014). "The biopesticide innovation chain: A template for development of microbial agents from discovery to registration.", *Acta Horticulturae (ISHS)*, 1056, pp. 43-46.

Dumoncaux, T.J., Town, J.R., Links, M.G., and Boyetchko, S.M. (2014). "High-quality draft genome sequence of *Pseudomonas* sp. BRG100, a strain with bioherbicidal properties against *Setaria viridis* (green foxtail) and other pests of agricultural significance.", *Genome Announcements*, 2(5): e00995-14). doi : 10.1128/genomeA.00995-14

2013

Lahlali, R.L., Peng, G., Gossen, B.D., McGregor, L., Yu, F.Q., Hynes, R.K., Hwang, S.F., McDonald, M.R., and Boyetchko, S.M. (2013). "Evidence that the Biofungicide Serenade® (*Bacillus subtilis*) Suppresses Clubroot on Canola via Antibiosis and Induced Host Resistance.", *Phytopathology*, 103(3), pp. 245-254. doi : 10.1094/PHYTO-06-12-0123-R

Peng, G., Pageau, D., Hwang, S.F., Lahlali, R.L., Hynes, R.K., Anderson, K., Strelkov, S.E., McDonald, M.R., Gossen, B.D., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., and McGregor, L. (2013). "Assessment of crop rotation in combination with cultivar resistance or a biofungicide seed treatment for control of clubroot on canola.", 10th International Congress of Plant Pathology, Beijing International Convention Center, Beijing, China, August 25-30, 2013.

2012

Bailey, K.L., Derby, J.-A., Boyetchko, S.M., Sawchyn, K., Becker, E., Sumampong, G., Shamoun, S.F., James, D., Masri, S., and Varga, A. (2012). "In vivo studies evaluating commercial biofungicide suppression of blight caused by *Phytophthora ramorum* in selected ornamentals.", *Biocontrol Science and Technology*, 22(11), pp. 1268-1283. doi : 10.1080/09583157.2012.724659

Caldwell, C.J., Hynes, R.K., Boyetchko, S.M., and Korber, D.R. (2012). "Colonization and bioherbicidal activity on green foxtail by *Pseudomonas fluorescens* BRG100 in a pest formulation.", *Canadian Journal of Microbiology*, 58(1), pp. 1-9. doi : 10.1139/W11-109

## Other Science Related Publications:

2015

Nabuurs, M.H., Boyetchko, S.M., McCallum, J.L., Mills, A.A.S., Zhou, T., and Kirby, C.W. (2015). "Application of Bioautography in the Discovery of Biopesticides from Natural Resources.", 98th Canadian Chemistry Conference and Exhibition, Ottawa, ON, Canada, June 13-17, 2015. (Abstract)

2014

Boyetchko, S.M. and Audy, P. (2014). "AAFC Scientists developing biocontrol agents in the war against late blight.", *Ecozone Express: Prairie/Boreal Plain Ecozone*, 3(6).

Boyetchko, S.M., Audy, P., Foran, N., Desgagnés, R., Sawchyn, K., Choo, H.S., Gravel, V., and Conn, K.L. (2014). "The Search for Bacterial Antagonists to Control Potato Late Blight Disease.", Joint Saskatchewan-Alberta Plant Pathology Conference, Saskatoon, SK, Canada, December 2-4, 2014.

Boyetchko, S.M., Audy, P., Choo, H.S., Desgagnés, R., Sawchyn, K., and Conn, K.L. (2014). "Bacterial antagonists as a biological solution for control of potato late blight disease.", APS-CPS Joint Meeting, Hilton Minneapolis, Minneapolis, MN, USA, August 9-13, 2014, *Phytopathology* 104 (11S) 17-18.

Boyetchko, S.M., Audy, P., Sawchyn, K., Desgagnés, R., Zhou, T., and Dumonceaux, T.J. (2014). "Application of bacterial strains as microbial biopesticides for control of potato late blight disease (AAFC Inventions Disclosure, 8 pages)."

Boyetchko, S.M. (2014). "Development of soil bacteria as a commercializable biopesticide for grass weeds.", AAFC, Crops and Livestock Research Centre, Charlottetown, P.E.I., Canada, May 27, 2014. (Presentation)

Boyetchko, S.M. (2014). "Biopesticides: A Research and development approach.", Department of Plant Sciences, course convenor Professor Dr. Randy Kutcher, University of Saskatchewan, September, 2014. (Presentation)

## 2013

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2013). "Assessment of crop rotation, resistance and *Bacillus subtilis* for management of clubroot on canola.", Canadian Journal of Plant Pathology, 35, pp. 112. (Abstract)

Peng, G., Lahlali, R.L., Hynes, R.K., Boyetchko, S.M., Gossen, B.D., Hwang, S.F., Pageau, D., McDonald, M.R., and Strelkov, S.E. (2013). "Plasmodiophora brassicae Woronin, Clubroot of Crucifers (Plasmodiophoraceae).", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, Wallingford, UK, Chapter 65.

Boyetchko, S.M. and Svircev, A.M. (2013). "A Novel Approach for Developing Microbial Biopesticides.", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, Chapter 5.

Peng, G., Pageau, D., Strelkov, S.E., Lahlali, R.L., Gossen, B.D., Anderson, K., Hwang, S.F., McDonald, M.R., Yu, F.Q., Falk, K.C., Turkington, T.K., Hynes, R.K., Boyetchko, S.M., and McGregor, L. (2013). "Management of clubroot disease on canola with crop rotation combined with host resistance or biofungicide seed dressing.", Canadian Journal of Plant Pathology, 35, pp. 519. (Abstract)

Boyetchko, S.M. (2013). "Development of soil bacteria for biological control of green foxtail.", 15th seminar of SCRDC / 15e séminaire du CRDSGC, Saskatoon Research Centre / Centre de recherches de Saskatoon, Saskatoon, SK, Canada, February 11, 2013. (Presentation)

Audy, P., Boyetchko, S.M., Desgagnés, R., and Sawchyn, K. (2013). "Assessment of promising soil bacteria for biological control of *Phytophthora infestans* causing storage decay in potato.", Potato Association of America Annual Meeting, Quebec City, QC, Canada, July 28-August 1, 2013, J. Am. J. Potato Res, 91:34-35.

Boyetchko, S.M. (2013). "The biopesticide innovation chain: how can researchers and industry collaborate to commercialize biopesticide products.", Future IPM in Europe, Riva del Garda, Italy, March 19-21, 2013. (Presentation)

Lahlali, R.L., Peng, G., McGregor, L., McDonald, M.R., Gossen, B.D., Hwang, S.F., Hynes, R.K., Boyetchko, S.M., and Geissler, H.J. (2013). "Induced host defense responses are involved in suppressing clubroot on canola with *Bacillus subtilis*, *Clonostachysosea* and *Heteroconium chaetospira*.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: Canadian Journal of Plant Pathology, 35(1), pp.117 (Abstract).

## 2012

Peng, G., Lahlali, R.L., Pageau, D., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2012). "Assessment of crop rotation and host resistance in combination with *Bacillus subtilis* for management of clubroot on canola.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: Canadian Journal of Plant Pathology, 35(1), pp.122.

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2012). "Crop rotation, cultivar resistance, and biofungicide seed dressing for clubroot control on canola.", 6th International Symposium on Brassica and 18th Crucifer Genetics Workshop, Catania, Sicily, Italy, November 12-16, 2012.

Boyetchko, S.M. and Svircev, A.M. (2012). "Biopesticide Development at AAFC – Update.", Annual meeting of CropLife Canada – technical, Saskatoon, SK, Canada, January 26, 2012. (Presentation)

Boyetchko, S.M. and Svircev, A.M. (2012). "Biopesticide Research at AAFC: How We Structure Biopesticide Development from a Research Perspective.", Annual meeting of CropLife Canada – regulators and senior managers, Saskatoon, SK, Canada, January 12, 2012. (Presentation)

Boyetchko, S.M., Zhou, T., Audy, P., and Svircev, A.M. (2012). "Evaluation of promising bacterial strains for biological control of post-harvest and storage decay pathogens on fruits and vegetables.", 4th Joint Saskatchewan-Alberta Plant Pathology Conference: Mapping and cloning of clubroot resistance genes in Brassica species, Lloydminster, SK, Canada, November 5-7, 2012.

Boyetchko, S.M. (2012). "Strategies for advancing bioherbicides.", International Weed Science Congress, Hangzhou, China, June 17-22, 2012. (Presentation)

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2012). "Assessment of crop rotation, resistance and *Bacillus subtilis* for management of clubroot on canola.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: *Can. J. Plant Pathol.* (2013) 35(1), pp. 112.

Peng, G., Lahlali, R.L., Hwang, S.F., Pageau, D., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Boyetchko, S.M., and Strelkov, S.E. (2012). "Fungicides/biofungicides, cultivar resistance, crop rotation for control of clubroot on canola.", Clubroot Summit 2012, Edmonton, AB, Canada, March 6, 2012, Invited presentation.

Boyetchko, S.M., Zhou, T., Audy, P., and Svircev, A.M. (2012). "Assessment of bacterial strains for biological control of pathogens causing post-harvest and storage decay of fruits and vegetables.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, *Can. J. Plant Pathol.* 35(1):103-104.

Boyetchko, S.M., Zhou, T., Audy, P., and Svircev, A.M. (2012). "Evaluation of promising bacterial strains for biological control of post-harvest and storage decay pathogens on fruits and vegetables.", 4th Joint Saskatchewan-Alberta Plant Pathology Conference, Lloydminster, SK, Canada, November 5-7, 2012.

Boyetchko, S.M. (2012). "Biopesticides: A Research and development approach.", A Research and development approach. Department of Food and Bioproducts Sciences, course convener Professor Dr. Vladimir Vujanovic, University of Saskatchewan, Saskatoon, SK, Canada, March 1, 2012. (Presentation)

Boyetchko, S.M. (2012). "Biopesticides: A Research and development approach.", Department of Food and Bioproducts Sciences, course convener Professor Drs. Stephen Strelkov and Lloyd Dosdall, University of Alberta, Edmonton, AB, Canada, April 3, 2012. (Presentation)

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., and McGregor, L. (2012). "Control of clubroot on canola with crop rotation in combination with biofungicide seed dressing and varietal resistance.", Joint Meeting of CPS Saskatchewan Group and Plant Pathological Society of Alberta, Canada, November, 2012, (Presentation).

## 2011

Audy, P., Boyetchko, S.M., Le Floch-Fouère, C., and Sawchyn, K. (2011). "In vitro antagonistic effects of bacteria on potato late blight causing agent *Phytophthora infestans*.", Canadian Phytopathological Society (CPS) 82nd Annual Meeting (with Plant Canada 2011), Halifax, NS, Canada, July 17-21, 2011, *Can. J. Plant Pathol.* 34(2): 323-324. (Poster)

Hynes, R.K., Bailey, K.L., Boyetchko, S.M., Erlandson, M.A., Peng, G., and Traquair, J.A. (2011). "Formulation development and delivery of biopesticides.", Canadian Society of Microbiologists (CSM) 61st Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Memorial University of Newfoundland, St. John's, NL, Canada, June 20-23, 2011.

Hynes, R.K., Bailey, K.L., Boyetchko, S.M., Erlandson, M.A., and Peng, G. (2011). "Formulation development and delivery of biopesticides.", Soils and Crops Workshop 2011, Prairieland Park, Saskatoon, SK, Canada, March 15-16, 2011. (Workshop)

Peng, G., Bailey, K.L., Hynes, R.K., and Boyetchko, S.M. (2011). "Bioherbicide R&D - progresses and challenges.", Chinese National Institute of Rice Research, Hongzhou, China, November 11, 2011. (Presentation)

Peng, G., Hynes, R.K., Hwang, S.F., Pageau, D., McDonald, M.R., Gossen, B.D., and Boyetchko, S.M. (2011). "Assessment of microbial biofungicides for control of clubroot on canola.", Clubroot Summit 2011, Saskatoon, SK, Canada, March 9, 2011.

Peng, G., Boyetchko, S.M., Hynes, R.K., McGregor, L., Sawchyn, K., and Hupka, D. (2011). "Isolation and evaluation of soil microorganisms for control of clubroot on canola.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011, Published in: *Can. J. Plant Pathol.* (2012) 34:342.

Hynes, R.K., Bailey, K.L., Boyetchko, S.M., Erlandson, M.A., Peng, G., and Traquair, J.A. (2011). "Formulation and delivery of biopesticides.", Canadian Society of Microbiologists (CSM) 61st Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Memorial University of Newfoundland, St. John's, NL, Canada, June 20-23, 2011.

Audy, P., Boyetchko, S.M., Le Floch-Fouère, C., and Sawchyn, K. (2011). "Effets antagonistes in vitro de microorganismes bactériens de la rhizosphère envers *Phytophthora infestans*, l'agent de la brûlure tardive de la pomme de terre.", Réunion annuelle conjointe Société de Protection des Plantes du Québec (SPPQ-SEQ), Montmagny, QC, Canada, June 14-15, 2011, *Phytoprotection* 92:44.

Audy, P., Boyetchko, S.M., Le Floch-Fouère, C., and Sawchyn, K. (2011). "Assessment of bacterial antagonists for control of *Phytophthora infestans* causing postharvest storage disease of potato.", 4th International Biofumigation & Biopesticides Symposium, Sheraton Cavalier Hotel, Saskatoon, SK, Canada, October 18-21, 2011. (Poster)



Lahlali, R.L., Peng, G., Gossen, B.D., Hynes, R.K., Boyetchko, S.M., Hwang, S.F., and McDonald, M.R. (2011). "Investigation on modes of action for the biofungicides Serenade and Prostop in clubroot control.", *Canadian Journal of Plant Pathology*, 33, pp. 573. (Abstract)

Peng, G., Hynes, R.K., Boyetchko, S.M., Gossen, B.D., and Pageau, D. (2011). "Biocontrol of canola.", Clubroot Summit 2011, Saskatoon, SK, Canada, March 9, 2011, Invited presentation.

Boyetchko, S.M. (2011). "BioInnovation Chain: An Overview from Start to Finish of Biological Product Development.", 4th International Biofumigation & Biopesticides Symposium, Sheraton Cavalier Hotel, Saskatoon, SK, Canada, October 18-21, 2011.

Kutcher, H.R., Dokken-Bouchard, F.L., Turkington, T.K., Fernando, W.G.D., Boyetchko, S.M., Buchwaldt, L., Hegedus, D.D., and Parkin, I.A.P. (2011). "Managing sclerotinia stem rot in canola.", Canola Research Summit meeting, Winnipeg, MB, Canada, April 12-13, 2011.

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## Research Publications:

2015

Gagné, M.-J., Barrette, J., Savard, T., and Brassard, J. (2015). "Evaluation of survival of murine norovirus-1 during sauerkraut fermentations and storage under standard and sodium reduction conditions.", *Food Microbiology*, 52, pp. 119-123. doi : 10.1016/j.fm.2015.07.009

Brassard, J., Gagné, M.-J., Leblanc, D., Poitras, E., Houde, A., Boras, V.F., and Ingliis, G.D. (2015). "Association of age and gender with Torque teno virus detection in stools from diarrheic and non-diarrheic people.", *Journal of Clinical Virology*, 72, pp. 55-59. doi : 10.1016/j.jcv.2015.08.020

Delaquis, P.J., Brassard, J., and Gajadhar, A. (2015). "Pathogenic Viruses and Protozoa Transmitted by Soil.", in Yates, M., Nakatsu, C., Miller, R. and Pillai, S. (eds.) - *Manual of Environmental Microbiology 4th edition*, ASMscience Press, Washington, DC., Chapter 3.3.1, pp. 3.3.1.1-3.3.1.14.

Ward, P., Leblanc, D., Houde, A., and Brassard, J. (2015). "Analysis of complete genome sequences of swine hepatitis E virus and V239A substitution in helicase domain of genotype 3 hepatitis E virus strains isolated from human and swine in Canada.", *Archives of Virology*, 160(7), pp. 1767-1773. doi : 10.1007/s00705-015-2429-8

2014

Lachapelle, V., Sohal, J.S., Lambert, M.-C., Brassard, J., Letellier, A., Fravalo, P., and L'Homme, Y. (2014). "Genetic diversity of group A rotavirus in swine from Canada.", *Archives of Virology*, 159(7), pp. 1771-1779. doi : 10.1007/s00705-013-1951-9

Béland, K., Doré-Nguyen, M., Gagné, M.-J., Patey, N., Brassard, J., Alvarez, F., and Halac, U. (2014). "Torque teno virus load as a biomarker of immunosuppression? new hopes and insights.", *The Journal of Infectious Diseases*, 210(4), pp. 668-670. doi : 10.1093/infdis/jiu210

Wilhelm, B., Leblanc, D., Houde, A., Brassard, J., Gagné, M.-J., Plante, D., Bellon-Gagnon, P., Jones, T.H., Muehlhauser, V., Janecko, N., Avery, B., Rajic, A., and McEwen, S.A. (2014). "Survey of Canadian retail pork chops and pork livers for detection of hepatitis E virus, norovirus, and rotavirus using real time RT-PCR.", *International Journal of Food Microbiology*, 185, pp. 33-40. doi : 10.1016/j.ijfoodmicro.2014.05.006

Wilkes, G.A., Brassard, J., Edge, T.A., Gannon, V.P.J., Gottschall, N., Jokinen, C.C., Jones, T.H., Khan, I.U.H., Marti, R., Sunohara, M., Topp, E., and Lapen, D.R. (2014). "Long-term monitoring of waterborne pathogens and microbial source tracking markers in paired-agricultural watersheds under controlled and conventional tile drainage management.", *Applied and Environmental Microbiology*, 80(12), pp. 3708-3720. doi : 10.1128/AEM.00254-14

Leblanc, D., Houde, A., Gagné, M.-J., Plante, D., Bellon-Gagnon, P., Jones, T.H., Muehlhauser, V., Wilhelm, B.J., Avery, B., Janecko, N., and Brassard, J. (2014). "Presence, viral load and characterization of Torque teno viruses in liver and pork chop samples at retail.", *International Journal of Food Microbiology*, 178, pp. 60-64. doi : 10.1016/j.ijfoodmicro.2014.03.005

Béland, K., Doré-Nguyen, M., Gagné, M.-J., Patey, N., Brassard, J., Alvarez, F., and Halac, U. (2014). "Torque Teno Virus in children with orthotopic liver transplantation: new insights about a common pathogen.", *The Journal of Infectious Diseases*, 209(2), pp. 247-254. doi : 10.1093/infdis/jit423

2013

Wilkes, G.A., Brassard, J., Edge, T.A., Gannon, V.P.J., Jokinen, C.C., Jones, T.H., Neumann, N.F., Pintar, K.D.M., Ruecker, N.J., Schmidt, P.J., Sunohara, M., Topp, E., and Lapen, D.R. (2013). "Bacteria, viruses, and parasites in an intermittent stream protected from and exposed to pasturing cattle: prevalence, densities, and quantitative microbial risk assessment.", *Water Research*, 47(16), pp. 6244-6257.

Ward, P., Poitras, E., Leblanc, D., Gagnon, C., Brassard, J., and Houde, A. (2013). "Comparison of different RT-qPCR assays for the detection of human and bovine group A rotaviruses and characterization by sequences analysis of genes encoding VP4 and VP7 capsid proteins.", *Journal of Applied Microbiology*, 114(5), pp. 1435-1448. doi : 10.1111/jam.12165

Brassard, J., Gagné, M.-J., and Leblanc, D. (2013). "Real-time PCR study of the infection dynamics of Torque teno viruses in naturally infected pigs from nursery to slaughterhouse.", *Veterinary Journal*. doi : 10.1016/j.tvjl.2013.01.004

Wilkes, G.A., Brassard, J., Edge, T.A., Gannon, V.P.J., Jokinen, C.C., Jones, T.H., Neumann, N.F., Pintar, K.D.M., Ruecker, N.J., Schmidt, P.J., Sunohara, M., and Lapen, D.R. (2013). "Bacteria, viruses, and parasites in an intermittent stream protected from and exposed to pasturing cattle: Prevalence, densities, and quantitative microbial risk assessment.", *Water Research*. doi : 10.1016/j.watres.2013.07.041

Wilkes, G.A., Brassard, J., Edge, T.A., Gannon, V.P.J., Jokinen, C.C., Jones, T.H., Marti, R., Neumann, N.F., Ruecker, N.J., Sunohara, M., Topp, E., and Lapen, D.R. (2013). "Coherence among different microbial source tracking markers in a small agricultural stream with and without livestock exclusion practices.", *Applied and Environmental Microbiology*, 79(20), pp. 6207-6219. doi: 10.1128/AEM.01626-13

## 2012

Hannibal, L., Collins, D., Brassard, J., Chakravarti, R., Vempati, R., Dorlet, P., Santolini, J., Dawson, J.H., and Stuehr, D.J. (2012). "Heme binding properties of glyceraldehyde-3-phosphate dehydrogenase.", *Biochemistry*, 51(43), pp. 8514-8529. doi : 10.1021/bi300863a

Halac, U., Béland, K., Lapierre, P., Patey, N., Ward, P., Brassard, J., Houde, A., and Alvarez, F. (2012). "Cirrhosis due to Chronic Hepatitis E Infection in a Child Post-Bone Marrow Transplant.", *The Journal of Pediatrics*, 160(5), pp. 871-874. doi : 10.1016/j.jpeds.2012.01.028

Brassard, J., Gagné, M.-J., Gagné, M., and Côté, C. (2012). "Detection of Human Food-borne and Zoonotic Viruses on Irrigated, Field-Grown Strawberries.", *Applied and Environmental Microbiology*, 78(10), pp. 3763-3766. doi : 10.1128/AEM.00251-12

Halac, U., Béland, K., Lapierre, P., Patey, N., Ward, P., Brassard, J., Houde, A., and Alvarez, F. (2012). "Chronic hepatitis E infection in children with liver transplantation.", *Gut*, 61(4), pp. 597-603. doi : 10.1136/gutjnl-2011-300708

## 2011

Brassard, J., Guévremont, É., Gagné, M.-J., and Lamoureux, L. (2011). "Simultaneous recovery of bacteria and viruses from contaminated water and spinach by a filtration method.", *International Journal of Food Microbiology*, 144(3), pp. 565-568. doi : 10.1016/j.ijfoodmicro.2010.11.015

Mattison, K., Grudski, E., Auk, B., Brassard, J., Charest, H., Dust, K., Gubbay, J., Hatchette, T.F., Houde, A., Jean, J., Jones, T.H., Lee, B.E., Mamiya, H., McDonald, R., Mykytczuk, O., Pang, X.L., Petrich, A., Plante, D., Ritchie, G., and Booth, T.F. (2011). "Analytical performance of norovirus real-time RT-PCR detection protocols in Canadian laboratories.", *Journal of Clinical Virology*, 59(1), pp. 109-113. doi : 10.1016/j.jcv.2010.10.008

## Other Science Related Publications:

### 2014

Lachapelle, V., Brassard, J., Letellier, A., Fravalo, P., and L'Homme, Y. (2014). "Viral indicators suggest a role for livestock transportation and slaughterhouses in harbouring and spreading of enteric pathogens in swine production networks.", 7ième Symposium du CRIPA, Saint-Hyacinthe, Québec, Canada, 3-4 juin 2014. (Poster)

Brassard, J., Gagné, M.-J., Leblanc, D., Poitras, E., Houde, A., Boras, V.F., and Inglis, G.D. (2014). "Association of age and gender with Torqueteno virus detection in fecal material of patients with enteritis.", International Union of Microbiology Societies, Montréal, Québec, Canada, 29-31 juillet 2014, Presentation. (Poster)

Lachapelle, M., Lachapelle, V., Brassard, J., Letellier, A., Fravalo, P., and L'Homme, Y. (2014). "Molecular tracking of enteric viral indicators in a swine production network.", International Union of Microbiology Societies, Montréal, Québec, Canada, 29-31 juillet 2014, Oral presentation. (Poster)

Nantel-Fortier, N., Lachapelle, V., L'Homme, Y., Letellier, A., Fravalo, P., and Brassard, J. (2014). "Phylogenetic analysis of Hepatitis E virus and contamination sources in swine production network.", International Union of Microbiology Societies, Montréal, Québec, Canada, 29-31 juillet 2014, Oral presentation. (Poster)

Gagné, M.-J., Brassard, J., Barrette, J., and Savard, T. (2014). "Risk Mitigation in Vegetables Fermentation with Sodium Reduction; A Viral Perspective.", Food Micro 2014, Nantes, France, September 1-4, 2014, Presentation. (Poster)

Burrel, S., Callanquin, M., Arzouk, N., Brassard, J., Barrou, B., Agut, H., Halac, U., and Boutolleau, D. (2014). "Torqueteno virus (TTV) load in blood as a marker of immunosuppression in kidney transplant recipients.", 17th Annual Meeting of the European Society for Clinical Virology, Prague, Czech Republic, September 28-October 1, 2014, Oral presentation. (Poster)

### 2013

Savard, T., Barrette, J., Brassard, J., and Gagné, M.-J. (2013). "Lactic Starter Ensure Safety in Low Sodium Fermented Vegetables.", Microbial Diversity 2013: Microbial Interactions in Complex Ecosystems, Turin, Italy, October 23-25, 2013, Oral Presentation, pp. 124-127.

Wilhelm, B., Leblanc, D., Brassard, J., Gagné, M.-J., Plante, D., Bellon-Gagnon, P., Jones, T.H., Muehlhauser, V., Janecko, N., Avery, B., Friendship, R.M., McEwen, S.A., Rajic, A., and Houde, A. (2013). "Emerging viruses project: a survey of Canadian retail pork chops and liver for hepatitis E virus, Norovirus and Rotavirus.", Canadian Association of Veterinary Epidemiology and Preventive Medicine (CAVEPM) and the Western College of Veterinary Medicine (WCVM) Conference (ACAVEPM 2013), University of Saskatchewan, Saskatoon, SK, Canada, May 27-28, 2013.

Brassard, J. (2013). "Virus et les toxins infectieux alimentaires.", Journée des pathogènes émergents et antimicrobiens naturels organisée par L'INITIA, Sur invitation, dépenses assumées par l'organisme d'accueil (frais d'inscription et repas), Saint-Hyacinthe, Québec, Canada, June 6, 2013. (Presentation)

Wilhelm, B., Leblanc, D., Brassard, J., Gagné, M.-J., Plante, D., Bellon-Gagnon, P., Jones, T.H., Muehlhauser, V., Janecko, N., Avery, B., Friendship, R.M., McEwen, S.A., Rajic, A., and Houde, A. (2013). "A survey of prevalence and viral load of hepatitis E virus, Norovirus, and rotavirus on Canadian retail pork chops and pork livers.", Canadian Association of Veterinary Epidemiology and Preventive Medicine (CAVEPM) and the Western College of Veterinary Medicine (WCVM) Conference (ACAVEPM 2013), University of Saskatchewan, Saskatoon, SK, Canada, May 27-28, 2013.

## 2012

Doré-Nguyen, M., Béland, K., Gagné, M.-J., Patey, N., Houde, A., Brassard, J., Alvarez, F., and Halac, U. (2012). "Prevalence and impact of Torque teno virus infection in immunosuppressed children with orthotopic liver transplantation.", Canadian Association for the Study of Liver, Montréal, QC, Canada, February 24-27 2012.

Brassard, J. and Gagné, M.-J. (2012). "Development of an extraction and concentration procedure for the detection of enteric viruses in soil.", 101st Annual Meeting of the International Association of Food Protection (IAFP 2012), Rhode Island Convention Center, Providence, RI, USA, July 22-25, 2012. (Poster)

Brassard, J. (2012). "Virus dans la chaîne alimentaire : où sont-ils?", Conférence à Conférence internationale de l'industrie vétérinaire et agro-alimentaire organisée par Innovet, Saint-Hyacinthe, QC, Canada, October 17, 2012. (Poster)

Lachapelle, V., Brassard, J., Letellier, A., Fravallo, P., and L'Homme, Y. (2012). "Identification of vectors and viral contamination sources within a network of swine farms and a slaughterhouse", 5e Symposium Annuel du Centre de Recherche en Infectiologie Porcine (CRIP), Université de Montréal, Saint-Hyacinthe, QC, Canada, May 16-17, 2012. (Poster)

Béland, K., Doré-Nguyen, M., Gagné, M.-J., Patey, N., Brassard, J., Alvarez, A., and Halac, U. (2012). "Impact of Immunosuppression and Hepatitis E virus infection on virome of children with orthotopic liver transplantation.", 63rd Annual Meeting of the American Association for the Study of Liver Diseases: The Liver Meeting, Hynes Convention Center, Boston, MA, USA, November 9-13, 2012. (Poster)

## 2011

Brassard, J., Côté, C., Gagné, M.-J., and Généreux, M. (2011). "Human Foodborne and Zoonotic Viruses Detected on Fresh Strawberries.", Annual Meeting of the International Association of Food Protection (IAFP 2011), Milwaukee, WI, USA, July 31 - August 3, 2011. (Poster)

Fellahi, S., Bezanson, G.S., Brassard, J., Delaquis, P.J., Houde, A., and Mattson, K. (2011). "Long-term stability of norovirus on farm and agriculturally-relevant environments.", 56th Annual Meeting of the International Association of Food Protection (IAFP 2011), Milwaukee, WI, USA, July 30-August 3, 2011, (Poster).

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## Research Publications:

2013

Alam, M.Z., Braun, P.G., Norrie, J., and Hodges, D.M. (2013). "Effect of *Ascophyllum* extract application on plant growth, fruit yield and soil microbial communities of strawberry.", *Canadian Journal of Plant Science*, 93(1), pp. 23-36. doi : 10.4141/cjps2011-260

Braun, P.G. and Hildebrand, P.D. (2013). "Effect of sugar alcohols, antioxidants and activators of systemically acquired resistance on severity of bacterial angular leaf spot (*Xanthomonas fragariae*) of strawberry in controlled environment conditions.", *Canadian Journal of Plant Pathology*, 35(1), pp. 20-26. doi : 10.1080/07060661.2012.751937

2012

Braun, P.G., Vailati, M., Prange, R.K., and Bevis, E. (2012). "Muscodor albus volatiles control toxigenic fungi under controlled atmosphere (CA) storage conditions.", *International Journal of Molecular Sciences*, 13(12), pp. 15848-15858. doi : 10.3390/ijms131215848

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## Research Publications:

2016

Perreault, V., Turcotte, O., Morin, P., Pouliot, Y., and Britten, M. (2016). "Combined effect of denatured whey protein concentrate level and fat level in milk on rennet gel properties.", *International Dairy Journal*, 55, pp. 1-9. doi : 10.1016/j.idairyj.2015.11.008

2015

Carnovale, V., Britten, M., Couillard, C., and Bazinet, L. (2015). "Impact of calcium on the interactions between epigallocatechin-3-gallate and  $\beta$ -lactoglobulin.", *Food Research International*, 77 (Part 3), pp. 565-571. doi : 10.1016/j.foodres.2015.08.010

Fustier, P., Achouri, A., Taherian, A.R., Britten, M., Pelletier, M., Sabik, H., Villeneuve, S., and Mondor, M. (2015). "Protein-multilayer oil-in-water emulsions for the microencapsulation of flaxseed oil: Effect of whey and fish gelatin concentration.", *Journal of Agricultural and Food Chemistry*, 63(42), pp. 9239-9250. doi : 10.1021/acs.jafc.5b00858

Saffon, M., Jiménez-Flores, R., Britten, M., and Pouliot, Y. (2015). "Effect of heating whey proteins in the presence of milk fat globule membrane extract or phospholipids from buttermilk.", *International Dairy Journal*, 48, pp. 60-65. doi : 10.1016/j.idairyj.2015.01.004

Cottica, S.M., Sabik, H., Bélanger, D., Giroux, H.J., Visentainer, J.V., and Britten, M. (2015). "Use of propolis extracts as antioxidant in dairy beverages enriched with conjugated linoleic acid.", *European Food Research and Technology*, 241(4), pp. 543-551. doi : 10.1007/s00217-015-2483-1

Felix da Silva, D., Matumoto-Pintro, P., Bazinet, L., Couillard, C., and Britten, M. (2015). "Effect of commercial grape extracts on the cheese-making properties of milk.", *Journal of Dairy Science (JDS)*, 98(3), pp. 1552-1562. doi : 10.3168/jds.2014-8796

Stratulat, I., Britten, M., Salmieri, S., Fustier, P., St-Gelais, D., Champagne, C.P., and Lacroix, M. (2015). "Enrichment of cheese with vitamin D3 and vegetable omega-3.", *Journal of Functional Foods*, 13, pp. 300-307. doi : 10.1016/j.jff.2015.01.004

Giroux, H.J., Lanouette, G., and Britten, M. (2015). "Effect of whey protein aggregates of various sizes on the formation and properties of rennet-induced milk gels.", *Food Hydrocolloids*, 45, pp. 272-278. doi : 10.1016/j.foodhyd.2014.12.004

Cottica, S.M., Sabik, H., Antoine, C., Fortin, J., Graveline, N., Visentainer, J.V., and Britten, M. (2015). "Characterization of Canadian propolis fractions obtained from two-step sequential extraction.", *Food Science and Technology - LWT*, 60(1), pp. 609-614. doi : 10.1016/j.lwt.2014.08.045

2014

Stratulat, I., Britten, M., Salmieri, S., Fustier, P., St-Gelais, D., Champagne, C.P., and Lacroix, M. (2014). "Enrichment of cheese with bioactive lipophilic compounds.", *Journal of Functional Foods*, 6(1), pp. 48-59. doi : 10.1016/j.jff.2013.11.023

Amine, K.M., Champagne, C.P., Raymond, Y., St-Gelais, D., Britten, M., Fustier, P., Salmieri, S., and Lacroix, M. (2014). "Survival of microencapsulated *Bifidobacterium longum* in Cheddar cheese during production and storage.", *Food Control*, 37(1), pp. 193-199. doi : 10.1016/j.foodcont.2013.09.030

Amine, K.M., Champagne, C.P., Salmieri, S., Britten, M., St-Gelais, D., Fustier, P., and Lacroix, M. (2014). "Effect of palmitoylated alginate microencapsulation on viability of *Bifidobacterium longum* during freeze-drying", *Food Science & Technology (London)*, 56(1), pp. 111-117. doi : 10.1016/j.lwt.2013.11.003

Saffon, M., Jiménez-Flores, R., Britten, M., and Pouliot, Y. (2014). "On the use of buttermilk components as aggregation nuclei during the heat-induced denaturation of whey proteins.", *Journal of Food Engineering*, 132, pp. 21-28. doi : 10.1016/j.jfoodeng.2014.02.001

Giroux, H.J., Bouchard, C., and Britten, M. (2014). "Combined effect of renneting pH, cooking temperature, and dry salting on the contraction kinetics of rennet-induced milk gels.", *International Dairy Journal*, 35(1), pp. 70-74. doi : 10.1016/j.idairyj.2013.10.016

Saffon, M., Richard, V., Jiménez-Flores, R., Gauthier, S.F., Britten, M., and Pouliot, Y. (2014). "Behavior of Heat-Denatured Whey:Buttermilk Protein Aggregates during the Yogurt-Making Process and Their Influence on Set-Type Yogurt Properties.", *Foods*, 2(4), pp. 444-459. doi : 10.3390/foods2040444

Sabik, H., Achouri, A., Alfaro, M., Pelletier, M., Bélanger, D., Britten, M., and Fustier, P. (2014). "Study of chemical stability of lemon oil components in sodium caseinate-lactose glycoconjugate-stabilized oil-in-water emulsions using solid-phase microextraction-gas chromatography.", *Food & Function*, 5(7), pp. 1495-1505. doi : 10.1039/c4fo00016a

Lamothe, S., Azimy, N., Bazinet, L., Couillard, C., and Britten, M. (2014). "Interaction of green tea polyphenols with dairy matrices in a simulated gastrointestinal environment.", *Food & Function*, 5(10), pp. 2621-2631. doi : 10.1039/c4fo00203b

Banville, V., Morin, P., Pouliot, Y., and Britten, M. (2014). "Shreddability of pizza Mozzarella cheese predicted using physicochemical properties.", *Journal of Dairy Science (JDS)*, 97(7), pp. 4097-4110. doi : 10.3168/jds.2014-8040

Rinaldi, L., Gauthier, S.F., Britten, M., and Turgeon, S.L. (2014). "In vitro gastrointestinal digestion of liquid and semi-liquid dairy matrices.", *Food Science and Technology - LWT*, 57(1), pp. 99-105. doi : 10.1016/j.lwt.2014.01.026

Matte, J.J., Britten, M., and Girard, C.L. (2014). "The importance of milk as a source of vitamin B12 for human nutrition.", *Animal Frontiers*, 4(2), pp. 32-37. doi : 10.2527/af.2014-0012

Rinaldi, L., Rioux, L.-E., Britten, M., and Turgeon, S.L. (2014). "In vitro bioaccessibility of peptides and amino acids from yogurt made with starch, pectin, or  $\beta$ -glucan.", *International Dairy Journal*. doi : 10.1016/j.idairyj.2014.09.005

## 2013

Giroux, H.J., Constantineau, S., Fustier, P., Champagne, C.P., St-Gelais, D., Lacroix, M., and Britten, M. (2013). "Cheese fortification using water-in-oil-in-water double emulsions as carrier for water soluble nutrients.", *International Dairy Journal*, 29(2), pp. 107-114. doi : 10.1016/j.idairyj.2012.10.009

Demers-Mathieu, V., Gauthier, S.F., Britten, M., Fliss, I., Robitaille, G., and Jean, J. (2013). "Inhibition of *Listeria monocytogenes* growth in cheddar cheese by an anionic peptides-enriched extract from whey proteins.", *International Dairy Journal*, 32(1), pp. 6-12. doi : 10.1016/j.idairyj.2013.03.008

Demers-Mathieu, V., Gauthier, S.F., Britten, M., Fliss, I., Robitaille, G., and Jean, J. (2013). "Antibacterial activity of peptides extracted from tryptic hydrolyzate of whey protein by nanofiltration.", *International Dairy Journal*, 28(2), pp. 94-101. doi : 10.1016/j.idairyj.2012.09.003

Lacroix, M., Han, J., Britten, M., Champagne, C.P., and Fustier, P. (2013). "Cheese Fortification.", in Victor, R.S., Preedy, R. and Patel, V.B. (eds.) - *Handbook of Food Fortification and Health - From Concepts to Public Health Applications Vol. 2*, Springer London, pp. 71-86.

Stratulat, I., Britten, M., Salmieri, S., St-Gelais, D., Champagne, C.P., Fustier, P., and Lacroix, M. (2013). "Encapsulation of coenzyme Q10 in a simple emulsion-based nutraceutical formulation and application in cheese manufacturing", *Food Chemistry*, 141(3), pp. 2707-2712. doi : 10.1016/j.foodchem.2013.05.057

Banville, V., Morin, P., Britten, M., and Pouliot, Y. (2013). "Physical properties of pizza Mozzarella cheese manufactured under different cheese-making conditions", *Journal of Dairy Science (JDS)*. doi : 10.3168/jds.2012-6314

Giroux, H.J., De Grandpré, G., Fustier, P., Champagne, C.P., St-Gelais, D., Lacroix, M., and Britten, M. (2013). "Production and characterization of Cheddar-type cheese enriched with green tea extract.", *Dairy Science & Technology*, 93(3), pp. 241-254. doi : 10.1007/s13594-013-0119-4

## 2012

Boroski, M., Giroux, H.J., Sabik, H., Petit, H.V., Visentainer, J.V., Matumoto-Pintro, P., and Britten, M. (2012). "Use of oregano extract and oregano essential oil as antioxidants in functional dairy beverage formulations.", *Food Science and Technology - LWT*, 47(1), pp. 167-174. doi : 10.1016/j.lwt.2011.12.018

Robitaille, G., Lapointe, C., Leclerc, D., and Britten, M. (2012). "Effect of pepsin-treated bovine and goat casein macropeptide on *Escherichia coli* and *Lactobacillus rhamnosus* in acidic conditions.", *Journal of Dairy Science (JDS)*, 95(1), pp. 1-8. doi : 10.3168/jds.2010-4142

Lamothe, S., Corbeil, M.-M., Turgeon, S.L., and Britten, M. (2012). "Influence of cheese matrix on lipid digestion in a simulated gastro-intestinal environment.", *Food & Function*, 3(7), pp. 724-731. doi : 10.1039/C2FO10256K

## 2011

Han, J., Britten, M., St-Gelais, D., Champagne, C.P., Fustier, P., Salmieri, S., and Lacroix, M. (2011). "Effect of polyphenolic ingredients on physical characteristics of cheese.", *Food Research International*, 44(1), pp. 494-497. doi : 10.1016/j.foodres.2010.10.026

Fortin, M.-H., Champagne, C.P., St-Gelais, D., Britten, M., Fustier, P., and Lacroix, M. (2011). "Viability of bifidobacterium longum in cheddar cheese curd during manufacture and storage: Effect of microencapsulation and point of inoculation.", *Dairy Science & Technology*, 91(5), pp. 599-614. doi: 10.1007/s13594-011-0034-5

Giroux, H.J. and Britten, M. (2011). "Encapsulation of hydrophobic aroma in whey protein nanoparticles.", *Journal of Microencapsulation*, 28(5), pp. 337-343. doi: 10.3109/02652048.2011.569761

Rémillard, N. and Britten, M. (2011). "Quantitative determination of micellar calcium in milk and cheese using acid-base titration.", *Milk Science International*, 66(2), pp. 137-140.

Nicolai, T., Britten, M., and Schmitt, C. (2011). "β-Lactoglobulin and WPI aggregates: Formation, structure and applications.", *Food Hydrocolloids*, 25(8), pp. 1945-1962. doi: 10.1016/j.foodhyd.2011.02.006

Matumoto-Pintro, P., Petit, H.V., Giroux, H.J., Côrtes, C., Gagnon, N., and Britten, M. (2011). "Effect of flaxseed lignans added to milk or fed to cows on oxidative degradation of dairy beverages enriched with polyunsaturated fatty acids.", *Journal of Dairy Research*, 78, pp. 111-117. doi: 10.1017/s0022029910000853

Fortin, M.-H., Champagne, C.P., St-Gelais, D., Britten, M., Fustier, P., and Lacroix, M. (2011). "Effect of time of inoculation, starter addition, oxygen level and salting on the viability of probiotic cultures during Cheddar cheese production.", *International Dairy Journal*, 21(2), pp. 75-82. doi: 10.1016/j.idairyj.2010.09.007

Tahérian, A.R., Britten, M., Sabik, H., and Fustier, P. (2011). "Ability of whey protein isolate and/or fish gelatin to inhibit physical separation and lipid oxidation in fish oil-in-water beverage emulsion.", *Food Hydrocolloids*, 25(5), pp. 868-878. doi: 10.1016/j.foodhyd.2010.08.007

Han, J., Britten, M., St-Gelais, D., Champagne, C.P., Fustier, P., Salmieri, S., and Lacroix, M. (2011). "Polyphenolic compounds as functional ingredients in cheese.", *Food Chemistry*, 124(4), pp. 1589-1594. doi: 10.1016/j.foodchem.2010.08.021

Haratifar, S., Bazinet, L., Manoury, N., Britten, M., and Angers, P. (2011). "Impact of redox potential electrochemical modification and storage conditions on the oxidation reaction prevention in dairy emulsion.", *Dairy Science & Technology*, 91(5), pp. 541-547. doi: 10.1007/s13594-011-0025-6

Matumoto-Pintro, P., Rabiey Motmaen, L., Robitaille, G., and Britten, M. (2011). "Use of modified whey protein in yoghurt formulations.", *International Dairy Journal*, 21(1), pp. 21-26. doi: 10.1016/j.idairyj.2010.07.003

Saffon, M., Britten, M., and Pouliot, Y. (2011). "Thermal aggregation of whey proteins in the presence of buttermilk concentrate.", *Journal of Food Engineering*, 103(3), pp. 244-250. doi: 10.1016/j.jfoodeng.2010.10.020

## Other Science Related Publications:

2013

Labrie, S and Britten, M. (2013). "Le sel dans les fromages: une affaire d'innocuité ou de technologie?", Colloque bisannuel du STELA la recherche laitière 2013, l'Hôtel Delta Centre-Ville, Montréal, QC, Canada, May 13-16, 2013.

2012

Power, K.A., Villeneuve, S., Mondor, M., Fustier, P., Arcand, Y., Lamarche, F., Britten, M., Cui, S.W., Tsao, R., Fofana, B., and Wanasundara, J.P.D. (2012). "Recent progress on the incorporation of flaxseed into cereal based matrices: delivery of bioactives to target sites and a comprehensive assessment of their biological effects.", 64th Flax Institute of the United States, Doublewood Inn, Fargo, ND, USA, March 29-30, 2012. (Presentation)

Saffon, M., Jiménez-Flores, R., Britten, M., and Pouliot, Y. (2012). "Study of the heat-induced interaction pathway between whey protein and buttermilk components.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012.

Saffon, M., Jiménez-Flores, R., Britten, M., and Pouliot, Y. (2012). "Étude du mécanisme d'interaction induit par la chaleur des protéines du lactosérum et des composants du babeurre.", Forum Technologique NOVALAIT / IDF Dairy Science and Technology Week 2012, Hôtel et Suites Le Dauphin, Drummondville, QC, Canada, May 29, 2012.

Gauvin, M.-J., Britten, M., and Pouliot, Y. (2012). "Complexes de protéines sériques et de babeurre en fromagerie.", Forum Technologique NOVALAIT / IDF Dairy Science and Technology Week 2012, Hôtel et Suites Le Dauphin, Drummondville, QC, Canada, May 29, 2012.

Ayala-Navarrete, L., Turgeon, S.L., and Britten, M. (2012). "Ajout de calcium au salage du fromage cheddar: effet sur sa structure et sa digestion in vitro.", Forum Technologique NOVALAIT / IDF Dairy Science and Technology Week 2012, Hôtel et Suites Le Dauphin, Drummondville, QC, Canada, May 29, 2012.

Rinaldi, L., Turgeon, S.L., and Britten, M. (2012). "Effets de l'ajout de stabilisants dans des produits laitiers fermentés sur la digestion des protéines, in vitro et in vivo.", Forum Technologique NOVALAIT / IDF Dairy Science and Technology Week 2012, Hôtel et Suites Le Dauphin, Drummondville, QC, Canada, May 29, 2012.



Banville, V., Morin, P., Pouliot, Y., and Britten, M. (2012). "New Tools to Predict and Control Shreddability of Mozzarella Cheese.", 6th IDF Cheese Ripening & Technology Symposium, Madison, WI, USA, May 21-24, 2012.

Saffon, M., Britten, M., Pouliot, Y., and Jiménez-Flores, R. (2012). "Milkfat distribution in a novel ingredient produced from whey cream and supercritical (SC)-CO<sub>2</sub>.", 14th Annual Dairy Ingredients Symposium, San Francisco, CA, USA, March 1-2, 2012.

2011

Britten, M. (2011). "Cheese Manufacturing in the Canadian Regulatory Context - Technical Considerations.", Colloque bisannuel du STELA la recherche laitière 2011, Hôtel Palace Royal, Québec City, QC, Canada, May 30-31, 2011.

Boroski, M., Giroux, H.J., Sabik, H., Petit, H.V., Pinto, P.T.M., Britten, M., and Visentainer, J.V. (2011). "Aspectos físico-químicos de bebidas lácteas (2% de óleo de linhaça) formuladas com a adição de extrato de orégano ou óleo essencial de orégano [Physico-chemical aspects of dairy beverages (2% of flax oil) containing oregano extract or oregano essential oil].", Simposio Latino Americano de Ciência de Alimentos, Campinas, São Paulo, Brazil, November 5-8, 2011. (Abstract)

Boroski, M., Giroux, H.J., Sabik, H., Petit, H.V., Pinto, P.T.M., Britten, M., and Visentainer, J.V. (2011). "Estudo comparativo da eficiência de extrato de orégano ou óleo essencial de orégano na proteção lipídica de bebida láctea enriquecida com óleo de linhaça [Comparative study of the efficiency of oregano extract or oregano essential oil to protect dairy beverages enriched in flax oil].", Simposio Latino Americano de Ciência de Alimentos, Campinas, São Paulo, Brazil, November 5-8, 2011. (Abstract)

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## Research Publications:

2013

Broadbent, A.B., Haye, T., Gariepy, T.D., Olfert, O.O., and Kuhlmann, U. (2013). "Lygus lineolaris, tarnished plant bug.", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, pp. 221-227.

Haye, T., Olfert, O.O., Weiss, R.M., Gariepy, T.D., Broadbent, A.B., and Kuhlmann, U. (2013). "Bioclimatic analyses of distributions of a parasitoid *Peristenus digoneutis* and its host species *Lygus* spp. In Europe and North America.", *Agricultural and Forest Entomology*, 15(1), pp. 43-55. doi: 10.1111/j.1461-9563.2012.00590.x

2011

Mason, P.G., Miall, J.H., Bouchard, P., Gillespie, D.R., Broadbent, A.B., and Gibson, G.A.P. (2011). "The parasitoid communities associated with an invasive canola pest, *Ceutorhynchus obstrictus* (Coleoptera: Curculionidae), in Ontario and Quebec, Canada.", *Canadian Entomologist*, 143(5), pp. 524-537. doi: 10.4039/n11-041

Mason, P.G., Broadbent, A.B., Whistlecraft, J.W., and Gillespie, D.R. (2011). "Interpreting the host range of *Peristenus digoneutis* and *Peristenus relictus* (Hymenoptera: Braconidae) biological control agents of *Lygus* spp. (Hemiptera: Miridae) in North America.", *Biological Control*, 57(2), pp. 94-102. doi: 10.1016/j.biocontrol.2011.02.002

## Other Science Related Publications:

2013

Labrie, G., Mason, P.G., Vincent, C., and Broadbent, A.B. (2013). "Natural enemies of pollen beetle *Brassicoglyphus viridescens* (Coleoptera: Nitidulidae) in Québec and Ontario", Joint meeting, Entomological Society of Canada / Entomological Society of Ontario, Guelph, Ontario, Canada, October 20-22, 2013, CP14. (Poster)

2012

Cárcamo, H.A., Herle, C.E., Broadbent, A.B., Gariepy, T.D., and Gualtieri, L. (2012). "Neo-classical biocontrol of *Lygus* in canola in the Canadian Prairies-treading lightly.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #27. (Abstract)

2011

Mason, P.G., Haye, T., Gillespie, D.R., Dossall, L.M., Kuhlmann, U., Broadbent, A.B., and Gibson, G.A.P. (2011). "Parasitoid communities of cabbage seedpod weevil: are native species enough?", Joint Annual Meeting of the Entomological Society of Canada and Acadian Entomological Society, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011. (Presentation)

# Bromfield, Eden S.P., Ph.D.

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## Research Publications:

2015

Adam, Z., Chen, Q., Xu, R., Diange, A.E., Bromfield, E.S.P., and Tambong, J.T. (2015). "Draft Genome Sequence of *Pseudomonas* Strain 2-36, an In Vitro Antagonist of *Rhizoctonia solani* and *Gaeumannomyces graminis*.", *Genome Announcements*, 3(1: e01534-14). doi : 10.1128/genomeA.01534-14

2014

Yu, X.-M., Cloutier, S., Tambong, J.T., and Bromfield, E.S.P. (2014). "*Bradyrhizobium ottawaense* sp. Nov., a symbiotic nitrogen fixing bacterium from root-nodules of soybeans in Eastern Canada.", *International Journal of Systematic and Evolutionary Microbiology (IJSEM)*, 64(Pt. 9), pp. 3202-3207. doi : 10.1099/ijs.0.065540-0

Adam, Z., Tambong, J.T., Lewis, C.T., Lévesque, C.A., Chen, W., Bromfield, E.S.P., Khan, I.U.H., and Xu, R. (2014). "Draft Genome Sequence of *Pantoea ananatis* Strain LMG 2665T, a Bacterial Pathogen of Pineapple Fruitlets.", *Genome Announcements*, 2(3: e00489-14). doi : 10.1128/genomeA.00489-14

2012

Tang, J., Bromfield, E.S.P., Rodrigue, N., Cloutier, S., and Tambong, J.T. (2012). "Microevolution of symbiotic *Bradyrhizobium* populations associated with soybeans in east North America.", *Ecology and Evolution*, 2(12), pp. 2943-2961. doi : 10.1002/ece3.404

2011

Tang, J., Zheng, A., Bromfield, E.S.P., Zhu, J., Li, S., Wang, S., Deng, Q., and Li, P. (2011). "16S rRNA gene sequence analysis of halophilic and halotolerant bacteria isolated from a hypersaline pond in Sichuan, China.", *Annals of Microbiology*, 61(2), pp. 375-381. doi : 10.1007/s13213-010-0137-x

## Other Science Related Publications:

2014

Darbyshire, S.J., Bromfield, E.S.P., Cloutier, S., and Robidas, C. (2014). "Symbiotic association with *Neorhizobium galegae* limits the dispersal of *Galega officinalis* (Goat's Rue) in Canada.", 68th Annual Meeting of the Canadian Weed Science Society - Société canadienne de malherbologie, Montreal, QC, Canada, November 17-20, 2014, pp. 31. (Poster)

Tambong, J.T., Adam, Z., Lewis, C.T., Lévesque, C.A., Chen, W., Khan, I.U.H., Bromfield, E.S.P., and Xu, R. (2014). "Comparative genomics of *Pantoea stewartii* subspecies and development of a TaqMan Real-Time PCR assay for specific detection of *P. stewartii* subsp. *stewartii*.", 13th International Conference of Plant Pathogenic Bacteria, Shanghai, China, June 8-13, 2014, pp. 34. (Abstract)

# Buchwaldt, Lone, Ph.D.

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## Research Publications:

2015

Durkin, J.M.H., Bissett, J.D., Pahlavani, M., Mooney, B.G., and Buchwaldt, L. (2015). "IGS minisatellites useful for race differentiation in *Colletotrichum lentis* and a likely site of small RNA synthesis affecting pathogenicity.", *PLoS ONE*, 10(9: Article number e0137398), pp. 1-24. doi: 10.1371/journal.pone.0137398

2013

Buchwaldt, L., Shaikh, R., Adam, J., Tullu, A., and Slinkard, A.E. (2013). "Recessive and dominant genes confer resistance to *Colletotrichum truncatum* in cultivated lentil.", *Canadian Journal of Plant Pathology*, 35(2), pp. 222-231. doi : 10.1080/07060661.2013.768296

2012

Shaikh, R., Diederichsen, A., Harrington, M., Adam, J., Conner, R.L., and Buchwaldt, L. (2012). "New sources of resistance to *Colletotrichum truncatum* race Ct0 and Ct1 in *Lens culinaris* subsp. *culinaris* obtained by single plant selection in germplasm accessions.", *Genetic Resources and Crop Evolution*, 60(1), pp. 193-201. doi: 10.1007/s10722-012-9825-7

## Other Science Related Publications:

2014

Turkington, T.K., Buchwaldt, L., Orchard, D., Strelkov, S.E., Ziesman, B.R., and Lange, R. (2014). "Assessing risk and spray timing for sclerotinia stem rot.", Daily interactive workshops, 2014 CanoLAB training event, Bolting and Beyond Session, Olds, Alberta, Canada, February 19-21, 2014. (Presentation)

Bissett, J.D. and Buchwaldt, L. (2014). "Sequence repeat patterns in the IGS region distinguish genetically highly similar pathovars of *Colletotrichum viciae* on lentils.", 10th International Mycological Conference (IMC10), Bangkok, Thailand, August 3-8, 2014.

Simmonds, D.H., Calla, B., Blahut-Beatty, L., Koziol, L., Buchwaldt, L., Neece, D.J., and Clough, S.J. (2014). "Gene expression studies to identify and verify the function of soybean defense genes against *Sclerotinia sclerotiorum*.", 15th Biennial Conference Molecular and Cellular Biology of the Soybean, Minneapolis, Minnesota, USA, August 3-6, 2014, pp. 44.

Simmonds, D.H., Calla, B., Blahut-Beatty, L., Koziol, L., Buchwaldt, L., Neece, D.J., and Clough, S.J. (2014). "Gene expression studies to identify and verify the function of soybean defense genes against *Sclerotinia sclerotiorum*.", 2nd Plant Genomics Congress, Europe, London, UK, May 11-14, 2014. (Poster)

Blahut-Beatty, L., Koziol, L., Calla, B., Buchwaldt, L., Neece, D.J., Clough, S.J., and Simmonds, D.H. (2014). "Strategies to identify functionally significant defense genes against *Sclerotinia sclerotiorum*.", Bloomington, MN, USA, January 22-24, 2014, pp. 32.

2013

Buchwaldt, L. (2013). "Dissecting quantitative resistance to *Sclerotinia sclerotiorum* in Asian Brassica napus germplasm.", Dow Agro Science, Saskatoon, SK, Canada, January 28, 2013. (Presentation)

Buchwaldt, L. (2013). "Dissecting quantitative resistance to *Sclerotinia sclerotiorum* in Asian Brassica napus germplasm.", National Sclerotinia Initiative 9th Annual Meeting, Minneapolis, MN, USA, January 23-25, 2013. (Presentation)

Buchwaldt, L. (2013). "Dissecting quantitative resistance to *Sclerotinia sclerotiorum* in Asian Brassica napus germplasm.", Bayer Crop Science, Saskatoon, SK, Canada, February 26, 2013. (Presentation)

Buchwaldt, L. (2013). "Dissecting quantitative resistance to *Sclerotinia sclerotiorum* in Asian Brassica napus germplasm.", Cargill, Aberdeen, SK, Canada, March 14, 2013. (Presentation)

Buchwaldt, L. (2013). "Dissecting quantitative resistance to *Sclerotinia sclerotiorum* in Asian *Brassica napus* germplasm.", Viterra – Lanmannen (Svalof-Weibull), Saskatoon, SK, Canada, March 20, 2013. (Presentation)

Buchwaldt, L., Durkin, J.M.H., and Garg, H. (2013). "Characterization of *S. sclerotiorum* clones in western Canada for pathogenicity and genomic relatedness.", WCC/RRC Pathology Subcommittee, Saskatoon, SK, Canada, February 4, 2013.

## 2012

Hegedus, D.D., Buchwaldt, L., and Parkin, I.A.P. (2012). "Development of *Sclerotinia* resistant *Brassica napus* lines and molecular markers for marker-assisted breeding.", Canola Cluster update, Saskatoon, SK, Canada, March 21, 2012.

Buchwaldt, L., Hegedus, D.D., and Parkin, I.A.P. (2012). "Characterization of *S. sclerotiorum* clones in western Canada for pathogenicity and genomic relatedness.", Canola Cluster update, Saskatoon, SK, Canada, March 21, 2012.

Buchwaldt, L., Hegedus, D.D., and Parkin, I.A.P. (2012). "Advances in *Sclerotinia* resistance research.", Canola Industry Meeting, Garden Inn Hotel, Saskatoon, SK, Canada, December 5, 2012. (Presentation)

Turkington, T.K., Kutcher, H.R., Jurke, C., Buchwaldt, L., and McLaren, D.L. (2012). "Managing *Sclerotinia* stem rot of canola.", Webinar, Canola Council of Canada and canola grower's associations (ACPC/SC/MCGA), Canada, June 28, 2012. (Presentation)

## 2011

Buchwaldt, L., Hegedus, D.D., and Parkin, I.A.P. (2011). "*Sclerotinia* resistance in *B. napus* – an update.", Cargill, Aberdeen, SK, Canada, November 23, 2011. (Presentation)

Hegedus, D.D., Buchwaldt, L., and Parkin, I.A.P. (2011). A genomics approach to *Sclerotinia* resistance in *Brassica napus*. SaskCanola 20th Anniversary Research Summary., Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC). (Report)

Kutcher, H.R., Dokken-Bouchard, F.L., Turkington, T.K., Fernando, W.G.D., Boyetchko, S.M., Buchwaldt, L., Hegedus, D.D., and Parkin, I.A.P. (2011). "Managing *Sclerotinia* stem rot in canola.", Canola Research Summit meeting, Winnipeg, MB, Canada, April 12-13, 2011.

Buchwaldt, L. (2011). "Utilization of *Sclerotinia* resistance in canola from Asia.", Crop Protection Field Tour, Saskatoon Research Farm, Saskatoon, SK, Canada, July 20, 2011. (Presentation)

Fu, F., Harrington, M., Hegedus, D.D., Bekkaoui, D.R., Parkin, I.A.P., and Buchwaldt, L. (2011). "Co-location of defence genes from expression studies with QTLs conferring *Sclerotinia* resistance in *Brassica napus*.", 8th Canadian Plant Genomics Workshop, Niagara Falls, ON, Canada, August 22-25, 2011. (Workshop)

Gyawali, S., Buchwaldt, L., Harrington, M., Parkin, I.A.P., Bekkaoui, D.R., Horner, K., Higgins, E.E., and Hegedus, D.D. (2011). "Association mapping of stem rot resistance in a world collection of *Brassica napus*.", American Phytopathological Society (APS) 2011 Joint Annual Meeting & International Association for the Plant Protection Sciences (IPPC), Honolulu, HI, USA, August 6-10, 2011.

Buchwaldt, L., Lydiate, D.J., Yu, F.Q., Hegedus, D.D., and Rimmer, S.R. (2011). "QTLs contributing to *Sclerotinia* stem rot resistance in *Brassica napus* Zhongyou 821.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011.

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Research Scientist

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## Research Publications:

2015

Bouchard, K., Wittenberg, K.M., Legesse, G., Krause, D.O., Khafipour, E., Buckley, K.E., and Ominski, K.H. (2015). "Comparison of feed intake, body weight gain, enteric methane emission and relative abundance of rumen microbes in steers fed sainfoin and lucerne silages under western Canadian conditions.", *Grass and Forage Science*, 70(1), pp. 116-129. doi : 10.1111/gfs.12105

2014

Molina, O.I., Tenuta, M., El Hadram, A., Buckley, K.E., Cavers, C., and Daayf, F. (2014). "Potato Early Dying and Yield Responses to Compost, Green Manures, Seed Meal and Chemical Treatments.", *American Journal of Potato Research*, 91(4), pp. 414-428. doi : 10.1007/s12230-014-9365-0

2013

Tkachuk, V.L., Krause, D.O., McAllister, T.A., Buckley, K.E., Reuter, T.R., Hendrick, S., and Ominski, K.H. (2013). "Assessing the inactivation of *Mycobacterium avium* subspecies *paratuberculosis* during composting of livestock carcasses.", *Applied and Environmental Microbiology*, 79(10), pp. 3215-3224. doi : 10.1128/AEM.03768-12

2012

Gasser, M.-O., Chantigny, M.H., Angers, D.A., Bittman, S., Buckley, K.E., Rochette, P., and Massé, D.I. (2012). "Plant-available and water-soluble phosphorus in soils amended with separated manure solids.", *Journal of Environmental Quality*, 41(4), pp. 1290-1300. doi : 10.2134/jeq2011.0290

Gagnon, B., Demers, I., Ziadi, N., Chantigny, M.H., Parent, L.-É., Forge, T.A., Lamey, F.J., and Buckley, K.E. (2012). "Forms of phosphorus in composts and in compost-amended soils following incubation.", *Canadian Journal of Soil Science*, 92(5), pp. 711-721. doi : 10.4141/CJSS2012-032

Bittman, S., Liu, A., Hunt, D.E., Forge, T.A., Kowalenko, C.G., Chantigny, M.H., and Buckley, K.E. (2012). "Precision Placement of Separated Dairy Sludge Improves Early Phosphorus Nutrition and Growth in Corn (*Zea mays* L.).", *Journal of Environmental Quality*, 41(2), pp. 582-591. doi : 10.2134/jeq2011.0284

2011

Moulin, A.P., Buckley, K.E., and Volkmar, K.M. (2011). "Soil quality as affected by amendments in bean-potato rotations.", *Canadian Journal of Soil Science*, 91(4), pp. 533-542. doi : 10.4141/cjss10011

Bittman, S., Hunt, D.E., Kowalenko, C.G., Chantigny, M.H., Buckley, K.E., and Bounaix, F. (2011). "Removing solids improves response of grass to surface-banded dairy manure slurry: A multiyear study.", *Journal of Environmental Quality*, 40(2), pp. 393-401. doi : 10.2134/jeq2010.0177

Buckley, K.E., Therrien, M.C., and Mohr, R.M. (2011). "Agronomic performance of barley cultivars in response to varying rates of swine slurry.", *Canadian Journal of Plant Science*, 91(1), pp. 69-79. doi : 10.4141/CJPS09032

## Other Science Related Publications:

2012

Buckley, K.E. (2012). "An overview of integrated farming systems - Manure treatment options.", 22nd Annual National Compost Conference, Monreal, QC, Canada, Sept. 19-21, 2012. (Presentation)

2011

Buckley, K.E., Mohr, R.M., Coulter, V., Phillips, K., and Westwood, R. (2011). "Nutrient status of potatoes grown on compost amended soils as determined by sap nitrate levels.", 21st Annual National Compost Conference, Charlottetown, PEI, Canada, September 19-21, 2011. (Presentation)

# **Buckley, Wayne T., Ph.D.**

Research Scientist

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## **Research Publications:**

2011

Kodde, J., Buckley, W.T., de Groot, C., Retiere, M., Zamora, A.M.V., and Groot, S.P.C. (2011). "A fast ethanol assay to detect seed deterioration.", *Seed Science Research*, 22(1), pp. 55-62. doi: 10.1017/S0960258511000274

Buckley, W.T. and Huang, J. (2011). "An ethanol-based seed vigour assay for canola.", *Seed Science and Technology*, 39(2), pp. 510-526.

# Burgher-MacLellan, Karen, M.Sc.

Biologist/Research Scientist

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## Research Publications:

2014

Shutler, D., Head, K., Burgher-MacLellan, K.L., Colwell, M.J., Levitt, A.L., Ostiguy, N., and Williams, G.R. (2014). "Honey bee *Apis mellifera* parasites in the absence of *Nosema ceranae* fungi and *Varroa destructor* mites.", PLoS ONE, 9(6): Article number e98599). doi: 10.1371/journal.pone.0098599

Williams, G.R., Shutler, D., Burgher-MacLellan, K.L., and Rogers, R.E.L. (2014). "Intra-population and -community dynamics of the parasites *Nosema apis* and *Nosema ceranae*, and consequences for honey bee (*Apis mellifera*) hosts.", PLoS ONE, 9(7: e99465). doi: 10.1371/journal.pone.0099465

2011

Williams, G.R., Shutler, D., Little, C.M., Burgher-MacLellan, K.L., and Rogers, R.E.L. (2011). "The microsporidian *Nosema ceranae*, the antibiotic Fumagilin-B®, and western honey bee (*Apis mellifera*) colony strength.", *Apidologie*, 42(1), pp. 15-22. doi: 10.1051/apido/2010030



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## Research Publications:

2015

Bykova, N.V., Hu, J.-N., Ma, Z., and Igamberdiev, A.U. (2015). "The role of reactive oxygen and nitrogen species in bioenergetics, metabolism and signaling during seed germination.", in Gupta, K.J. and Igamberdiev, A.U. (eds.) - Reactive Oxygen and Nitrogen Species Signaling and Communication in Plants, Springer Berlin / Heidelberg, pp. 177-195.

Igamberdiev, A.U. and Bykova, N.V. (2015). "Non-coupled pathways of plant mitochondrial electron transport and the maintenance of high photorespiratory flux.", in Gupta, K.J., Mur, L.A.J., and Neelwarne, B. (eds.) - Alternative Respiratory Pathways in Higher Plants, John Wiley & Sons, Ltd, Chapter 2.

Hu, J., Rampitsch, C., and Bykova, N.V. (2015). "Advances in plant proteomics toward improvement of crop productivity and stress resistance.", *Frontiers in Plant Science*, 6(209), pp. 1-15. doi: 10.3389/fpls.2015.00209

An, D., Bykova, N.V., and Debnath, S.C. (2015). "EST-PCR, EST-SSR and ISSR markers to identify a set of wild cranberries and evaluating their relationships.", *Canadian Journal of Plant Science*, 95(6), pp. 1155-1165. doi: 10.4141/CJPS-2015-158

2014

Bykova, N.V., Møller, I.M., Gardeström, P., and Igamberdiev, A.U. (2014). "The function of glycine decarboxylase complex is optimized to maintain high photorespiratory flux via buffering of its reaction products.", *Mitochondrion*, 19(Part B), pp. 357-364. doi: 10.1016/j.mito.2014.01.001

Ahmed, A.A., Balogun, K.A., Bykova, N.V., and Cheema, S.K. (2014). "Novel regulatory roles of omega-3 fatty acids in metabolic pathways: a proteomics approach.", *Nutrition & Metabolism*, 11(6), pp. 11 pages. doi: 10.1186/1743-7075-11-6

2013

Bykova, N.V. and Rampitsch, C. (2013). "Modulating protein function through reversible oxidation: Redox-mediated processes in plants revealed through proteomics.", *Proteomics*, 13(3-4), pp. 579-596. doi: 10.1002/pmic.201200270

Agrawal, G.K., Sarkar, A., Righetti, P.G., Pedreschi, R., Carpentier, S., Wang, T., Barkla, B.J., Kohli, A., Ndimba, B.K., Bykova, N.V., Rampitsch, C., Zolla, L., Rafudeen, M.S., Cramer, R., Bindschedler, L.V., Tsakirpaloglou, N., Ndimba, R.J., Farrant, J.M., Renaut, J., Job, D., Kikuchi, S., and Rakwal, R. (2013). "A decade of plant proteomics and mass spectrometry: Translation of technical advancements to food security and safety issues.", *Mass Spectrometry Reviews*, 32(5), pp. 335-365. doi: 10.1002/mas.21365

2012

Rampitsch, C. and Bykova, N.V. (2012). "The beginnings of crop phosphoproteomics: exploring early warning systems of stress.", *Frontiers in Plant Science*, 3(144), pp. 1-15. doi: 10.3389/fpls.2012.00144

Debnath, S.C., Siow, Y.L., Petkau, J.C., An, D., and Bykova, N.V. (2012). "Molecular markers and anti-oxidant activity in berry crops genetic diversity analysis.", *Canadian Journal of Plant Science*, 92(6), pp. 1121-1133. doi: 10.4141/cjps2011-240

Rampitsch, C. and Bykova, N.V. (2012). "Proteomics and plant disease: Advances in combating a major threat to the global food supply. (Review).", *Proteomics*, 12(4-5), pp. 673-690. doi: 10.1002/pmic.201100359

2011

Igamberdiev, A.U., Bykova, N.V., and Hill, R.D. (2011). "Structural and functional properties of class 1 plant hemoglobins.", *IUBMB Life*, 63(3), pp. 146-152. doi: 10.1002/iub.439

Bykova, N.V., Hoehn, B., Rampitsch, C., Banks, T.W., Stebbing, J.A., Fan, T., and Knox, R.E. (2011). "Redox-sensitive proteome and antioxidant strategies in wheat seed dormancy control.", *Proteomics*, 11(5), pp. 865-882. doi: 10.1002/pmic.200900810

Bykova, N.V., Hoehn, B., Rampitsch, C., Hu, J., Stebbing, J.A., and Knox, R.E. (2011). "Thiol redox-sensitive seed proteome in dormant and non-dormant hybrid genotypes of wheat.", *Phytochemistry*, 72(10), pp. 1162-1172. doi : 10.1016/j.phytochem.2010.12.021

## Other Science Related Publications:

2015

Bykova, N.V., Hu, J., and Radovanovic, N. (2015). "Redox control of metabolic reprogramming toward seed dormancy release in wheat.", 12th International Conference on Reactive Oxygen and Nitrogen Species in Plants: from model systems to field, Verona, Italy, June 24-26, 2015.

Hu, J., Radovanovic, N., Fan, T., and Bykova, N.V. (2015). "Redox regulation of seed dormancy release in spring wheat revealed through tissue-specific proteomics, metabolomics and antioxidant activity profiling.", Canadian Plant Science Annual Meeting with Plant Canada and other plant societies at Botany 2015, Edmonton, Alberta, Canada, July 25-29, 2015. (Poster)

Bykova, N.V. and Igamberdiev, A.U. (2015). "Non-coupled pathways of plant mitochondrial electron transport support high rates of glycine oxidation.", 9th International Conference for Plant Mitochondrial Biology ICPMB, Wrocław, Poland, May 17-22, 2015, P81. (Poster)

2014

Taylor, S., Bykova, N.V., and Debnath, S.C. (2014). "Genetic diversity in blueberry (*Vaccinium* spp. L.) using molecular markers.", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014, pp. 33. (Abstract)

Ma, Z., Marsolais, F., Igamberdiev, A.U., and Bykova, N.V. (2014). "Metabolism of organic acids in barley seeds during germination.", Plant Biology 2014, Portland, Oregon, USA, July 12-16, 2014, Presentation. (Poster)

Bykova, N.V., Hu, J.-N., Radovanovic, N., You, F.M., and Fan, T. (2014). "Quantitative proteomic approaches to revealing mechanisms of seed dormancy control and pre-harvest sprouting resistance in wheat", 1st INPPO World Congress on Plant Proteomics: Methodology to Biology, Hamburg, Germany, August 31- September 4, 2014.

Bykova, N.V., Hu, J.-N., Rampitsch, C., Fan, T., and Radovanovic, N. (2014). "Quantitative comparative proteomic profiling of tissue-specific and membrane-associated seed proteomes in pre-harvest sprouting resistant and susceptible hybrid wheat genotypes.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

Bykova, N.V., Rampitsch, C., and others (2014). "Proteomic approaches to revealing mechanisms of physiological transition from seed dormancy to high germination potential in wheat.", Plant Biology 2014, Portland, Oregon, USA, July 12-16, 2014. (Poster)

2013

Hu, J.-N., Stebbing, J.A., Fan, T., Rampitsch, C., and Bykova, N.V. (2013). "Proteomic analysis reveals changes in abundance, composition, and phosphorylation of membrane-associated protein complexes from wheat aleurone in response to alteration in seed dormancy.", CSPB Annual Meeting, Quebec City, Canada. (Poster)

Bykova, N.V., Hoehn, B., Rampitsch, C., Hu, J.-N., and Fan, T. (2013). "Redox-mediated regulation of wheat seed dormancy revealed through modification specific proteomics.", 11th International Conference on Reactive Oxygen and Nitrogen Species in Plant, Warsaw, Poland. (Poster)

Bykova, N.V., Hu, J.-N., Rampitsch, C., Stebbing, J.A., and Fan, T. (2013). "Proteomic profiling of membrane-associated protein complexes in wheat aleurone tissue using Blue Native gels and label-free semi-quantitative LC-MS/MS approach.", 5th Canadian National Proteomics Network Symposium, Vancouver, BC, Canada. (Poster)

2012

Bykova, N.V. (2012). "Differential and redox-sensitive proteomic analysis of pre-harvest sprouting tolerance.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, Published in: *Can. J. Plant Sci.*, 92(3), pp. 600.

Ma, Z., Igamberdiev, A.U., and Bykova, N.V. (2012). "Metabolism of reactive oxygen and nitrogen species during germination of barley seeds with different levels of dormancy.", Canadian Society of Plant Biologists Meeting (CSPB 2012), University of Alberta Campus, Edmonton, AB, Canada, June 25-27, 2012. (Presentation)

Bykova, N.V. and Igamberdiev, A.U. (2012). "Metabolism of reactive oxygen and nitrogen species during germination of barley seeds with different levels of dormancy.", Annual Meeting of the Canadian Society of Plant Physiologists (CSPP/SCPV 2012), University of Alberta Campus, Edmonton, AB, Canada, June 25-27, 2012. (Presentation)

Shah, J.K., Hebelstrup, K.H., Bykova, N.V., and Igamberdiev, A.U. (2012). "The biotechnological use of hemoglobin overexpression in barley.", Annual Meeting of the American Society of Plant Biology, Austin, TX, USA, July 31 -August 3, 2012, Poster P02048. (Abstract)

An, D., Bykova, N.V., and Debnath, S.C. (2012). "Identifying wild and cultivated cranberries and evaluating their relationships using morphology, and EST-PCR and ISSR markers.", Plant Canada 2012 (joint meeting of the Canadian Society of Agronomy (CSA), Canadian Society for Horticultural Science (CSHS), Certified Crop Advisors (CCA), North American Fruit Explorers (NAFEX)): Adapting Crops to Change, University of Saskatchewan, Saskatoon, SK, Canada, July 16-19, 2012, P1 Abstract Id 3764, pp. p.44.

## 2011

Hu, J., Hoehn, B., Rampitsch, C., and Bykova, N.V. (2011). "Impact of dormancy genotypes on differential protein expression profiles and redox-sensitive landscape of the proteome in hybrid spring wheat lines.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011. (Poster)

Ma, Z., Igamberdiev, A.U., and Bykova, N.V. (2011). "The glycolytic and antioxidant H<sub>2</sub>O<sub>2</sub> scavenging capacity of germinating barley seeds with different levels of dormancy.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011. (Presentation)

Debnath, S.C., Siow, Y.L., Petkau, J.C., An, D., and Bykova, N.V. (2011). "Molecular markers and antioxidant activity in berry crop diversity analysis.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011, 78, Session 1. (Presentation)

# Cade-Menun, Barbara J., Ph.D.

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## Research Publications:

2015

Abdi, D., Cade-Menun, B.J., Ziadi, N., and Parent, L.-É. (2015). "Unbiased statistical analysis of soil 31P-NMR forms.", *Geoderma*, 257-258, pp. 40-47.

Cade-Menun, B.J., He, Z.Q., and Dou, Z. (2015). "Comparison of phosphorus forms in three extracts of dairy feces by solution 31P NMR analysis.", *Communications in Soil Science and Plant Analysis*, 46(13), pp. 1698-1712. doi : 10.1080/00103624.2015.1047512

Cade-Menun, B.J. (2015). "Improved peak identification in 31P-NMR spectra of environmental samples with a standardized method and peak library.", *Geoderma*, 257-258, pp. 102-114. doi : 10.1016/j.geoderma.2014.12.016

Abdi, D., Cade-Menun, B.J., Ziadi, N., and Parent, L.-É. (2015). "Compositional statistical analysis of soil 31P-NMR forms.", *Geoderma*, 257-258, pp. 40-47. doi : 10.1016/j.geoderma.2015.03.019

Cade-Menun, B.J., He, Z.Q., Zhang, H., Endale, D.M., Schomberg, H.H., and Liu, C.W. (2015). "Stratification of phosphorus forms from long-term conservation tillage and poultry litter application.", *Soil Science Society of America Journal*, 79(2), pp. 504-516. doi : 10.2136/sssaj2014.08.0310

Giles, C.D., Lee, L.G., Cade-Menun, B.J., Hill, J.E., Isles, P.D.F., Schroth, A.W., and Druschel, G.K. (2015). "Characterization of organic phosphorus form and bioavailability in lake sediments using 31P NMR and enzymatic hydrolysis.", *Journal of Environmental Quality*, 44(3), pp. 882-894. doi : 10.2134/jeq2014.06.0273

Liu, J., Hu, Y.F., Yang, J.J., Abdi, D., and Cade-Menun, B.J. (2015). "Investigation of soil legacy phosphorus transformations in long-term agricultural fields using sequential fractionation, P K-edge XANES and solution P-NMR spectroscopy.", *Environmental Science & Technology*, 49(1), pp. 168-176. doi : 10.1021/es504420n

2014

Tazisong, I.A., Senwo, Z.N., Cade-Menun, B.J., and He, Z.Q. (2014). "Phosphorus forms and mineralization potentials of Alabama upland cotton production soils amended with poultry litter.", in He, Z. and Zhang, H. (eds.) - *Applied Manure and Nutrient Chemistry for Sustainable Agriculture and Environment*, Springer Science + Business Media, Chapter 10, pp. 191-209.

Cade-Menun, B.J. and Liu, C.W. (2014). "Solution 31P-NMR spectroscopy of soils from 2005-2013: A review of sample preparation and experimental parameters.", *Soil Science Society of America Journal*, 78(1), pp. 19-37. doi : 10.2136/sssaj2013.05.0187dgs

Liu, J., Yang, J.J., Liang, X.Q., Zhao, Y., Cade-Menun, B.J., and Hu, Y.F. (2014). "Molecular speciation of readily dispersible colloidal phosphorus from agricultural soils.", *Soil Science Society of America Journal*, 78(1), pp. 47-53. doi : 10.2136/sssaj2013.05.0159

Giles, C.D. and Cade-Menun, B.J. (2014). "Phytate in animal manure and soils: Abundance, cycling and bioavailability.", in He, Z. and Zhang, H. (eds.) - *Applied Manure and Nutrient Chemistry for Sustainable Agriculture and Environment*, Springer Science + Business Media, Chapter 9, pp. 163-189.

Read, E.K., Ivancic, M., Hanson, P., Cade-Menun, B.J., and McMahon, K.D. (2014). "Phosphorus speciation in a eutrophic lake by 31P NMR.", *Water Research*, 62, pp. 229-240. doi : 10.1016/j.watres.2014.06.005

Dai, M., Schneider, K.E., Cade-Menun, B.J., Ferrera-Cerrato, R., and Hamel, C. (2014). "Arbuscular mycorrhiza and the phosphorus nutrition of organic crops.", in Martin, R.C. and MacRae, R. (eds.) - *Managing Energy, Nutrients, and Pests in Organic Field Crops*, CRC Press, Chapter 3, pp. 35-58.

Abdi, D., Cade-Menun, B.J., Ziadi, N., and Parent, L.-É. (2014). "Long-term impact of tillage practices and P fertilization on soil P forms as determined by 31P-NMR spectroscopy.", *Journal of Environmental Quality*, 43(4), pp. 1431-1441. doi : 10.2134/jeq2013.10.0424

Zohar, I., Cade-Menun, B.J., Paytan, A., and Shaviv, A. (2014). "Phosphorus transformations from reclaimed wastewater to irrigated soil: A 31P NMR study.", *Soil Science Society of America Journal*, 78(6), pp. 1884-1892. doi : 10.2136/sssaj2014.01.0037

Giles, C.D., Cade-Menun, B.J., Liu, C.W., and Hill, J. (2014). "The short-term transport and transformation of phosphorus species in a saturated soil following poultry manure amendment and leaching.", *Geoderma*, 257-258, pp. 134-141. doi : 10.1016/j.geoderma.2014.08.007

2013

Cade-Menun, B.J., Fouli, Y., and Chantigny, M.H. (2013). "Preface: Biological, chemical and physical processes in seasonally frozen soils.", *Canadian Journal of Soil Science*, 93(4), pp. 397-399. doi : 10.4141/CJSS2013-502

Cade-Menun, B.J., Bell, G.W., Baker-Ismail, S., Fouli, Y., Hodder, K., McMartin, D.W., Perez-Valdivia, C., and Wu, K. (2013). "Nutrient loss from Saskatchewan cropland and pasture in spring snowmelt runoff.", *Canadian Journal of Soil Science*, 93(4), pp. 445-458. doi: 10.4141/cjss2012-042

Young, E.O., Ross, D.S., Cade-Menun, B.J., and Liu, C.W. (2013). "Phosphorus speciation in riparian soils: A phosphorus-31 nuclear magnetic resonance spectroscopy and enzyme hydrolysis study.", *Soil Science Society of America Journal*, 77(5), pp. 1636-1647. doi : 10.2136/sssaj2012.0313

Fouli, Y., Cade-Menun, B.J., and Cutforth, H.W. (2013). "Freeze thaw cycles and soil water content effects on infiltration rate and bulk density of three Saskatchewan soils.", *Canadian Journal of Soil Science*, 93(4), pp. 485-496. doi : 10.4141/cjss2012-060

Liu, J., Yang, J.J., Cade-Menun, B.J., Liang, X.Q., Hu, Y.F., Liu, C.W., Zhao, Y., Li, L., and Shi, J.Y. (2013). "Complementary phosphorus speciation in agricultural soils by sequential fractionation, solution <sup>31</sup>P NMR, and P K-edge XANES spectroscopy.", *Journal of Environmental Quality*, 42, pp. 1763-1770. doi : 10.2134/jeq2013.04.0127

2011

Giles, C.D., Cade-Menun, B.J., and Hill, J. (2011). "The inositol phosphates in soils and manures: Abundance, cycling, and measurement.", *Canadian Journal of Soil Science*, 91(3), pp. 397-416. doi: 10.4141/cjss09090

He, Z.Q., Olk, D.C., and Cade-Menun, B.J. (2011). "Forms and lability of phosphorus in humic acid fractions of hard silt loam soil.", *Soil Science Society of America Journal*, 75(5), pp. 1712-1722. doi : 10.2136/sssaj2010.0355

## Other Science Related Publications:

2015

Abdi, D., Cade-Menun, B.J., Ziadi, N., Shi, Y.Z., Bélanger, G., Lajeunesse, J., and Lafond, J. (2015). "The influence of phosphorus fertilization on grassland soil phosphorus forms: A <sup>31</sup>P-NMR study.", *Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015, Presentation.*

2014

Abdi, D., Cade-Menun, B.J., Ziadi, N., Tremblay, G.F., and Parent, L.-É. (2014). "Predicting soil organic phosphorus using near-infrared reflectance spectroscopy.", *20th World Congress of Soil Science, Jeju, South Korea, June 8-13, 2014.*

Abdi, D., Cade-Menun, B.J., Ziadi, N., Shi, Y.Z., and Bélanger, G. (2014). "Soil phosphorus forms determined by <sup>31</sup>P-NMR in a grassland production.", *ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014. (Poster)*

Abdi, D., Cade-Menun, B.J., Ziadi, N., and Parent, L.-É. (2014). "Effet à long terme du travail du sol et de la fertilisation phosphatée sur les formes du phosphore déterminées par spectroscopie RMN-<sup>31</sup>P.", *Journées d'Étude des Sols, Université de Savoie, Chambéry, France, June 30-July 4, 2014. (Presentation)*

Abdi, D., Cade-Menun, B.J., Ziadi, N., Tremblay, G.F., and Parent, L.-É. (2014). "Near-infrared reflectance spectroscopy for soil organic phosphorus.", *ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.*

2013

Cade-Menun, B.J., McConkey, B.G., Iwaasa, A.D., and Lardner, H.A. (2013). "The effect of in-field winter bale grazing on soil nutrients in pastures in Saskatchewan.", *ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013.*

Ziadi, N., Bélanger, G., Grant, C.A., Cade-Menun, B.J., Lalande, R., Hamel, C., Lafond, J., Lajeunesse, J., Pageau, D., Tremblay, G.F., and Zhang, T.Q. (2013). *Soil and plant phosphorus assessment and modeling in Canadian agro-ecosystems. Final report SAGES#1475. (Report)*

2012

Fouli, Y., Cade-Menun, B.J., and Cutforth, H.W. (2012). "Freeze-thaw cycles and water content effects on infiltration rate and bulk density of three Saskatchewan soils.", 2012 Soils and Crops Workshop, University of Saskatchewan, Saskatoon, SK, Canada, March 13-14, 2012. (Presentation)

2011

Baker-Ismail, S., McMartin, D.W., Cade-Menun, B.J., Fouli, Y., and Wu, K. (2011). "Preliminary results of coliform monitoring at the Saskatchewan WEBS project.", 64th Annual CWRA National Conference: Our Water - Our Life - The Most Valuable Resource, St. John's, NL, Canada, June 27-30, 2011. (Poster)

Wu, K., Fouli, Y., Perez-Valdivia, C., and Cade-Menun, B.J. (2011). "Impact of land management practices on prairie hydrology.", Canadian Land Resources Network Meeting, Saskatoon, SK, Canada, June 2011. (Poster)

Cade-Menun, B.J., McConkey, B.G., Iwaasa, A.D., and Lardner, H.A. (2011). "Nutrient loss in snowmelt runoff from cattle winter bale-grazing in SW Saskatchewan.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Cade-Menun, B.J., McConkey, B.G., Iwaasa, A.D., and Lardner, H.A. (2011). "Cattle winter bale-grazing in SW Saskatchewan: the SPARC research project.", Extensive cattle wintering systems workshop, Saskatoon, SK, Canada, February 8-9, 2011. (Workshop)

Cade-Menun, B.J. (2011). "Integrating terrestrial and aquatic science: Emerging issues workshop report.", *Limnology and Oceanography Bulletin*, 20(2), pp. 39-40.

Fouli, Y. and Cade-Menun, B.J. (2011). "Freeze-thaw cycle effects on infiltration rate and bulk density of three Saskatchewan soils.", 2011 ASA, CSSA, and SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Presentation)

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Research Scientist

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## Research Publications:

2014

Meadus, W.J., Duff, P., McDonal, T., and Caine, W.R. (2014). "Pigs fed Camelina meal increase hepatic gene expression of cytochrome 8b1, aldehyde dehydrogenase, and thiosulfate transferase.", *Journal of Animal Science and Biotechnology*, 5(1: Article 1). doi : 10.1186/2049-1891-5-1

2013

Eklund, M., Caine, W.R., Sauer, W.C., Huang, G.S., Diebold, G., Schollenberger, M., and Mosenthin, R. (2013). "Guanidination procedure increases standardised ileal digestibilities of nitrogen and amino acids in rapeseed meal, soybean meal and peas fed to growing pigs.", *Animal Production Science*, 53(3), pp. 265-273. doi : 10.1071/an12083

2012

Eklund, M., Caine, W.R., Sauer, W.C., Huang, G.S., Diebold, G., Schollenberger, M., and Mosenthin, R. (2012). "True and standardized ileal digestibilities and specific ileal endogenous recoveries of crude protein and amino acid in soybean meal, rapeseed meal and peas fed to growing pigs.", *Livestock Science*, 145(1-3), pp. 174-182. doi : 10.1016/j.livsci.2012.01.016

2011

Juárez, M., Caine, W.R., Dugan, M.E.R., Hidioglou, N., Larsen, I.L., Uttaro, B., and Aalhus, J.L. (2011). "Effects of dry-ageing on pork quality characteristics in different genotypes.", *Meat Science*, 88(1), pp. 117-121. doi : 10.1016/j.meatsci.2010.12.011

## Other Science Related Publications:

2015

Vahmani, P., Meadus, W.J., Uttaro, B., López-Campos, Ó., Mapiye, C., Rolland, D.C., Caine, W.R., Aalhus, J.L., and Dugan, M.E.R. (2015). "Effects of feeding beef fat from different body locations, and with different enrichments of biohydrogenation products on barrow performance, meat quality and body composition.", *Banff Pork Seminar*, Banff, Canada, January, 2015. (Presentation)

2013

Meadus, W.J., Duff, P., McDonal, T., and Caine, W.R. (2013). "Pigs Fed Camelina Meal Increases Liver Expression of Drug Metabolism Enzymes Cyp8b, Aldh and Tst", 59th International Congress of Meat Science and Technology (ICoMST 2013), Izmir, Turkey, August 18-23, 2013, Poster ID: S4-3. (Poster)

2012

Meadus, W.J., Duff, P., McDonald, T., and Caine, W.R. (2012). "Pigs fed camelina meal increases liver CYP8B1 expression.", *ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting*, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, #W208. (Poster)

2011

Aalhus, J.L., Gariépy, C., Basarab, J.A., Dugan, M.E.R., Fitzsimmons, C.J., Caine, W.R., Uttaro, B., and Juárez, M. (2011). "Optimizing Canadian pork quality through integrated management strategies.", 40th Banff Pork Seminar 2011, Banff Centre, Banff, AB, Canada, January 18-21, 2011.

# Cambouris, Athyna N., Ph.D.

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## Research Publications:

2016

Cambouris, A.N., St. Luce, M., Zebarth, B.J., Ziadi, N., Grant, C.A., and Perron, I. (2016). "Potato response to nitrogen sources and rates in an irrigated sandy soil.", *Agronomy Journal*.

2015

Morier, T., Cambouris, A.N., and Chokmani, K. (2015). "In-season nitrogen status assessment and yield estimation using hyperspectral vegetation indices in a potato crop.", *Agronomy Journal*, 107(4), pp. 1295-1309. doi : 10.2134/agronj14.0402

2014

Allaire, S.E., Cambouris, A.N., Lafond, J.A., Lange, S.F., Pelletier, B., and Dutilleul, P. (2014). "Spatial variability of potato tuber yield and plant nitrogen uptake related to soil properties.", *Agronomy Journal*, 106(3), pp. 851-859. doi : 10.2134/agronj13.0468

Cambouris, A.N., Zebarth, B.J., Ziadi, N., and Perron, I. (2014). "Precision agriculture in potato production.", *Potato Research*, 57(3), pp. 249-262. doi : 10.1007/s11540-014-9266-0

Cambouris, A.N., St. Luce, M., Ziadi, N., and Zebarth, B.J. (2014). "Soil- and plant-based indices in potato production in response to polymer-coated urea.", *Agronomy Journal*, 106(6), pp. 2125-2136. doi : 10.2134/agronj14.0041

2013

Ziadi, N., Cambouris, A.N., Nyiraneza, J., and Nolin, M.C. (2013). "Across a landscape, soil texture controls the optimum rate of N fertilizer for maize production.", *Field Crops Research*, 148, pp. 78-85. doi : 10.1016/j.fcr.2013.03.023

2012

Nyiraneza, J., Cambouris, A.N., Ziadi, N., Tremblay, N., and Nolin, M.C. (2012). "Spring Wheat Yield and Quality Related to Soil Texture and Nitrogen Fertilization.", *Agronomy Journal*, 104(3), pp. 589-599. doi : 10.2134/agronj2011.0342

Zebarth, B.J., Bélanger, G., Cambouris, A.N., and Ziadi, N. (2012). "Nitrogen Fertilization Strategies in Relation to Potato Tuber Yield, Quality, and Crop N Recovery.", in He, Z., Larkin, R.P. and Honeycutt, C.W. (eds.) - *Sustainable Potato Production: Global Case Studies*, Springer New York, Chapter 10, pp. 165-186.

Ziadi, N., Zebarth, B.J., Bélanger, G., and Cambouris, A.N. (2012). "Soil and Plant Tests to Optimize Fertilizer Nitrogen Management of Potatoes.", in He, Z., Larkin, R.P. and Honeycutt, C.W. (eds.) - *Sustainable Potato Production: Global Case Studies*, Springer New York, Chapter 11, pp. 187-207.

Allaire, S.E., Lange, S.F., Lafond, J.A., Pelletier, B., Cambouris, A.N., and Dutilleul, P. (2012). "Multiscale spatial variability of CO<sub>2</sub> emissions and correlations with physico-chemical soil properties.", *Geoderma*, 170(6), pp. 251-260. doi : 10.1016/j.geoderma.2011.11.019

2011

Lafond, J.A., Allaire, S.E., Dutilleul, P., Pelletier, B., Lange, S.F., and Cambouris, A.N. (2011). "Spatiotemporal analysis of the relative soil gas diffusion coefficient in two sandy soils: Variability decomposition and correlations between sampling dates at two spatial scales.", *Soil Science Society of America Journal*, 75(5), pp. 1613-1625. doi : 10.2136/sssaj2010.0419

Nyiraneza, J., Nolin, M.C., Ziadi, N., and Cambouris, A.N. (2011). "Short-range Variability of Nitrate and Phosphate Desorbed from Anionic Exchange Membranes.", *Soil Science Society of America Journal*, 75(6), pp. 2242-2250. doi : 10.2136/sssaj2011.0141

## Other Science Related Publications:



## 2015

Royer, I., Cambouris, A.N., Claessens, A., Angers, D.A., Ziadi, N., and Perron, I. (2015). "Soil contaminated with trace metal for the production of bioenergy from biomass.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, McGill University, Montreal, QC, Canada, July 5-10, 2015. (Poster)

Nechi, C., Cambouris, A.N., and Parent, L.-É. (2015). "Potassium dynamics in sandy soil under potato crop.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, McGill University, Montreal, QC, Canada, July 5-10, 2015. (Poster)

Perron, I., Cambouris, A.N., and Ziadi, N. (2015). "Soil Phosphorus distribution under two contrasting grasslands (2 and 10 yrs old).", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, McGill University, Montreal, QC, Canada, July 5-10, 2015. (Poster)

Zebarth, B.J., Moreau, G., Dixon, W.T., Smith, A.M., and Cambouris, A.N. (2015). "Application of high resolution remote sensing imagery to potato production.", McCain Foods (Canada) grower meetings, Grand Falls/Florenceville, NB, Canada, February 24-25, 2015, Presentation.

Cambouris, A.N., Morier, T., and Chokmani, K. (2015). "Hyperspectral Vegetation Indices for detecting In-Season nitrogen stress in a Potato Crop.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, McGill University, Montreal, QC, Canada, July 5-10, 2015, Oral presentation.

Panneton, B. and Cambouris, A.N. (2015). "Precision Horticulture: Current status and the way forward.", Conférence présentée le 9 juillet 2015 lors de la journée scientifique du Centre de Recherche et de Développement en Horticulture de Saint-Jean-Sur-Richelieu. (Presentation)

Morissette, R., Jégo, G., Bélanger, G., Cambouris, A.N., Nyiraneza, J., and Zebarth, B.J. (2015). "Simulating potato growth and nitrogen uptake in eastern Canada with the STICS crop model.", SSSA 2015.

Zebarth, B.J., Moreau, G., Smith, A.M., Toner, P., Cambouris, A.N., Goyer, C., Owen, J., and Burton, D.L. (2015). "Yield variation in potato fields: Lessons learned so far.", 2015 Crop Update Session, Fredericton, NB, Canada, January 13-14, 2015.

Alotaibi, K., Cambouris, A.N., Ziadi, N., Perron, I., and Tremblay, N. (2015). "Corn Yield and quality as a function of nitrogen.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, McGill University, Montreal, QC, Canada, July 5-10, 2015. (Poster)

## 2014

Cambouris, A.N., Perron, I., Ziadi, N., Lafond, J., Zebarth, B.J., Nyiraneza, J., Nelson, A., Cavers, C., and Tremblay, N. (2014). "Fertilisation azotée du centre à l'est du Canada sous culture de la pomme de terre : saison 2013.", Congrès annuel de l'AQSSS, Victoriaville, QC, Canada. (Presentation)

Cambouris, A.N., Perron, I., Zebarth, B.J., and Rochette, P. (2014). "Denitrification rate under potato production effect of three nitrogen fertilizer sources in eastern Canada.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014. (Poster)

Cambouris, A.N., Zebarth, B.J., Ziadi, N., and Perron, I. (2014). "Precision Agriculture in Potato Production.", 19th Triennial Conference of EAPR (European Association for Potato Research), Brussels, Belgium, July 6-11, 2014, Invited oral presentation.

Cambouris, A.N., Zebarth, B.J., Ziadi, N., and Grant, C.A. (2014). "Statistical model impacts on nitrogen recommendation, potato yield, nitrogen uptake efficiency and residual soil nitrate.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014. (Poster)

## 2013

Zebarth, B.J., Tai, H.H., Luo, S., Cambouris, A.N., and Mohr, R.M. (2013). "Next generation diagnostics: A new way to optimize crop fertilizer nitrogen management?", 6th International Nitrogen Conference, Kampala, Uganda, November 18-22, 2013.

Cambouris, A.N., Zebarth, B.J., Ziadi, N., Grant, C.A., and Perron, I. (2013). "Impact agronomique du modèle de calibration pour la recommandation en azote sur la production de pomme de terre.", Association Québécoise de Spécialistes en Sciences du Sol (AQSSS), 27e congrès, Hotel Chicoutimi, Chicoutimi, QC, Canada, may 28-30, 2013, Oral presentation.

Nechi, C., Cambouris, A.N., Perron, I., and Hannachi, C. (2013). "Impact de la fertilisation azotée sur la qualité des tubercules de pomme de terre destinés à la transformation", Association Québécoise de Spécialistes en Sciences du Sol (AQSSS), 27e congrès, Hotel Chicoutimi, Chicoutimi, QC, Canada, may 28-30, 2013. (Poster)

Cambouris, A.N., Messiga, A.J., Ziadi, N., Morel, C., Parent, L.-É., and Perron, I. (2013). "Micro-variability of soil P distribution in a long term experimental site from eastern Canada.", 7th International Phosphorus Workshop (IPW7), Uppsala, Sweden, September 9-13, 2013. (Poster)

Perron, I., Cambouris, A.N., Rochette, P., Zebarth, B.J., and Drury, C.F. (2013). "Effect of three N Fertilizers on Denitrification Rate under Potato Crop.", ASA/CSSA/SSSA International annual meeting: Water, Food, Energy and Innovation for a Sustainable World, Tampa, Florida, USA, November 3-6, 2013. (Poster)

Cambouris, A.N., Messiga, A.J., Ziadi, N., Morel, C., Parent, L.-É., Perron, I., and Shi, Y.Z. (2013). "Soil phosphorus distribution in long term no-tiled soil in eastern Canada.", ASA/CSSA/SSSA International annual meeting: Water, Food, Energy and Innovation for a Sustainable World, Tampa, Florida, USA, November 3-6, 2013. (Poster)

Cambouris, A.N., Zebarth, B.J., Ziadi, N., and Grant, C.A. (2013). "Agri-environmental Impacts of Nitrogen Fertilizers on Potato Productivity, Nitrogen uptake efficiency and residual soil nitrate.", 6th International Nitrogen Conference, Kampala, Uganda, November 18-22, 2013.

Cambouris, A.N., Zebarth, B.J., Ziadi, N., Grant, C.A., and Parent, L.-É. (2013). "Calibration Model Impacts on Nitrogen Recommendation and Potato Productivity.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013, Oral presentation.

## 2012

Cambouris, A.N., Nolin, M.C., Zebarth, B.J., and Ziadi, N. (2012). "Precision farming: lessons learned from N management.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012, Invited speaker presentation.

Cambouris, A.N. (2012). "Environmental impact of using organic fertilizers on perennial biomass crops.", 4th International Congress EUROSOL: Soil Science for the Benefit of Mankind and Environment, Bari, Italy, July 2-6, 2012, S05.01a-4.

Cambouris, A.N. (2012). "Environmental impact of three fertilizer n sources for potato production on sandy soils.", 4th International Congress EUROSOL: Soil Science for the Benefit of Mankind and Environment, Bari, Italy, July 2-6, 2012, S08.02a-6.

Khiri, L., Khairredine, N., Parent, L.-É., Morissette, S., and Cambouris, A.N. (2012). "Diagnostic foliaire de précision d'un champ de pomme de terre au Québec.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012, Presentation.

Morier, T., Cambouris, A.N., and Chokmani, K. (2012). "Use of hyperspectral vegetation indices to assess potato crop nitrogen status.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012.

Mervin St. Luce, M., Ziadi, N., Cambouris, A.N., Zebarth, B.J., and Whalen, J.K. (2012). "Anionic exchange membranes as a predictor of nitrogen supply from controlled-release nitrogen fertilizer in potato production.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012.

Ziadi, N., Bélanger, G., Cambouris, A.N., and Zebarth, B.J. (2012). "Soil and plant diagnostic tools to improve nitrogen use efficiency.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012.

Nyiraneza, J., Cambouris, A.N., Ziadi, N., Tremblay, N., and Nolin, M.C. (2012). "Effets de la texture et de la fertilisation azotée sur le rendement et la qualité de blé de printemps.", Journée scientifique sur les grandes cultures, Centre de Référence en Agriculture et Agroalimentaire du Québec (CRAAQ), Drummondville, QC, Canada, February 23, 2012. (Presentation)

Nyiraneza, J., Ziadi, N., Cambouris, A.N., and Nolin, M.C. (2012). "Corn nitrogen response and residual soil nitrate are affected by soil texture, N rate and growing season conditions.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012. (Presentation)

Cambouris, A.N., Zebarth, B.J., and Nolin, M.C. (2012). "Soil management zones to manage N in potato crops in eastern Canada.", 20th Annual Northeast Potato Technology Forum, The University of Maine, Orono, ME, USA, March 7-8, 2012.

Bouffard, C., Cambouris, A.N., and Parent, L.-É. (2012). "Utilization of handheld optical diagnostic tools in potato crop to assess N status.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012.

Cambouris, A.N., Bélanger, G., Ziadi, N., Mongrain, D., Parent, G., and Perron, I. (2012). "Biomass Productivity On Marginal Land Using Low Cost Fertilizer.", 2012 Annual Meeting of ASA/CSSA/SSSA, Cincinnati, Ohio, USA, October 21-24, 2012.

Cambouris, A.N., Bélanger, G., Ziadi, N., and Parent, G. (2012). "Biomass Productivity on Marginal Land Using Low Cost Fertilizer.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012.

Morier, T., Cambouris, A.N., and Chokmani, K. (2012). "Temporal N status evaluation using hyperspectral vegetation indices in a potato crop.", 11th International Conference on Precision Agriculture (ICPA), Indianapolis, IN, USA, July 15-18, 2012. (Poster)

2011

Nyiraneza, J., Nolin, M.C., Ziadi, N., and Cambouris, A.N. (2011). "Short-range Variability of Nitrate and Phosphate desorbed from Anionic Exchange Membranes.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Poster)

Nyiraneza, J., Nolin, M.C., Ziadi, N., and Cambouris, A.N. (2011). "Variabilité à petite échelle des nitrates et phosphates adsorbés sur les membranes échangeuses d'anion.", 25ème congrès de l'Association Québécoise des Spécialistes en Science du Sol (AQSSS): Les sciences du sol au 21ème siècle : Défis à relever pour une ressource à préserver, Wendake, QC, Canada, May 25-27, 2011. (Presentation)

Cambouris, A.N., Zebarth, B.J., Ziadi, N., Grant, C.A., and Drury, C.F. (2011). "Impacts agro-environnementaux de divers fertilisants azotés sur la production de pomme de terre. Association québécoise de spécialistes en sciences du sol.", 25ème congrès annuel de l'AQSSS, Wendake, QC, Canada, May 25-27, 2011.

Cambouris, A.N., Zebarth, B.J., Ziadi, N., Grant, C.A., Hu, Z., Gagnon, B., Drury, C.F. (2011). "Agri-environmental effect of N fertilizer on potato production.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Zebarth, B.J., Ziadi, N., Bélanger, G., and Cambouris, A.N. (2011). "Can we predict soil N supply using soil N tests?", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Bélanger, G., Ziadi, N., Cambouris, A.N., and Zebarth, B.J. (2011). "Plant-based N diagnostic methods: Whole plants or some parts of the plants?", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Cambouris, A.N., Zebarth, B.J., and Nolin, M.C. (2011). "Lessons learned from potato precision agriculture experiences in eastern Canada.", 2011 ASA, CSSA, and SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Presentation)

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## Research Publications:

2016

Power, K.A., Lepp, D., Zarepoor, L., Monk, J.M., Wu, W., Tsao, R., and Liu, R. (2016). "Dietary flaxseed modulates the colonic microenvironment in healthy C57Bl/6 male mice which may alter susceptibility to gut-associated diseases.", *Journal of Nutritional Biochemistry*, 28, pp. 61-69. doi : 10.1016/j.jnutbio.2015.09.028

2015

Drinkwater, J.M., Tsao, R., Liu, R., Defelice, C., and Wolyn, D.J. (2015). "Effects of cooking on rutin and glutathione concentrations and antioxidant activity of green asparagus (*Asparagus officinalis*) spears.", *Journal of Functional Foods*, 12, pp. 342-353. doi : 10.1016/j.jff.2014.11.013

Chen, P.X., Tang, Y., Marcone, M.F., Pauls, K.P., Zhang, B., Liu, R., and Tsao, R. (2015). "Characterization of free, conjugated and bound phenolics and lipophilic antioxidants in regular- and non-darkening cranberry beans (*Phaseolus vulgaris* L.).", *Food Chemistry*, 185, pp. 298-308. doi : 10.1016/j.foodchem.2015.03.100

Monk, J.M., Zhang, C., Wu, W., Zarepoor, L., Lu, J.T., Liu, R., Pauls, K.P., Wood, G.A., Tsao, R., Robinson, L.E., and Power, K.A. (2015). "White and dark kidney beans reduce colonic mucosal damage and inflammation in response to dextran sodium sulfate.", *Journal of Nutritional Biochemistry*, 26(7), pp. 752-760. doi : 10.1016/j.jnutbio.2015.02.003

Soliman, S.S.M., Li, X.-Z., Shao, S., Behar, M., Svircev, A.M., Tsao, R., Tsao, R., and Zhou, T. (2015). "Potential mycotoxin contamination risks of apple products associated with fungal flora of apple core.", *Food Control*, 47, pp. 585-591. doi : 10.1016/j.foodcont.2014.07.060

Tang, Y., Li, X.H., Zhang, B., Chen, P.X., Liu, R., and Tsao, R. (2015). "Characterisation of phenolics, betanins and antioxidant activities in seeds of three *Chenopodium quinoa* Willd. Genotypes.", *Food Chemistry*, 166, pp. 380-388. doi : 10.1016/j.foodchem.2014.06.018

Villeneuve, S., Power, K.A., Guévremont, É., Mondor, M., Tsao, R., Wanasundara, P.K.J.P.D., Zarepoor, L., and Mercier, S. (2015). "Effect of a short-time germination process on the nutrient composition, microbial counts and bread-making potential of whole flaxseed.", *Journal of Food Processing and Preservation*, 39(6), pp. 1574-1586. doi : 10.1111/jfpp.12385

Zhang, B., Deng, Z.-Y., Ramdath, D.D., Tang, Y., Chen, P., Liu, R., Liu, Q., Tsao, R., and Tsao, R. (2015). "Phenolic profiles of 20 Canadian lentil cultivars and their contribution to antioxidant activity and inhibitory effects on  $\alpha$ -glucosidase and pancreatic lipase.", *Food Chemistry*, 172, pp. 862-872. doi : 10.1016/j.foodchem.2014.09.144

Wang, F., Wang, H., Wang, D., Fang, F., Lai, J., Wu, T., and Tsao, R. (2015). "Isoflavone,  $\gamma$ -aminobutyric acid contents and antioxidant activities are significantly increased during germination of three Chinese soybean cultivars.", *Journal of Functional Foods*, 14, pp. 596-604. doi : 10.1016/j.jff.2015.02.016

Li, L., Li, B., Zhang, H., Zhao, A., Han, B., Liu, C.M., and Tsao, R. (2015). "Ultrafiltration LC-ESI-MSn screening of MMP-2 inhibitors from selected Chinese medicinal herbs *Smilax glabra* Roxb., *Smilax china* L. and *Saposhnikovia divaricata* (Turcz.) Schischka's potential functional food ingredients.", *Journal of Functional Foods*, 15, pp. 389-395. doi : 10.1016/j.jff.2015.03.038

Shen, H.S., Liu, H., Chen, J.-C., Shao, S., Zhu, H., Tsao, R., and Zhou, T. (2015). "Tetramethylpyrazine from *Pleurotus geesteranus*.", *Natural Product Communications*, 10(9), pp. 1553-1554.

Monk, J.M., Lepp, D., Zhang, C., Wu, W., Zarepoor, L., Lu, J., Pauls, K.P., Tsao, R., Wood, G.A., Robinson, L.E., and Power, K.A. (2015). "Diets enriched with cranberry beans alter the microbiota and mitigate colitis severity and associated inflammation.", *Journal of Nutritional Biochemistry*. doi : 10.1016/j.jnutbio.2015.10.014

Soliman, S.S.M., Greenwood, J.S., Bombarely, A., Mueller, L.A., Tsao, R., Mosser, D.D., and Raizada, M.N. (2015). "An endophyte constructs fungicide-containing extracellular barriers for its host plant.", *Current Biology*, 25(19), pp. 2570-2576. doi : 10.1016/j.cub.2015.08.027

Padhi, E., Blewett, H.J., Duncan, A.M., Guzman, R.P., Hawke, A., Seetharaman, K., Tsao, R., Wolever, T.M.S., and Ramdath, D.D. (2015). "Whole Soy Flour Incorporated into a Muffin and Consumed at 2 Doses of Soy Protein Does Not Lower LDL Cholesterol in a Randomized, Double-Blind Controlled Trial of Hypercholesterolemic Adults.", *Journal of Nutrition*, 145(12), pp. 2665-2674. doi : 10.3945/jn.115.219873

Gossen, B.D., Strelkov, S.E., Manolii, V.P., Tsao, R., Hwang, S.F., Peng, G., and McDonald, M.R. (2015). "Spread of *Plasmodiophora brassicae* on canola in Canada, 2003–2014: Old pathogen, new home.", *Canadian Journal of Plant Pathology*, 37(4), pp. 403-413. doi: 10.1080/07060661.2015.1105871

Chen, P.X., Dupuis, J.H., Marcone, M.F., Pauls, K.P., Liu, R., Liu, Q., Tang, Y., Zhang, B., and Tsao, R. (2015). "Physicochemical properties and in vitro digestibility of cooked regular- and non-darkening cranberry beans (*Phaseolus vulgaris* L.) and their effects on bioaccessibility, phenolic composition and antioxidant activity.", *Journal of Agricultural and Food Chemistry*, 63(48), pp. 10448-10458. doi: 10.1021/acs.jafc.5b04005

Chen, P.X., Bozzo, G.G., Freixas-Coutin, J.A., Marcone, M.F., Pauls, K.P., Tang, Y., Zhang, B., Liu, R., and Tsao, R. (2015). "Free and conjugated phenolic compounds and their antioxidant activities in regular and non-darkening cranberry bean (*Phaseolus vulgaris* L.) seed coats.", *Journal of Functional Foods*, 18(part B), pp. 1047-1056. doi: 10.1016/j.jff.2014.10.032

2014

Zhang, B., Deng, Z.-Y., Tang, Y., Chen, P., Liu, R., Ramdath, D.D., Liu, Q., Hernandez, M., and Tsao, R. (2014). "Fatty acid, carotenoid and tocopherol compositions of 20 Canadian lentil cultivars and synergistic contribution to antioxidant activities.", *Food Chemistry*, 161, pp. 296-304. doi: 10.1016/j.foodchem.2014.04.014

Sessa, M., Balestrieri, M.L., Ferrari, G., Servillo, L., Castaldo, D., D'Onofrio, N., Donsì, F., and Tsao, R. (2014). "Bioavailability of encapsulated resveratrol into nanoemulsion-based delivery systems.", *Food Chemistry*, 147, pp. 42-50. doi: 10.1016/j.foodchem.2013.09.088

Drinkwater, J.M., Tsao, R., Liu, R., and Wolyn, D.J. (2014). "Genetic variation and heritability of rutin and glutathione concentrations in asparagus spears.", *Canadian Journal of Plant Science*, 94(8), pp. 1355-1362. doi: 10.4141/CJPS-2014-146

Tsao, R. (2014). "Synergistic interactions between antioxidants used in food products.", in Shahidi, F. (ed.) - *Handbook of antioxidants in food preservation: Sources, Stability and Extraction*, Woodhead Publishing, Cambridge, UK, Chapter 12.

Tang, Y., Li, X.H., Chen, P.X., Zhang, B., Hernandez, M., Zhang, H., Marcone, M.F., Liu, R., and Tsao, R. (2014). "Characterisation of fatty acid, carotenoid, tocopherol/tocotrienol compositions and antioxidant activities in seeds of three *Chenopodium quinoa* Willd. Genotypes.", *Food Chemistry*, 174, pp. 502-508. doi: 10.1016/j.foodchem.2014.11.040

Ramdath, D.D., Padhi, E., Hawke, A., Sivaramalingam, T., and Tsao, R. (2014). "The glycemic index of pigmented potatoes is related to their polyphenol content.", *Food & Function*, 5(5), pp. 909-915. doi: 10.1039/c3fo60395d

Zhang, B., Ye, H., Zhu, X.-M., Hu, J.-N., Li, H., Tsao, R., Deng, Z.-Y., Zheng, Y.-N., and Li, W. (2014). "Esterification Enhanced Intestinal Absorption of Ginsenoside Rh2 in Caco-2 Cells without Impacts on Its Protective Effects against H2O2 Induced Cell Injury in Human Umbilical Vein Endothelial Cells (HUVECs).", *Journal of Agricultural and Food Chemistry*, 62(9), pp. 2096-2103. doi: 10.1021/jf404738s

Zhang, C., Monk, J.M., Lu, J.T., Zarepoor, L., Wu, W., Liu, R., Pauls, K.P., Wood, G.A., Robinson, L.E., Tsao, R., and Power, K.A. (2014). "Cooked navy and black bean diets improve biomarkers of colon health and reduce inflammation during colitis.", *British Journal of Nutrition*, 111(9), pp. 1549-1563. doi: 10.1017/S0007114513004352

Jiang, B., Tsao, R., Li, Y., and Miao, M. (2014). "Food Safety: Food Analysis Technologies/Techniques.", - *Encyclopedia of Agriculture and Food Systems*, Elsevier.

Shi, Y., Kovacs-Nolan, J., Jiang, B., Tsao, R., and Mine, Y. (2014). "Peptides derived from eggshell membrane improve antioxidant enzyme activity and glutathione synthesis against oxidative damage in Caco-2 cells.", *Journal of Functional Foods*, 11(C), pp. 571-580. doi: 10.1016/j.jff.2014.08.017

Chen, P.X., Tang, Y., Zhang, B., Liu, R., Marcone, M.F., Li, X.H., Tsao, R., and Tsao, R. (2014). "5-Hydroxymethyl-2-furfural and derivatives formed during acid hydrolysis of conjugated and bound phenolics in plant foods and the effects on phenolic content and antioxidant capacity.", *Journal of Agricultural and Food Chemistry*, 62(20), pp. 4754-4761. doi: 10.1021/jf500518r

Tang, Y., Li, X.H., Zhang, B., and Tsao, R. (2014). "Chemical contaminants in meat products.", in Yu, L. (ed.) - *Food Safety Chemistry: Toxicant Occurrence, Analysis and Mitigation*, CRC Press Taylor & Francis, Chapter 12.

Zarepoor, L., Lu, J.T., Zhang, C., Wu, W., Lepp, D., Robinson, L.E., Wanasundara, P.K.J.P.D., Cui, S.W., Villeneuve, S., Fofana, B., Tsao, R., Wood, G.A., and Power, K.A. (2014). "Dietary flaxseed intake exacerbates acute colonic mucosal injury and inflammation induced by dextran sodium sulfate.", *American Journal of Physiology: Gastrointestinal and Liver Physiology*, 306(12), pp. G1042-G1055. doi: 10.1152/ajpgi.00253.2013

Radočaj, O., Dimić, E., Tsao, R., and Tsao, R. (2014). "Effects of Hemp (*Cannabis sativa* L.) Seed Oil Press-Cake and Decaffeinated Green Tea Leaves (*Camellia sinensis*) on Functional Characteristics of Gluten-Free Crackers.", *Journal of Food Science*, 79(3), pp. C318-C325. doi: 10.1111/1750-3841.12370

Li, H., Deng, Z.-Y., Liu, R., Loewen, S., and Tsao, R. (2014). "Bioaccessibility, in vitro antioxidant activities and in vivo anti-inflammatory activities of a purple tomato (*Solanum lycopersicum* L.).", *Food Chemistry*, 159, pp. 353-360. doi: 10.1016/j.foodchem.2014.03.023

Zhang, B., Deng, Z.-Y., Tang, Y., Chen, P.X., Liu, R., Ramdath, D.D., Liu, Q., Hernandez, M., and Tsao, R. (2014). "Effect of domestic cooking on carotenoids, tocopherols, fatty acids, phenolics, and antioxidant activities of lentils (*Lens culinaris*).", *Journal of Agricultural and Food Chemistry*, 62(52), pp. 12585-12594. doi: 10.1021/jf504181r

Tang, Y., Li, X.H., Chen, P.X., Zhang, B., Hernandez, M., Zhang, H., Marcone, M.F., Liu, R., and Tsao, R. (2014). "Lipids, tocopherols, and carotenoids in leaves of amaranth and quinoa cultivars and a new approach to overall evaluation of nutritional quality traits.", *Journal of Agricultural and Food Chemistry*, 62(52), pp. 12610-12619. doi: 10.1021/jf5046377

## 2013

Kirby, C.W., Wu, T., Tsao, R., and McCallum, J.L. (2013). "Isolation and structural characterization of unusual pyranoanthocyanins and related anthocyanins from Staghorn sumac (*Rhus typhina* L.) via UPLC-ESI-MS, <sup>1</sup>H, <sup>13</sup>C, and 2D NMR spectroscopy.", *Phytochemistry*, 94, pp. 284-293. doi: 10.1016/j.phytochem.2013.06.017

Gossen, B.D., Kasinathan, H., Tsao, R., Manolii, V.P., Strelkov, S.E., Hwang, S.F., and McDonald, M.R. (2013). "Interaction of pH and temperature affect infection and symptom development of *Plasmodiophora brassicae* in canola.", *Canadian Journal of Plant Pathology*, 35(3), pp. 294-303. doi: 10.1080/07060661.2013.804882

Chen, P., Marcone, M.F., and Tsao, R. (2013). "Red Clover Bioactive Constituents.", - American Herbal Pharmacopoeia and Therapeutic Compendium.

Li, H., Deng, Z.-Y., Liu, R., Loewen, S., and Tsao, R. (2013). "Carotenoid compositions of coloured tomato cultivars and contribution to antioxidant activities and protection against H<sub>2</sub>O<sub>2</sub>-induced cell death in H9c2.", *Food Chemistry*, 136(2), pp. 878-888. doi: 10.1016/j.foodchem.2012.08.020

Sessa, M., Casazza, A.A., Perego, P., Tsao, R., Ferrari, G., and Donsì, F. (2013). "Exploitation of Polyphenolic Extracts from Grape Marc as Natural Antioxidants by Encapsulation in Lipid-Based Nanodelivery Systems.", *Food and Bioprocess Technology*, 6(10), pp. 2609-2620. doi: 10.1007/s11947-012-0911-9

Wu, T., McCallum, J.L., Wang, S., Liu, R., Zhu, H., and Tsao, R. (2013). "Evaluation of antioxidant activities and chemical characterisation of staghorn sumac fruit (*Rhus hirta* L.).", *Food Chemistry*, 138(2), pp. 1333-1340. doi: 10.1016/j.foodchem.2012.10.086

Tsao, R. and Li, H. (2013). "Analytical techniques for phytochemicals.", in Tiwari, B., Brunton, N. and Brennan, C. (eds.) - *Handbook of Phytochemicals: Sources, Stability and Extraction*, John Wiley & Sons, Ltd, Chapter 19, pp. 434-451.

Soliman, S.S.M., Trobacher, C.P., Tsao, R., Greenwood, J., and Raizada, M.N. (2013). "A Fungal Endophyte Induces Transcription of Genes Encoding Redundant Fungicide Pathway in its Host Plant.", *BMC Plant Biology*, 13(93). doi: 10.1186/1471-2229-13-93

Zhang, H., Li, L., Li, B., Zhao, A., and Tsao, R. (2013). "Polyphenolic Profiles and Antioxidant Activities of *Smilax glabra* Roxb. and *S. china* L.", *Latin American Journal of Pharmacy*, 32(10), pp. 1558-1564.

Li, L., Song, J., Kalt, W., Forney, C.F., Tsao, R., Pinto, D., Chisholm, K., Campbell, L., Fillmore, S.A.E., and Li, X.-H. (2013). "Quantitative proteomic investigation employing stable isotope labeling by peptide dimethylation on proteins of strawberry fruit at different ripening stages.", *Journal of Proteomics*, 94(6), pp. 219-239. doi: 10.1016/j.jprot.2013.09.004

Tsao, R. and Li, H. (2013). "Dried Fruits: Phytochemicals and Health Application", in Alasalvar C. and Shahidi F. (eds.) - ?, Wiley - Blackwell, Chapter 9, pp. 175-191.

## 2012

Li, H., Deng, Z.-Y., Liu, R., Loewen, S., and Tsao, R. (2012). "Ultra-performance liquid chromatographic separation of geometric isomers of carotenoids and antioxidant activities of 20 tomato cultivars and breeding lines.", *Food Chemistry*, 132(1), pp. 508-517. doi: 10.1016/j.foodchem.2011.10.017

Wu, T., Yan, J., Liu, R., Marcone, M.F., Aisa, H.A., and Tsao, R. (2012). "Optimization of microwave-assisted extraction of phenolics from potato and its downstream waste using orthogonal array design.", *Food Chemistry*, 133(4), pp. 1292-1298. doi: 10.1016/j.foodchem.2011.08.002

Meca, G., Luciano, F.B., Zhou, T., Tsao, R., and Mañes, J. (2012). "Chemical reduction of the mycotoxin beauvericin using allyl isothiocyanate.", *Food and Chemical Toxicology*, 50(5), pp. 1755-1762. doi: 10.1016/j.fct.2012.02.070

Hu, C., Tsao, R., Liu, R., Sullivan, J.A., and McDonald, M.R. (2012). "Influence of cultivar and year on phytochemical and antioxidant activity of potato (*Solanum tuberosum* L.) in Ontario.", *Canadian Journal of Plant Science*, 92(3), pp. 485-493. doi: 10.4141/CJPS2011-212

Stoffyn, O. M., Tsao, R., Liu, R., and Wolyn, D.J. (2012). "The effects of environment and storage on rutin concentration in two asparagus cultivars grown in southern Ontario.", *Canadian Journal of Plant Science*, 92(5), pp. 901-912. doi: 10.4141/cjps2012-022

Li, N., Tsao, R., Sui, Z., Ma, J., Liu, Z.-Q., and Liu, Z.Y. (2012). "Intestinal Transport of Pure Diester-type Alkaloids from an Aconite Extract across the Caco-2 Cell Monolayer Model.", *Planta Medica*, 78(7), pp. 692-697. doi : 10.1055/s-0031-1298368

Li, H., Deng, Z.-Y., Zhu, H., Hu, C., Liu, R., Young, J.C., and Tsao, R. (2012). "Highly pigmented vegetables: Anthocyanin compositions and their role in antioxidant activities.", *Food Research International*, 46(1), pp. 250-259. doi : 10.1016/j.foodres.2011.12.014

Wang, S., Meckling, K.A., Marcone, M.F., Kakuda, Y., Proulx, A.K., and Tsao, R. (2012). "In vitro antioxidant synergism and antagonism between food extracts can lead to similar activities in H<sub>2</sub>O<sub>2</sub>-induced cell death, caspase-3 and MMP-2 activities in H9c2 cells.", *Journal of the Science of Food and Agriculture*, 92(15), pp. 2983-2993. doi : 10.1002/jsfa.5711

Plank, D.W., Szpylka, J., Sapirstein, H.D., Woollard, D., Zapf, C.M., Lee, V., Chen, C.-Y.O., Liu, R.H., Tsao, R., Düsterloh, A., and Baugh, S. (2012). "Determination of antioxidant activity in foods and beverages by reaction with 2,2'-Diphenyl-1-Picrylhydrazyl (DPPH): Collaborative study first action 2012.04.", *Journal of AOAC International*, 95(6), pp. 1562-1569. doi : 10.5740/jaoacint.CS2012\_04

Li, H., Deng, Z.-Y., Wu, T., Liu, R., Loewen, S., and Tsao, R. (2012). "Microwave-assisted extraction of phenolics with maximal antioxidant activities in tomatoes.", *Food Chemistry*, 130(4), pp. 928-936. doi : 10.1016/j.foodchem.2011.08.019

## 2011

Soliman, S.S.M., Tsao, R., and Raizada, M.N. (2011). "Chemical Inhibitors Suggest Endophytic Fungal Paclitaxel Is Derived from Both Mevalonate and Non-mevalonate-like Pathways.", *Journal of Natural Products*, 74(12), pp. 2497-2504. doi : 10.1021/np200303v

Li, D., Charles, M.T., Carisse, O., Tsao, R., Dubé, C., and Khanizadeh, S. (2011). "Changes in ascorbate-glutathione pathway enzymes in response to *Mycosphaerella fragariae* infection in selected strawberry genotypes.", *Archives of Phytopathology and Plant Protection*, 44(8), pp. 712-725. doi : 10.1080/03235400903266297

Yu, C., Ranieri, M., Lv, D., Zhang, M., Charles, M.T., Tsao, R., Rékika, D., Kempler, C., and Khanizadeh, S. (2011). "Phenolic Composition and Antioxidant Capacity of Newly Developed Strawberry Lines from British Columbia and Quebec.", *International Journal of Food Properties*, 14(1), pp. 59-67. doi : 10.1080/10942910903131415

Wang, S., Meckling, K.A., Marcone, M.F., Kakuda, Y., and Tsao, R. (2011). "Synergistic, additive, and antagonistic effects of food mixtures on total antioxidant capacities.", *Journal of Agricultural and Food Chemistry*, 59(3), pp. 960-968. doi : 10.1021/jf1040977

Wang, S., Meckling, K.A., Marcone, M.F., Kakuda, Y., and Tsao, R. (2011). "Can phytochemical antioxidant rich foods act as anti-cancer agents?", *Food Research International*, 44(9), pp. 2545-2554. doi : 10.1016/j.foodres.2011.05.021

Yang, R., Hanwell, H., Zhang, J., Tsao, R., and Meckling, K.A. (2011). "Antiproliferative Activity of Pomiferin in Normal (MCF-10A) and Transformed (MCF-7) Breast Epithelial Cells.", *Journal of Agricultural and Food Chemistry*, 59(24), pp. 13328-13336. doi : 10.1021/jf202898g

Sessa, M., Tsao, R., Liu, R., Ferrari, G., and Donsi, F. (2011). "Evaluation of the Stability and Antioxidant Activity of Nanoencapsulated Resveratrol during in Vitro Digestion.", *Journal of Agricultural and Food Chemistry*, 59(23), pp. 12352-12360. doi : 10.1021/jf2031346

Li, H., Deng, Z.-Y., Liu, R., Young, J.C., Zhu, H., Loewen, S., and Tsao, R. (2011). "Characterization of phytochemicals and antioxidant activities of a purple tomato (*Solanum lycopersicum* L.).", *Journal of Agricultural and Food Chemistry*, 59(21), pp. 11803-11811. doi : 10.1021/jf202364v

Gui, Y., Tsao, R., Li, L., Liu, C.M., Wang, J., and Zong, X. (2011). "Preparative separation of chromones in plant extract of *Saposhnikovia divaricata* by high-performance counter-current chromatography.", *Journal of Separation Science*, 34(5), pp. 520-526. doi : 10.1002/jssc.201000721

Shao, S., Duncan, A.M., Yang, R., Marcone, M.F., Rajcan, I., and Tsao, R. (2011). "Systematic evaluation of pre-HPLC sample processing methods on total and individual isoflavones in soybeans and soy products.", *Food Research International*, 44(8), pp. 2425-2434. doi : 10.1016/j.foodres.2010.12.041

Wang, S., Melnyk, J.P., Tsao, R., and Marcone, M.F. (2011). "How natural dietary antioxidants in fruits, vegetables and legumes promote vascular health.", *Food Research International*, 44(1), pp. 14-22. doi : 10.1016/j.foodres.2010.09.028

## Other Science Related Publications:

2014

Kirby, C.W., Wu, T.-Y., Nabuurs, M.H., Tsao, R., Tsao, R., and McCallum, J.L. (2014). "Anthocyanin and Pyranoanthocyanin Biosynthesis in Staghorn Sumac (*Rhus typhina* L.)". Maritimes Natural Products Conference (MNPC) 2014, Charlottetown, Prince Edward Island, Canada, August 18-20, 2014, Presentation.

Kirby, C.W., Wu, T.-Y., Nabuurs, M.H., Tsao, R., Tsao, R., and McCallum, J.L. (2014). "Anthocyanin and Pyranoanthocyanin Biosynthesis in Staghorn Sumac (*Rhus typhina* L.)". 53rd Annual meeting of Phytochemical Society of North America (PSNA), Raleigh, North Carolina, USA, August 9-13, 2014, Presentation.

2013

Kirby, C.W., Wu, T., Tsao, R., Tsao, R., and McCallum, J.L. (2013). "Isolation and structural characterization of unusual pyranoanthocyanins and related anthocyanins from Staghorn Sumac (*Rhus typhina* L.) via UPLC-ESI-MS, <sup>1</sup>H, <sup>13</sup>C, and 2D NMR spectroscopy." 52nd Annual meeting of Phytochemical Society of North America (PSNA), Corvallis, Oregon, USA, August 2-7, 2013.

Sessa, M., Donsi, F., Ferrari, G., and Tsao, R. (2013). "Cellular antioxidant activity of resveratrol encapsulated in nanoscale lipid-based delivery systems." International Society for Nutraceuticals, Functional Foods, Taipei, Taiwan, November 5-9, 2013. (Abstract)

Tsao, R. (2013). "Pyranoanthocyanins and other polyphenols from Staghorn Sumac (*Rhus typhina* L.) and the potential health benefits." International Society for Nutraceuticals, Functional Foods, Taipei, Taiwan, November 5-9, 2013. (Abstract)

Tsao, R., Zhu, H., Ye, J., and Cousins, L.M. (2013). "A New, Sensitive Method for Lignan Metabolite Detection of Flaxseed-Fed Mice using LC-MS/MS". American Society for Mass Spectrometry, Minneapolis, MN, USA, June 9-13, 2013.

2012

Power, K.A., Villeneuve, S., Mondor, M., Fustier, P., Arcand, Y., Lamarche, F., Britten, M., Cui, S.W., Tsao, R., Fofana, B., and Wanasundara, J.P.D. (2012). "Recent progress on the incorporation of flaxseed into cereal based matrices: delivery of bioactives to target sites and a comprehensive assessment of their biological effects." 64th Flax Institute of the United States, Doublewood Inn, Fargo, ND, USA, March 29-30, 2012. (Presentation)

Chen, P.X., Tsao, R., Liu, R., Marcone, M.F., and Pauls, K.P. (2012). "Polyphenolic profile of common dry beans (*Phaseolus vulgaris* L.)". Canadian Institute of Food Science and Technology, Canada, May 2012. (Presentation)

Perry, G.E., Crosby, W.L., Yu, K., Navabi, A., Zou, X., Power, K.A., Marsolais, F., Xie, W., Weersink, A., Tsao, R., Cooper, D., and Pauls, K.P. (2012). "Sequencing the bean genome: Using comparative genomics to examine interspecific introgressions." Canadian Society of Plant Biologists Meeting (CSPB 2012), University of Alberta Campus, Edmonton, AB, Canada, June 25-27, 2012. (Presentation)

Hao, X.M., Tsao, R., and Khosla, S. (2012). Sustainable year-round greenhouse vegetable production with supplemental lighting, First Interim Research Project Report to Ontario Greenhouse Vegetable Growers, 8 pages. (Report)

Zhang, C., Lu, J., Zarepoor, L., Wu, W., Cunha, R.D., Tsao, R., Pauls, K.P., and Power, K.A. (2012). "Black and Navy Beans Induce both Beneficial and Adverse Effects on Biomarkers of Colonic Inflammation in Mice." Keystone Symposium: The Role of Inflammation during Carcinogenesis, Dublin, Ireland, May 20-25, 2012.

Zhang, C., Lu, J., Zarepoor, L., Wu, W., Cunha, R.D., Tsao, R., Pauls, K.P., and Power, K.A. (2012). "Preventative Effect of Non-Darkening and Darkening Cranberry Beans in Colon Inflammation." Cancer Research Symposium, Institute for Comparative Cancer Investigation, University of Guelph, Guelph, ON, Canada, May 16, 2012.

Zhang, C., Zarepoor, L., Lu, J., Da, C.R., Wu, W., Tsao, R., Pauls, K.P., and Power, K.A. (2012). "Bean health benefits depend on timing of consumption." Ontario Ministry of Agriculture Food and Rural Affairs (OMAFRA) Food for Health Meeting, Guelph, ON, Canada, June 2012. (Poster)

Zhang, C., Lu, J., Zarepoor, L., Tsao, R., and Power, K.A. (2012). "Common Beans Induce both Beneficial and Adverse Effects on Colitis Symptoms in Mice." 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012.

Navabi, A., Pauls, K.P., Yu, K., Tsao, R., Woodrow, L., and Poysa, V. (2012). "A Multi-Disciplinary Approach Towards Developing Bean Varieties for Sustainable Dry Bean Production in Ontario. Research Update." Pulse Science Cluster Scientific Meeting 2012, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 5-6, 2012.

Song, J., Tsao, R., Yang, R., and Campbell-Palmer, L. (2012). "Effect of 1-MCP treatment on polyphenolics and antioxidants compounds in apple fruit during ripening." 109th Annual Conference of the American Society for Horticultural Science (ASHS), InterContinental Miami Hotel, Miami, FL, USA, July 31-August 3, 2012, Published in: HortScience 47(9), S264. (Abstract)



Ma, J., Zhou, T., Warriner, K., and Tsao, R. (2012). "Allyl isothiocyanate derived from oriental defatted mustard meal as a natural antimicrobial to inhibit the growth of moulds on bread.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012. (Poster)

Ma, J., Zhou, T., Warriner, K., Fernando, W.G.D., and Tsao, R. (2012). "Can mustard meal make food labels "green".", 10th Annual OMAFRA Food Safety Research Forum, Guelph, ON, Canada, May 2, 2012. (Poster)

Navabi, A., Pauls, K.P., Yu, K., Tsao, R., Woodrow, L., and Poysa, V. (2012). "A Multi-Disciplinary Approach Towards Developing Bean Varieties for Sustainable Dry Bean Production in Ontario.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011.

Kirby, C.W., Wu, T., Tsao, R., and McCallum, J.L. (2012). "NMR structure elucidation of novel anthocyanins from Staghorn Sumac (*Rhus typhina* L.)", MOOT XXV Mini NMR Symposium, Université Laval, Québec City, QC, Canada, October 20-21, 2012.

Zhang, C., Lu, J., Zarepoor, L., Tsao, R., and Power, K.A. (2012). "Power Common Beans Induce both Beneficial and Adverse Effects on Colitis Symptoms in Mice.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012.

## 2011

Perry, G.E., Crosby, W., Yu, K., Shi, C., Powers, K., Marsolais, F., Xie, W., Weersink, A., Tsao, R., Siddiqua, M., Cooper, D.M., and Pauls, K.P. (2011). "The applied bean genomics and bioproducts project: sequencing the bean genome.", Biennial Meeting of the Bean Improvement Cooperative and North American Pulse Improvement Association (BIC/NAPIA 2011), Verdanza Hotel, San Juan, Puerto Rico, October 30-November 2, 2011.

Perry, G.E., Crosby, W., Shi, C., Power, K.A., Marsolais, F., Xie, W., Weersink, A., Tsao, R., Cooper, D.M., and Pauls, K.P. (2011). "Sequencing the bean genome: the applied bean genomics and bioproducts project.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011. (Poster)

Ma, J., Zhou, T., Warriner, K., Tsao, R., and Fernando, W.G.D. (2011). "Suppressing penicillium spp. by gaseous Allyl isothiocyanate from oriental mustard meal.", 9th Annual OMAFRA Food Safety Research Forum, Guelph, ON, Canada, May 5, 2011. (Poster)

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## Research Publications:

2015

Kher, S.V., Dossdall, L.M., and Cárcamo, H.A. (2015). "Plant vigor metrics determine spatio-temporal distribution dynamics of *Oulema melanopus* (Coleoptera: Chrysomelidae) and its larval parasitoid, *Tetrastichus julis* (Hymenoptera: Eulophidae).", *Environmental Entomology*, 43(5), pp. 1295-1308. doi : 10.1603/EN14066

2014

Kher, S.V., Dossdall, L.M., Cárcamo, H.A., and El-Bouhssini, M. (2014). "Antixenosis resistance to *Oulema melanopus* (Coleoptera: Chrysomelidae) in Central Asian wheat germplasm.", *Journal of Economic Entomology*, 107(1), pp. 410-416. doi : 10.1603/EC13065

Holliday, N.J., Floate, K.D., Cárcamo, H.A., Stjernberg, A., and Roughley, R.E. (2014). "Ground beetles (Coleoptera: Carabidae) of the prairie grasslands of Canada.", in Cárcamo, H. and Giberson, D. (eds.) - *Arthropods of Canadian Grasslands Volume 4*, Biological Survey of Canada (BSC), pp. 1-85.

2013

Beres, B.L., Cárcamo, H.A., Byers, J.R., Clarke, F.R., Pozniak, C.J., Basu, S.K., and DePauw, R.M. (2013). "Host plant interactions between wheat germplasm source and wheat stem sawfly *Cephus cinctus* Norton (Hymenoptera: Cephidae) I. Commercial cultivars.", *Canadian Journal of Plant Science*, 93, pp. 607-617. doi : 10.4141/CJPS2012-088

Wu, X., Cárcamo, H.A., Beres, B.L., Clarke, F.R., DePauw, R.M., and Pang, B. (2013). "Effects of novel wheat genotype on *Cephus cinctus* Norton (Hymenoptera: Cephidae) and its parasitoid *Bracon cephi* (Hymenoptera: Braconidae).", *Cereal Research Communications*, 41, pp. 647-660.

Kher, S.V., Dossdall, L.M., Cárcamo, H.A., and El-Bouhssini, M. (2013). "Antibiosis resistance to cereal leaf beetle, *Oulema melanopus* (L.) (Coleoptera: Chrysomelidae), in Central Asian wheat germplasm.", *Journal of Applied Entomology*, 137(10), pp. 751-760. doi : 10.1111/jen.12074

Beres, B.L., Cárcamo, H.A., Byers, J.R., Clarke, F.R., Pozniak, C.J., Basu, S.K., and DePauw, R.M. (2013). "Host plant interactions between wheat germplasm source and wheat stem sawfly *Cephus cinctus* Norton (Hymenoptera: Cephidae) II. Other germplasm.", *Canadian Journal of Plant Science*, 93(6), pp. 1169-1177. doi : 10.4141/CJPS2013-035

Cárcamo, H.A. and Beres, B.L. (2013). "*Cephus cinctus* Norton, Wheat stem sawfly (Hymenoptera: Cephidae)", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 15, pp. 112-119.

2012

Beres, B.L., McKenzie, R.H., Cárcamo, H.A., Dossdall, L.M., Evenden, M.L., Yang, R.-C., and Spaner, D.M. (2012). "Influence of Seeding Rate, Nitrogen Management, and Micronutrient Blend Applications on Pith Expression in Solid-Stemmed Spring Wheat.", *Crop Science*, 52(3), pp. 1316-1329. doi : 10.2135/cropsci2011.05.0239

Olfert, O.O., Weiss, R.M., Cárcamo, H.A., and Meers, S. (2012). "The Influence of Abiotic Factors on an Invasive Pest of Pulse Crops, *Sitona lineatus* (L.) (Coleoptera: Curculionidae), in North America.", *Psyche*, 2012(Article ID 746342). doi : 10.1155/2012/746342

Cárcamo, H.A., Weaver, D.K., Meers, S., Beres, B.L., and Mauduit, A.L. (2012). "First record of *Bracon lissogaster* (Hymenoptera: Braconidae) in Canada - a potentially important parasitoid of *Cephus cinctus* (Hymenoptera: Cephidae) in the prairies.", *Biocontrol Science and Technology*, 22(3), pp. 367-369. doi : 10.1080/09583157.2012.658355

Cárcamo, H.A., Herle, C.E., and Hervet, V.A.D. (2012). "Greenhouse studies of thiamethoxam effects on pea leaf weevil, *Sitona lineatus*.", *Journal of Insect Science*, 12(Article No. 151). doi : 10.1673/031.012.15101

Olfert, O.O., Weiss, R.M., Cárcamo, H.A., Carcamo, H., and Meers, S. (2012). "Actual and potential distribution of an invasive pest of pulse crops, *Sitona lineatus* (L.) (Coleoptera: Curculionidae), in North America.", *Psyche*, 2012(Article ID 746342), pp. 1-11.

2011

Cárcamo, H.A. and Vankosky, M.A. (2011). "Managing the Pea Leaf Weevil in Field Peas.", *Prairie Soils and Crops*, 4, pp. 77-85.

Cárcamo, H.A., Beres, B.L., Herle, C.E., McLean, H., and McGinn, S.M. (2011). "Solid-stemmed wheat does not affect overwintering mortality of the wheat stem sawfly, *Cephus cinctus*.", *Journal of Insect Science*, 11(129), pp. 1-12. doi : 10.1673/031.011.12901

Vankosky, M.A., Cárcamo, H.A., and Dossdall, L.M. (2011). "Identification of potential natural enemies of the pea leaf weevil, *Sitona lineatus* L. in western Canada.", *Journal of Applied Entomology*, 135(4), pp. 293-301. doi : 10.1111/j.1439-0418.2010.01542.x

Dossdall, L.M., Cárcamo, H.A., Olfert, O.O., Meers, S., Hartley, S., and Gavloski, J.E. (2011). "Insect invasions of agroecosystems in the western Canadian prairies: case histories, patterns, and implications for ecosystem function.", *Biological Invasions*, 13(5), pp. 1135-1149. doi : 10.1007/s10530-011-9951-8

Vankosky, M.A., Cárcamo, H.A., McKenzie, R.H., and Dossdall, L.M. (2011). "Integrated management of *Sitona lineatus* with Nitrogen fertilizer, Rhizobium, and thiamethoxam insecticide.", *Agronomy Journal*, 103(3), pp. 565-572. doi : 10.2134/agronj2010.0314

Beres, B.L., Cárcamo, H.A., Weaver, D.K., Dossdall, L.M., Evenden, M.L., Hill, B.D., Yang, R.-C., McKenzie, R.H., and Spaner, D.M. (2011). "Integrating the building blocks of agronomy and biocontrol into an IPM strategy for wheat stem sawfly.", *Prairie Soils and Crops*, 4, pp. 54-65.

Beres, B.L., Cárcamo, H.A., Dossdall, L.M., Yang, R.-C., Evenden, M.L., and Spaner, D.M. (2011). "Do Interactions between Residue Management and Direct Seeding System Affect Wheat Stem Sawfly and Grain Yield?.", *Agronomy Journal*, 103(6), pp. 1-10. doi : 10.2134/agronj2011.0055

Beres, B.L., Cárcamo, H.A., Yang, R.-C., and Spaner, D.M. (2011). "Integrating Spring Wheat Sowing Density with Variety Selection to Manage Wheat Stem Sawfly.", *Agronomy Journal*, 103(6), pp. 1755-1764. doi : 10.2134/agronj2011.0187

Dossdall, L.M. and Cárcamo, H.A. (2011). "Biology and Integrated Management of the Cabbage Seedpod Weevil in Prairie Canola Crops.", *Prairie Soils and Crops*, 4, pp. 14-23.

Otani, J.K. and Cárcamo, H.A. (2011). "Biology and management of *Lygus* in canola.", *Prairie Soils and Crops*, 4, pp. 42-53.

Beres, B.L., Dossdall, L.M., Weaver, D.K., Cárcamo, H.A., and Spaner, D.M. (2011). "Biology and integrated management of wheat stem sawfly and the need for continuing research."

Vankosky, M.A., Cárcamo, H.A., and Dossdall, L.M. (2011). "Response of *Pisum sativum* (Fabales: Fabaceae) to *Sitona lineatus* (Coleoptera: Curculionidae) infestation: Effect of adult weevil density on damage, larval population, and yield loss.", *Journal of Economic Entomology*, 104(5), pp. 1550-1560. doi : 10.1603/EC10392

Gavloski, J.E., Cárcamo, H.A., and Dossdall, L.M. (2011). "Insects of Canola, Mustard, and Flax in Canadian Grasslands.", in Floate, K.D. (ed.) - *Arthropods of Canadian Grasslands. Vol. 2: Inhabitants of a Changing Landscape*, Biological Survey of Canada (BSC), Chapter 8, pp. 181-214.

De Clerck-Floate, R.A. and Cárcamo, H.A. (2011). "Biocontrol arthropods: new denizens of Canada's grassland agroecosystems.", in Floate, K.D. (ed.) - *Arthropods of Canadian Grasslands. Vol. 2: Inhabitants of a Changing Landscape*, Biological Survey of Canada (BSC), Chapter 12, pp. 291-321.

Wu, X., Cárcamo, H.A., Beres, B.L., and Pang, B. (2011). "Parasitoid (*Bracon cephi*) effects on grain yield of selected genotypes of wheat infested by *Cephus cinctus*.", *Australian Journal of Crop Science*, 5(9), pp. 1102-1107.

Kher, S.V., Dossdall, L.M., and Cárcamo, H.A. (2011). "The Cereal Leaf Beetle: Biology, Distribution and Prospects for Control.", *Prairie Soils and Crops*, 4, pp. 32-41.

## Other Science Related Publications:

2015

Olfert, O.O., Meers, S., Cárcamo, H.A., and Hartley, S. (2015). "Pea leaf weevil in Alberta and Saskatchewan in 2014. 2014 Crop Variety Highlights and Insect Pest Forecasts.", *Saskatoon Research Centre Technical Bulletin*, 2015(1), pp. 18-19.

Olfert, O.O., Cárcamo, H.A., and Meers, S. (2015). "Wheat stem sawfly in Alberta in 2014. 2014 Crop Variety Highlights and Insect Pest Forecasts.", *Saskatoon Research Centre Technical Bulletin*, 2015(1), pp. 16-17.

Otani, J.K., Costamagna, A., Szeitz, A., Cárcamo, H.A., and Wist, T. (2015). "Sticking with flea beetles in canola – Examining species, thresholds and beyond.", Joint Annual Meeting of the Société d'entomologie du Québec and the Entomological Society of Canada, Montreal, QC, Canada, November 8-11, 2015, pp. 20. (Poster)

Cárcamo, H.A., Otani, J.K., Harker, N., Reid, P., Broatch, J.S., Meers, S., Barkley, S., and Daniels, S. (2015). "Of lygus and canola: Where is the threshold?", Entomological Society of Alberta Annual General Meeting, Jasper, AB, Canada, October 1-3, 2015.

Otani, J.K., Szeitz, A., Costamagna, A., Cárcamo, H.A., and Wist, T. (2015). "Sticking with flea beetles in canola – Examining species, thresholds and beyond.", Joint Annual Meeting of the Société d'entomologie du Québec and the Entomological Society of Canada, Montreal, QC, Canada, November 8-11, 2015, pp. 20.

Philip, H., Svendsen, E., Olfert, O.O., Olivier, C.Y., Cárcamo, H.A., Soroka, J.J., Otani, J.K., and Wist, T. (2015). Field Crop and Forage Pests and their Natural Enemies in Western Canada – Identification and Management Field Guide. (Report)

Cárcamo, H.A. and Meers, S. (2015). "Lygus bug update.", Agronomy Update Conference 2015, Lethbridge, AB, Canada, January 20-21, 2015, Oral Presentation.

Fernández, D.C., Cárcamo, H.A., Herle, C.E., and Laird, R.A. (2015). "Seasonal occurrence of Lygus bugs (Hemiptera: Miridae) and their parasitoids on alfalfa fields in Southern Alberta.", Biology Graduate Students Symposium, University of Lethbridge, Lethbridge, AB, Canada, January 4, 2015. (Poster)

Costamagna, A., Cárcamo, H.A., and Otani, J.K. (2015). "Management of flea beetles in the Canadian Prairies.", 2015 Entomological Society of America, November 8-11, 2015.

## 2014

Fernández, D.C., Cárcamo, H.A., Laird, R.A., Mason, P.G., Otani, J.K., and Lachance, S. (2014). "Ecological interactions between Lygus bugs and Peristenus: an approach in southern Alberta.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014.

Kheirodin, A., Cárcamo, H.A., and Costamagna, A. (2014). "Field and laboratory tests of predation on the cereal leaf beetle.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014.

St. Onge, A.J., Cárcamo, H.A., Meers, S., and Evenden, M.L. (2014). "Development of a semiochemical monitoring system for pea leaf weevil (*Sitona lineatus*) in Canadian field pea crops.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014, Oral Presentation.

Cárcamo, H.A. and Olfert, O.O. (2014). "Biological Control of invasive insect pests of cereals in the Canadian Prairies.", 37th Mexican Congress on Biological Control, Merida, México, November 6, 2014, Invited Symposium Oral Presentation.

Cárcamo, H.A., Dosdall, L.M., Olfert, O.O., Meers, S., Gavloski, J.E., and Hartley, S. (2014). "Recent changes in insect communities associated with agricultural systems in the Prairies.", Invited Symposium, Saskatoon, Canada, November 6, 2014, Oral Presentation.

Cárcamo, H.A. and Olfert, O.O. (2014). "Control biológico de insectos plagas invasivas en cereales en las Praderas Canadienses.", Simposio en México, November 14, 2014.

Cárcamo, H.A., Dosdall, L.M., Olfert, O.O., Meers, S., Gavloski, J.E., and Hartley, S. (2014). "Recent changes in insect communities associated with agricultural systems in the Prairies.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014, Invited Symposium.

Olfert, O.O., Cárcamo, H.A., Elliott, R.H., Gan, Y.T., McLaren, D.L., Olivier, C.Y., Otani, J.K., Peng, G., and Soroka, J.J. (2014). Detection, surveillance and management of weed, insect and disease pests that threaten the economic viability of crop production and the environmental health of prairie agro-ecosystems. Annual Report to Canola Science Cluster (4 pages). (Report)

Olfert, O.O., Meers, S., Cárcamo, H.A., and Hartley, S. (2014). "Pea leaf weevil in Alberta and Saskatchewan in 2014. 2014 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2014(1), pp. 18-19.

Olfert, O.O., Cárcamo, H.A., and Meers, S. (2014). "Wheat stem sawfly in Alberta in 2014. 2014 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2014(1), pp. 16-17.

Fernandez, C., Cárcamo, H., Cárcamo, H.A., Laird, R.A., Mason, P.G., Otani, J.K., and Lachance, S. (2014). "Ecological interactions between Lygus bugs and Peristenus: an approach in southern Alberta.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014, pp. 37.

Cárcamo, H.A. and Hivet, V.A.D. (2014). "An overview of beneficial insects and spiders in agroecosystems - including a live display.", Field Day Oral Presentation. (Presentation)

Cárcamo, H.A. (2014). "La lutte biologique à son meilleur : contrôle du criocère des céréales au moyen de la guêpe *T. julis*. Available in English ([http://publications.gc.ca/collections/collection\\_2014/aac-aafc/A59-15-2014-eng.pdf](http://publications.gc.ca/collections/collection_2014/aac-aafc/A59-15-2014-eng.pdf)) and French [<http://publications.gc.ca/site/eng/469808/publication.html>].", published by Agriculture and Agri-Food Canada. (Factsheet)

Fernández, D.C., Cárcamo, H.A., Herle, C.E., and Laird, R.A. (2014). "Seasonal occurrence of Lygus bugs (Hemiptera: Miridae) and their parasitoids on alfalfa fields in Southern Alberta.", Joint Conference of NAAIC, Trifolium, & Grass Breeders, Lethbridge, Alberta, Canada, July 8-10, 2014. (Poster)

## 2013

Cárcamo, H.A. and Otani, J.K. (2013). Refine and validate economic threshold for lygus bugs in canola production in Alberta (Project Code: PRR12-030). Agriculture and Agri-Food Canada, Pest Management Centre, Reduced Risk Pesticide Program, Final Report 2012-2013, March 31, 2013. (Report)

Olfert, O.O., Meers, S., Cárcamo, H.A., and Hartley, S. (2013). "Pea leaf weevil in Alberta and Saskatchewan in 2012. 2012 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2013(1), pp. 18-19.

Olfert, O.O., Cárcamo, H.A., and Meers, S. (2013). "Wheat stem sawfly in Alberta in 2012. 2012 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2013(1), pp. 16-17.

Cárcamo, H.A., Meers, S., Dosedall, L.M., and Olfert, O.O. (2013). Management of lygus bugs and seedpod weevil in canola at the farm level. Final Report submitted to the Canola Council of Canada for Project #2010-020 of the Canola Agronomic Research Program. (Report)

## 2012

Cárcamo, H.A., Herle, C.E., Broadbent, A.B., Garipey, T.D., and Gualtieri, L. (2012). "Neo-classical biocontrol of Lygus in canola in the Canadian Prairies-treading lightly.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #27. (Abstract)

Otani, J.K., Meers, S., Hartley, S., Gavloski, J.E., Dosedall, L.M., Cárcamo, H.A., and Olfert, O.O. (2012). "Coordinated monitoring, forecasting and risk warning systems for field crop insects.", 24th International Congress of Entomology (ICE 2012) and International Organization for Biological Control (IOBC) Global Symposium, Daegu, South Korea, August 19-25, 2012.

Cárcamo, H.A. (2012). "The pea leaf weevil (*Sitona lineatus* L.) - an overview of recent research and knowledge gaps.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #26. (Abstract)

Cárcamo, H.A., Hervet, V.A.D., Dosedall, L.M., Kher, S.V., and Chelle, C.D. (2012). "Host range assays of *Tetrastichus julis* - an effective biocontrol agent of cereal leaf beetle.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #28. (Abstract)

Kher, S.V., Dosedall, L.M., and Cárcamo, H.A. (2012). "Host-plant nutrients and plant vigor effects on spatio-temporal distribution patterns of cereal leaf beetle, *Oulema melanopus* (Coleoptera: Chrysomelidae).", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #95. (Abstract)

Kher, S.V., Dosedall, L.M., and Cárcamo, H.A. (2012). "Understanding host-finding behaviour of cereal leaf beetle, *Oulema melanopus* (Coleoptera: Chrysomelidae) and its principal parasitoid *Tetrastichus julis* (Hymenoptera: Eulophidae) using olfactory bioassays.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #96. (Abstract)

Kher, S.V., Cárcamo, H.A., Dosedall, L.M., and Goettel, M.S. (2012). "Laboratory bioassay of *Beauveria bassiana* strain GHA (Botani Gard™) efficacy on cereal leaf beetle (*Oulema melanopus*) and non-target effects on its parasitoid *Tetrastichus julis*.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #97. (Abstract)

Beres, B.L., Cárcamo, H.A., Weaver, D.K., Dosedall, L.M., Evenden, M.L., Hill, B.D., McKenzie, R.H., Yang, R.-C., and Spaner, D.M. (2012). "Integrating the building blocks of agronomy and biocontrol into an IPM strategy for wheat stem sawfly (*Cephus cinctus*).", Entomological Society of America (ESA) 60th Annual Meeting, Knoxville Convention Centre, Knoxville, TN, USA, November 11-14, 2012, D0471. (Poster)

## 2011

Kher, S.V., Dosedall, L.M., and Cárcamo, H.A. (2011). "Biology of the cereal leaf beetle, *Oulema melanopus* (Coleoptera: Chrysomelidae) on different cereal hosts and exploration of antibiotic characters in exotic wheat germplasm.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011, pp. 65.

Cárcamo, H.A. and Herle, C.E. (2011). "Phenology of Lygus bugs and parasitism by Peristenus wasps in alfalfa and canola in southern Alberta.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011, pp. 50.

Cárcamo, H.A. (2011). "One shot management of Lygus and seedpod weevils in canola.", Agronomy Update Conference 2011, Lethbridge, AB, Canada, January 18-19, 2011.

Cárcamo, H.A. et al. (2011). "Alberta Research Report Summaries. Minutes.", Annual Meeting 2011 Western Forum on Crop Pests, Delta Grand Okanagan Resort & Conference Centre, Kelowna, BC, Canada, October 16-18, 2011.

Olfert, O.O., Cárcamo, H.A., and Meers, S. (2011). "Wheat stem sawfly in Alberta in 2010. 2010 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2011(1), pp. 16-17.

Olfert, O.O., Meers, S., Cárcamo, H.A., and Hartley, S. (2011). "Pea leaf weevil in Alberta and Saskatchewan in 2010. 2010 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2011(1), pp. 18-19.

Soroka, J.J., Otani, J.K., and Cárcamo, H.A. (2011). "Survey to detect potential flea beetle (Coleoptera: Chrysomelidae) species composition shift in Canadian oilseed rape fields.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, Abstract P 290, pp. 465.

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## Research Publications:

2014

Fernández-Triana, J.L., Shaw, M.R., Cardinal, S., and Mason, P.G. (2014). "Contributions to the study of the Holarctic fauna of Microgastrinae (Hymenoptera, Braconidae). I. Introduction and first results of transatlantic comparisons.", *Journal of Hymenoptera Research*, 37, pp. 61-76. doi: 10.3897/JHR.37.7186

Fernández-Triana, J.L., Whitfield, J.B., Rodriguez, J.J., Smith, A.H., Janzen, D.H., Hallwachs, W., Hajibabaei, M., Burns, J.M., Solis, M.A., Brown, J., Cardinal, S., Goulet, H., and Hebert, P.D.N. (2014). "Review of *Apanteles* sensu stricto (Hymenoptera, Braconidae, Microgastrinae) from Area de Conservación Guanacaste, northwestern Costa Rica, with keys to all described species from Mesoamerica.", *ZooKeys*, 383, pp. 1-565. doi: 10.3897/zookeys.383.6418

Fernández-Triana, J.L., Shaw, M.R., Cardinal, S., Dossall, L.M., and Mason, P.G. (2014). "First Nearctic record of *Diolcogaster claritibia* (Hymenoptera, Braconidae, Microgastrinae), with notes on taxonomic status and biology", *The Canadian Entomologist*, 146(6), pp. 609-620. doi: 10.4039/tce.2014.16

2013

Fernández-Triana, J.L., Ward, D.F., Cardinal, S., and Van Achterberg, C. (2013). "A review of *Paroplitis* (Braconidae, Microgastrinae), and description of a new genus from New Zealand, *Shireplitis*, with convergent morphological traits.", *Zootaxa*, 3722(4), pp. 549-568. doi: 10.11646/zootaxa.3722.4.6

Danforth, B.N., Cardinal, S., Praz, C.J., Almeida, E.A.B., and Michez, D. (2013). "The Impact of Molecular Data on Our Understanding of Bee Phylogeny and Evolution.", *Annual Review of Entomology*, 58, pp. 57-78. doi: 10.1146/annurev-ento-120811-153633

Cardinal, S. and Danforth, B.N. (2013). "Bees diversified in the age of eudicots.", *Proceedings of the Royal Society B: Biological Sciences*, 280(1755), pp. 1-9, Article 20122686. doi: 10.1098/rspb.2012.2686

Fernández-Triana, J.L., Cardinal, S., Whitfield, J.B., Hallwachs, W., Smith, M.A., and Janzen, D.H. (2013). "A review of the New World species of the parasitoid wasp *Iconella* (Hymenoptera, Braconidae, Microgastrinae).", *ZooKeys*, 321, pp. 65-87. doi: 10.3897/zookeys.321.5160

Litman, J.R., Praz, C.J., Danforth, B.N., Griswold, T.L., and Cardinal, S. (2013). "Origins, evolution and diversification of cleptoparasitic lineages in long-tongued bees.", *Evolution*, 67(10). doi: 10.1111/evo.12161

2012

Whitfield, J.B., Fernández-Triana, J.L., Janzen, D.H., Hallwachs, W., Smith, A., and Cardinal, S. (2012). "*Mariapanteles* (Hymenoptera, Braconidae), a new genus of Neotropical microgastrine parasitoid wasp discovered through biodiversity inventory.", *ZooKeys*, 208, pp. 61-80. doi: 10.3897/zookeys.208.3326

Debevec, A.H., Cardinal, S., and Danforth, B.N. (2012). "Identifying the sister group to the bees: a molecular phylogeny of Aculeata with an emphasis on the superfamily Apoidea.", *Zoologica Scripta*, 41(5), pp. 527-535. doi: 10.1111/j.1463-6409.2012.00549.x

2011

Cardinal, S. and Danforth, B.N. (2011). "The Antiquity and Evolutionary History of Social Behavior in Bees.", *PLoS ONE*, 6(6, Article No. e21086). doi: 10.1371/journal.pone.0021086

## Other Science Related Publications:

2014

Cardinal, S. (2014). "Evolution of buzz pollination in bees.", *Southern Ontario Bee Researchers Symposium*, Toronto, Ontario, Canada.

Cardinal, S. and Buchmann, S.L. (2014). "Evolution of buzz pollination inferred from a multi-gene molecular phylogeny of bees.", *8th International Congress of Hymenopterists*, Cusco, Peru, July 20-25, 2014.

2013

Bennett, A.M.R., Cardinal, S., Gauld, I.D., and Wahl, D.B. (2013). "Phylogeny of the Ichneumonidae.", Entomological Society of America (ESA) 61st Annual Meeting, Austin Convention Center, Austin, TX, USA, November 10-13, 2013.

Bennett, A.M.R., Cardinal, S., Gauld, I.D., and Wahl, D.B. (2013). "Morphological and molecular phylogeny of the subfamilies of Ichneumonidae (Hymenoptera).", Biosyst EU 2013. 2nd meeting of the Federation of European Biological Systematic Societies, University of Vienna, Vienna, Austria, February 18-22, 2013.

2012

Pernal, S.F., Cardinal, S., and Javorek, S.K. (2012). "The Importance, Diversity and Status of Canada's Pollinator Resources: A Synthesis of Current AAFC Research.", Agriculture and Agri-Food Canada (AAFC) Research Branch Speaker Series, National Headquarters Complex for the Agriculture Portfolio (NHCAP), Ottawa, ON, Canada, June 26, 2012. (Presentation)



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## Research Publications:

2015

Carew, R., Florkowski, W.J., and DePauw, R.M. (2015). "Review: Shifting patterns in plant cultivar protection for field crops in Canada.", *Canadian Journal of Plant Science*, 95(5), pp. 813-829. doi : 10.4141/CJPS2013-235

Carew, R. and An, H. (2015). "Effect of climate change and use of improved varieties on barley and canola yield in Manitoba.", *Canadian Journal of Plant Science*, 95(1), pp. 127-139. doi : 10.4141/CJPS-2014-221

2014

Khakbazan, M., Carew, R., Scott, S.L., Chiang, P., Block, H.C., Robins, C.D., Durunna, O.N., and Huang, J. (2014). "Economic analysis and stochastic simulation of alternative beef calving and feeding systems in western Canada.", *Canadian Journal of Animal Science*, 94(2), pp. 299-311. doi : 10.4141/CJAS2013-185

2012

Carew, R. and Florkowski, W.J. (2012). "Regulatory and institutional developments in the Ontario wine and grape industry.", *International Journal of Wine Research*, 4, pp. 33-44. doi : 10.2147/IJWR.S33523

Carew, R., Florkowski, W.J., and Doroudian, A. (2012). "Market integration and relationship between farm-level prices: Evidence from Cherry markets in British Columbia, Washington and California.", *Journal of International Agricultural Trade and Development*, 8(1), pp. 1-22.

Carew, R., Florkowski, W.J., and Smith, E.G. (2012). "Hedonic Analysis of Apple Attributes in Metropolitan Markets of Western Canada.", *Agribusiness: An International Journal*, 28(3), pp. 293-309. doi : 10.1002/agr.21302

Carew, R. and Florkowski, W.J. (2012). "Wine Industry Developments in the Pacific Northwest: A Comparative Analysis of British Columbia, Washington State and Oregon.", *Journal of Wine Research*, 23(1), pp. 27-45. doi : 10.1080/09571264.2012.666863

## Other Science Related Publications:

2013

Smith, E.G., Carew, R., and Warner, K. (2013). "Decision Making Among Canola Growers in the Prairie Provinces: The impact of Farm and Grower Characteristics.", *Agricultural and Applied Economics Association and the Canadian Agricultural Economics Society annual joint meeting*, Washington DC, USA, August 4-6, 2013.

2011

Yoo, V., Florkowski, W.J., and Carew, R. (2011). "Pricing Attributes of Wines from Emerging Suppliers on the British Columbia Wine Market.", 2011 *American Agricultural Economics Meeting*, Pittsburgh, PA, USA, July 24-26, 2011.

Carew, R. and An, H. (2011). "Quantifying the Effects of Climate Change on the Output and Variability of Barley Yield.", *Canadian Agricultural Economics Society (CAES) & Western Agricultural Economics Association (WAEA) Joint Annual Meeting 2011*, Banff, AB, Canada, June 29-July 1, 2011.

Florkowski, W.J. and Carew, R. (2011). "An Analysis of Price Determination in the Sweet Cherry Markets of British Columbia, Washington, Oregon and California.", *XIIIth Congress of the European Association of Agricultural Economists (EAAE)*, Zurich, Switzerland, August 30-September 2, 2011.

# Carisse, Odile, Ph.D.

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## Research Publications:

2015

Barros, L.B., Biasi, L.A., Carisse, O., and De Mio, L.L.M. (2015). "Incidence of grape anthracnose on different VITIS labrusca and hibrid cultivars and rootstocks combination under humid subtropical climate.", *Australasian Plant Pathology*, 44(4), pp. 397-403. doi: 10.1007/s13313-015-0353-8

Carisse, O. and Van der Heyden, H. (2015). "Relationship of airborne botrytis cinerea conidium concentration to tomato flower and stem infections: A threshold for de-leafing operations.", *Plant Disease*, 99(1), pp. 137-142. doi : 10.1094/PDIS-05-14-0490-RE

Gobeil-Richard, M., Tremblay, D.M., Beaulieu, C., Van der Heyden, H., and Carisse, O. (2015). "A pyrosequencing-based method to quantify genetic substitutions associated with resistance to succinate dehydrogenase inhibitor fungicides in Botrytis spp. Populations.", *Pest Management Science*. doi : 10.1002/ps.4026

Carisse, O., Van der Heyden, H., and Morissette-Thomas, V. (2015). "Quantitative relationships between Erysiphe necator airborne inoculum density above grape canopy and weather variables.", *Acta Horticulturae (ISHS)*, 1068, pp. 179-188.

Fall, M.L., Van der Heyden, H., Brodeur, L., Leclerc, Y., Moreau, G., and Carisse, O. (2015). "Spatiotemporal variation in airborne sporangia of Phytophthora infestans: Characterization and initiatives towards improving potato late blight risk estimation.", *Plant Pathology*, 64(1), pp. 178-190. doi : 10.1111/ppa.12235

Carisse, O. and Jobin, T. (2015). "A host growth based model to time fungicide sprays against Venturia inaequalis.", *Acta Horticulturae (ISHS)*, 1068, pp. 163-170.

2014

Van der Heyden, H., Dutilleul, P., Brodeur, L., and Carisse, O. (2014). "Spatial distribution of Single Nucleotide Polymorphisms Related to Fungicide Resistance and Inference for Sampling.", *Phytopathology*, 104(6), pp. 604-613. doi : 10.1094/PHYTO-03-13-0085-R

Gossen, B.D., Carisse, O., Kawchuk, L.M., Van der Heyden, H., and McDonald, M.R. (2014). "Recent changes in fungicide use and the fungicide insensitivity of plant pathogens in Canada.", *Canadian Journal of Plant Pathology*, 36(3), pp. 327-340. doi : 10.1080/07060661.2014.925506

Rouxel, M., Mestre, P., Baudoin, A., Carisse, O., Delière, L., Ellis, M.A., Gadoury, D., Lu, J., Nita, M., Richard-Cervera, S., Schilder, A., Wise, A., and Delmotte, F. (2014). "Geographic distribution of cryptic species of plasmopara viticola causing downy mildew on wild and cultivated grape in Eastern North America.", *Phytopathology*, 104(7), pp. 692-701. doi : 10.1094/PHYTO-08-13-0225-R

Carisse, O., Tremblay, D.M., and Lefebvre, A. (2014). "Comparison of Botrytis cinerea airborne inoculum progress curves from raspberry, strawberry and grape plantings.", *Plant Pathology*, 63(5), pp. 983-993. doi : 10.1111/ppa.12192

Van der Heyden, H., Lefebvre, M., Roberge, L., and Carisse, O. (2014). "Spatial pattern of strawberry powdery mildew (Podosphaera aphanis) and airborne inoculum.", *Plant Disease*, 98(1), pp. 43-54. doi : 10.1094/PDIS-10-12-0946-RE

Carisse, O., Caffi, T., and Rossi, V. (2014). "How to develop and validate plant disease forecasting systems.", in Stevenson, K.L. and Jeger, M.J. (eds.) - *Exercises in Plant Disease Epidemiology*, 2nd Edition, APS Press, Inc., St. Paul, MN, USA.

Carisse, O., Tremblay, D.M., and Lefebvre, A. (2014). "Comparison of Botrytis cinerea airborne inoculum progress curves from raspberry, strawberry and grape plantings.", *Plant Pathology*, 63(5), pp. 983-993.

2013

Carisse, O., Morissette-Thomas, V., and Van der Heyden, H. (2013). "Lagged association between powdery mildew leaf severity, airborne inoculum, weather, and crop losses in strawberry.", *Phytopathology*, 103(8), pp. 811-821. doi : 10.1094/PHYTO-11-12-0300-R

Carisse, O. and Morissette-Thomas, V. (2013). "Epidemiology of grape anthracnose: Factors associated with defoliation of grape leaves infected by *Elsinoë ampelina*.", *Plant Disease*, 97(2), pp. 222-230. doi: 10.1094/pdis-04-12-0393-re

Carisse, O., Lefebvre, A., Van der Heyden, H., Roberge, L., and Brodeur, L. (2013). "Analysis of incidence–severity relationships for strawberry powdery mildew as influenced by cultivar, cultivar type, and production systems.", *Plant Disease*, 97(3), pp. 354-362. doi: 10.1094/PDIS-05-12-0508-RE

## 2012

Carisse, O. and Jobin, T. (2012). "Managing summer apple scab epidemics using leaf scab incidence threshold values for fungicide sprays.", *Crop Protection*, 35, pp. 36-40. doi: 10.1016/j.cropro.2011.12.014

Van der Heyden, H., Carisse, O., and Brodeur, L. (2012). "Comparison of monitoring based indicators for initiating fungicide spray programs to control *Botrytis* leaf blight of onion.", *Crop Protection*, 33, pp. 21-28. doi: 10.1016/j.cropro.2011.11.008

Toussaint, V., Benoît, D.-L., and Carisse, O. (2012). "Potential of weed species as a reservoir for *Xanthomonas campestris* pv. *viti*ans, the causal agent of bacterial leaf spot of lettuce.", *Crop Protection*, 41(November), pp. 64-70. doi: 10.1016/j.cropro.2012.05.018

Carisse, O., Levasseur, A., and Van der Heyden, H. (2012). "A new risk indicator for *Botrytis* leaf blight of onion caused by *Botrytis squamosa* based on infection efficiency of airborne inoculum.", *Plant Pathology*, 61(6), pp. 1154-1164. doi: 10.1111/j.1365-3059.2012.02594.x

## 2011

Carisse, O., Tremblay, D.M., McDonald, M.R., Brodeur, L., and McRoberts, N. (2011). "Management of *Botrytis* leaf blight of onion: The Québec experience of 20 years of continual improvement.", *Plant Disease*, 95(5), pp. 504-514. doi: 10.1094/pdis-11-10-0797

Carisse, O., Meloche, C., and Turechek, W.W. (2011). "Spatial heterogeneity, incidence-incidence and incidence-lesion density relationship of apple scab (*Venturia inaequalis*) in managed orchards.", *European Journal of Plant Pathology*, 130(3), pp. 349-365. doi: 10.1007/s10658-011-9758-6

Li, D., Charles, M.T., Carisse, O., Tsao, R., Dubé, C., and Khanizadeh, S. (2011). "Changes in ascorbate-glutathione pathway enzymes in response to *Mycosphaerella fragariae* infection in selected strawberry genotypes.", *Archives of Phytopathology and Plant Protection*, 44(8), pp. 712-725. doi: 10.1080/03235400903266297

Caffi, T., Rossi, V., and Carisse, O. (2011). "Evaluation of a dynamic model for primary infections caused by *Plasmopara viticola* on grapevine in Quebec.", *Plant Health Progress*. doi: 10.1094/PHP-2011-0126-01-RS

Savary, S., Mila, A., Willocquet, L., Esker, P.D., Carisse, O., and McRoberts, N. (2011). "Risk factors for crop health under global change and agricultural shifts: A framework of analyses using rice in tropical and subtropical Asia as a model.", *Phytopathology*, 101(6), pp. 696-709. doi: 10.1094/phyto-07-10-0183

## Other Science Related Publications:

### 2015

Carisse, O. (2015). "Influence du mildiou d'automne sur le développement de la maladie la saison suivante Implication pour la lutte. Symposium", Symposium Vigne et Vins, Drummondville, Quebec, Canada, February, 2015. (Presentation)

Carisse, O., Kawchuk L.M., Peters, R.D., Bilodeau, G.J., Lévesque, C.A., Vincent, C., and Laforest, M. (2015). "Biovigilance: a framework for effective pest management.", National Science Day on Biovigilance and Precision Agriculture, Agriculture and Agri-Food Canada, Saint-Jean-sur-Richelieu, QC, Canada, July 9, 2015. (Presentation)

### 2014

Carisse, O. (2014). "Contribution de l'aérobiologie moderne à une gestion plus raisonnée des maladies.", Académie d'Agriculture de France, Paris, France, February, 2014. (Presentation)

Carisse, O. and Van der Heyden, H. (2014). "Résistance aux fongicides chez *Botrytis cinerea* : état de la situation.", Rencontre annuelle, réseau d'avertissement Phytosanitaire, Drummondville, QC, Canada, February 2014. (Presentation)

Carisse, O., Lefebvre, A., and Tremblay, D.M. (2014). "Combined influence of airborne inoculum concentration and weather on incidence of raspberry gray mould.", American and Canadian Phytopathological Society, Annual Meeting 2014, Minneapolis, USA, August 2014. (Poster)

Fall, M.L., Van der Heyden, H., Brodeur, L., and Carisse, O. (2014). "Établir la relation entre la concentration aérienne de spore et l'efficacité des infections du mildiou de la laitue.", Horticultural day, South ouest Montreal growers, PRISM INC, Sherrington, QC, February 2014. (Presentation)

Carisse, O. (2014). "Multi-seasonal mildew development: potential mildew risk and sampling for fall mildew incidence.", 7th International Workshop On Grapevine Downy And Powdery Mildew, Vitoria-Gasteiz, Spain, June 30-July 4, 2014. (Poster)

Fall, M.L., Couillard, J., Van der Heyden, H., Tremblay, D.M., Lévesque, C.A., Beaulieu, C., and Carisse, O. (2014). "Infection efficiency of four *P. infestans* pathotypes and DNA-based quantification of airborne sporangia.", North American Late Blight Symposium, Minneapolis, USA, August 2014. (Poster)

Carisse, O. and Soufiane, B. (2014). "Comparison of sampling methods for incidence of fungicide resistance.", American and Canadian Phytopathological Society, Annual Meeting 2014, Minneapolis, USA, August 2014. (Poster)

Gobeil-Richard, M., Tremblay, D.M., Beaulieu, C., and Carisse, O. (2014). "Utilisation du Pyromark Q24 pour la détection et la quantification des mutations liées à la résistance au boscalide chez *Botrytis cinerea*.", 82e congrès de l'ACFAS, Concordia University, Montréal, Canada, May 2014, Oral presentation for peer audience. (Poster)

Carisse, O. and Van der Heyden, H. (2014). "Résistance aux fongicides chez *Botrytis cinerea* : état de la situation.", Réseau d'avertissement phytosanitaire, Drummondville, QC, Canada, February, 2014. (Presentation)

Fall, M.L., Beaulieu, C., Van der Heyden, H., and Carisse, O. (2014). "Bremia lactucae infection efficiency under field conditions is modulated by leaf wetness duration and temperature.", Horticultural Day, Ministry of Agriculture fisheries and food, Rémi, QC, Canada, December, 2014. (Presentation)

Van der Heyden, H. and Carisse, O. (2014). "La résistance en phytopathologie: état de la situation et stratégies.", d'atténuation Horticultural day, Ministry of Agriculture fisheries and food, Saint-Rémi, QC, Canada, December, 2014. (Presentation)

Carisse, O. and Tremblay, D.M. (2014). "Quantitative analysis of grape multi-diseases development: the groundwork for improved management", 7th International Workshop On Grapevine Downy And Powdery Mildew, Vitoria-Gasteiz, Spain, June 30-July 4, 2014, Oral presentation for peer audience. (Poster)

Fall, M.L., Beaulieu, C., Van der Heyden, H., and Carisse, O. (2014). "Bremia lactucae infection efficiency under field conditions is modulated by leaf wetness duration and temperature.", American and Canadian Phytopathological Society, Annual Meeting 2014, Minneapolis, USA, August 2014. (Poster)

## 2013

Van der Heyden, H., Carisse, O., and Brodeur, L. (2013). "Intégration de techniques de biologie moléculaire, de modélisation et d'analyse spatiale pour le suivi de l'inoculum aérien au niveau régional et parcellaire.", CRAAQ Colloque en agroenvironnement, Drummondville, QC, Canada, November 2013. (Presentation)

Van der Heyden, H. and Carisse, O. (2013). "Fongicides contre *Botrytis*: résistance sous haute surveillance!", 18ième Edition 'Les Journées Horticoles', St-Remi, QC, Canada, December 2013. (Presentation)

Lambert, L., Laplante, G., Carisse, O., and Vincent, C. (2013). Diseases, Pests and Beneficial Insects of Strawberry, Raspberry and Blueberry., CRAAQ, QC, Canada/APS Press, St-Paul, MN, USA. (Book)

Gobeil-Richard, M., Tremblay, D.M., Beaulieu, C., and Carisse, O. (2013). "Utilisation du Pyromark Q24 pour la détection et la quantification des mutations liées à la résistance au boscalide chez *Botrytis cinerea*.", Journée du centre sève, Wendake, QC, Canada, November 2013. (Presentation)

Carisse, O. and Van der Heyden, H. (2013). "Fungicide resistance: detection, monitoring and management.", North American Berry Conference, Portland, Oregon, USA, January 2013. (Presentation)

Van der Heyden, H., Dutilleul, P., Charron, J.-B., Brodeur, L., and Carisse, O. (2013). "Combined application of spatial statistics and molecular genetics for characterization of small-scale field relationships between polymorphisms related to fungicide resistance in *Botrytis cinerea* populations.", 11th International Epidemiology Workshop, Beijing, China, August 2013, Oral presentation for peer audience. (Poster)

Carisse, O. (2013). "Simplifier la lutte aux principales maladies de la vigne.", Groupe experts-vigne, Drummondville, Québec, Canada, April 2013. (Presentation)

Van der Heyden, H., Fall, M.L., Parent, P., Moreau, G., Leclerc, Y., Brodeur, L., and Carisse, O. (2013). "In field monitoring of airborne diseases in potato production.", Potato Association of America (PAA) Annual Champetre Day of Potato, Saint-Ubalde, QC, Canada, July 2013. (Presentation)

Carisse, O. (2013). "Powdery Mildew Management in Day Neutral Strawberries.", North American Berry Conference, Portland, Oregon, USA, January 2013. (Presentation)

Van der Heyden, H., Fall, M.L., Brodeur, L., and Carisse, O. (2013). "Développement et implantation d'un système dynamique d'aide à la gestion intégrée du mildiou de la laitue.", Carnival, South west Montreal growers, PRISM INC, Sherrington, QC, Canada, July 2013. (Presentation)

Fall, M.L., Van der Heyden, H., Brodeur, L., and Carisse, O. (2013). "Nouveaux outils pour une gestion du mildiou de la laitue davantage raisonnée.", Horticultural Day, Quebec, Ministry of Agriculture fisheries and food, Saint-Rémi, QC, Canada, December 2013. (Presentation)

Van der Heyden, H., Dutilleul, P., Brodeur, L., and Carisse, O. (2013). "Implementation of a DNA based surveillance network of fungicide resistance in *Botrytis cinerea* populations.", Annual Ontario Fruit and Vegetable Convention, Niagara Falls, ON, Canada, February 2013. (Presentation)

Carisse, O., Tremblay, D.M., and Lefebvre, A. (2013). "Aerobiology of *Botrytis cinerea* in raspberry, strawberry and grape: analysis of airborne inoculum progress curves.", XVI International Botrytis Symposium, Bari, Italy, June 2013, Oral presentation for peer audience. (Poster)

Van der Heyden, H., Fall, M.L., Parent, P., Moreau, G., Leclerc, Y., Brodeur, L., and Carisse, O. (2013). "In field monitoring of airborne diseases in potato production.", l'Universidad Carlos Rafael Rodríguez de Cienfuegos, International Research Congress on fragile ecosystems, Cienfuegos, Cuba, December 2013. (Presentation)

Carisse, O. and Caffi, T. (2013). "Discussion on the various approaches used to develop Disease Decision Support System (DDSS).", 11th International Epidemiology Workshop, Beijing, China. (Poster)

Carisse, O. (2013). "La lutte raisonnée simplifiée: Un itinéraire technique.", Association des producteurs de pommes et raisins de Dunham, Québec, Canada, April 2013. (Presentation)

Van der Heyden, H., Dutilleul, P., Brodeur, L., and Carisse, O. (2013). "Spatial distribution of single nucleotide polymorphisms related to fungicide resistance and implications for sampling.", International Congress of Plant Pathology, Beijing, China, August 25-28, 2013, Oral presentation for peer audience. (Poster)

Carisse, O., Tremblay, D.M., and Van der Heyden, H. (2013). "Integration of molecular biology tools into conventional epidemiology: the example of molecular tools to assess risk of disease and efficacy of management actions.", International Congress of Plant Pathology, Beijing, China, August 25-28, 2013. (Poster)

Carisse, O., Tremblay, D.M., Van der Heyden, H., and Brodeur, L. (2013). "Aerobiology of tomato grey mould under greenhouse conditions: relationship between airborne *Botrytis cinerea* conidia concentration and flower and stem infections.", XVI International Botrytis Symposium, Bari, Italy, June 2013, Oral presentation for peer audience. (Poster)

## 2012

Carisse, O. and Van der Heyden, H. (2012). "Un itinéraire technique pour la gestion du *Botrytis* dans l'oignon.", Journée Horticoles Régionale, St-Remi, QC, Canada, December 2012. (Presentation)

Carisse, O. (2012). "L'épidémiologie moléculaire : une discipline au service de la protection des végétaux.", Réunion du personnel, Centre de recherche et de développement en horticulture (CRDH), Saint-Jean-sur-Richelieu, QC, Canada, December 19, 2012.

Van der Heyden, H., Dutilleul, P., Brodeur, L., and Carisse, O. (2012). "La résistance de *Botrytis squamosa* au Rovral: implication pour l'avenir de la lutte chimique dans l'oignon.", Journées d'information scientifique – Légumes de champ et Petits fruits, Drummondville, QC, Canada, February 13-14, 2012.

Carisse, O. (2012). "Épidémiologie botanique: L'analyse quantitative.", Oral presentation for peer audience, Centre Sève, Sherbrooke University, Sherbrooke, QC, Canada, November 2012. (Presentation)

Fall, M.L., Van der Heyden, H., Brodeur, L., Leclerc, Y., and Carisse, O. (2012). "Spatial variation of airborne sporangia of *P. infestans* of potato production of New Brunswick, Prince Edward Island and Quebec: characterization and implications for monitoring networks implementation.", Quebec Society for Plant Protection Annual Meeting 2012, Valleyfield, QC, Canada, June, 2012. (Poster)

Carisse, O., Morissette-Thomas, V., Van der Heyden, H., Roberge, L., and Brodeur, L. (2012). "Analysis of the relationships between weather, airborne inoculum of *Podosphaera aphanis*, powdery mildew foliar severity and strawberry yield losses.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012. (Poster)

Carisse, O., Lefebvre, A., Van der Heyden, H., Roberge, L., and Brodeur, L. (2012). "Analysis of incidence–severity relationships for strawberry powdery mildew caused by *Podosphaera aphanis* as influenced by cultivar, cultivar type and production systems.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012. (Poster)

Fall, M.L., Van der Heyden, H., Brodeur, L., Leclerc, Y., and Carisse, O. (2012). "Spatial variation of airborne sporangia of *P. infestans* of potato production of New Brunswick, Prince Edward Island and Quebec: characterization and implications for monitoring networks implementation.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Oral presentation for peer audience. (Poster)

Carisse, O. and Van der Heyden, H. (2012). "La résistance de *Botrytis cinerea* aux fongicides: êtes-vous résistants?", Journée Horticoles Régionale, Canada, December 6, 2012.

Carisse, O. and Van der Heyden, H. (2012). "Surveillance des maladies et des résistances : comprendre, analyser les risques et chercher des solutions.", Rencontre Producteur de fraises et Framboise, Saint-Hyacinthe, QC, Canada, November 30, 2012.

Carisse, O. (2012). "Limiter les impacts environnementaux des fongicides: est-ce possible?", Zoom LEGUMES édition spéciale. (Presentation)

Van der Heyden, H., Dutilleul, P., Brodeur, L., and Carisse, O. (2012). "Exploring spatial relationships between mutations related to fungicide resistance among *Botrytis cinerea* populations.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012.

Van der Heyden, H., Dutilleul, P., Brodeur, L., and Carisse, O. (2012). "Exploring spatial relationships between mutations related to fungicide resistance among *Botrytis cinerea* populations.", Congrès de la Société de protection des plantes du Québec (SPPQ), Hôtel Plaza Valleyfield, Salaberry-de-valleyfield, QC, Canada, June 5-6, 2012.

Carisse, O. (2012). "Les outils moléculaires dans la gestion des maladies de la vigne.", Journée Horticole Régionale: Forum sur la vigne, St-Remi, QC, Canada, December 7, 2012.

Brodeur, L., Carisse, O., and Van der Heyden, H. (2012). "Potentiel d'implantation de réseaux de surveillance de la résistance aux fongicides.", Chercheurs Dupont, France (Télé conférence), St-Jean-sur-Richelieu, QC, Canada, November 30, 2012. (Presentation)

## 2011

Carisse, O., Van der Heyden, H., and Morissette-Thomas, V. (2011). "Quantitative relationships between *Erysiphe necator* airborne inoculum density above grape canopy and weather variables.", IX International Symposium on Modelling in Fruit Research and Orchard Management, Saint-Jean-sur-Richelieu, QC, Canada, June 19-23, 2011.

Carisse, O., Lefebvre, A., and Levasseur, A. (2011). "Mise au point sur la recherche sur les principaux champignons phytopathogènes de la vigne au Québec.", Groupe d'expert en protection de la vigne, Drummondville, QC, Canada, January 26, 2011.

Morissette, D.C., Tremblay, M., Brodeur, L., Van der Heyden, H., and Carisse, O. (2011). "Molecular aerobiology: the contribution of new spore quantification methods.", Canadian Phytopathological Society (CPS) 82nd Annual Meeting (with Plant Canada 2011), Halifax, NS, Canada, July 17-21, 2011.

Carisse, O. and Morissette-Thomas, V. (2011). "Epidemiology of grape anthracnose: identification of factors associated with defoliation of grape leaves infected by *Elsinoe ampelina*.", American Phytopathological Society (APS) 2011 Joint Annual Meeting & International Association for the Plant Protection Sciences (IPPC), Honolulu, HI, USA, August 6-10, 2011.

Carisse, O., Lefebvre, A., and Levasseur, A. (2011). "Mise à jour du projet d'échantillonnage: l'importance de la résistance aux fongicides chez les principaux champignons phytopathogènes de la vigne au Québec.", Groupe d'expert en protection de la vigne, Drummondville, QC, Canada, January 26, 2011.

Carisse, O., Lefebvre, A., Tremblay, M., and Van der Heyden, H. (2011). "Portrait de la sensibilité aux fongicides chez *Botrytis cinerea*.", Journées Horticoles, Canada, December 8, 2011.

Carisse, O. (2011). "Mise au point sur la recherche sur les principaux champignons phytopathogènes de la vigne au Québec.", Groupe d'expert en protection de la vigne, Drummondville, QC, Canada, October 28, 2011.

Fall, M.L., Brodeur, L., Van der Heyden, H., Leclerc, Y., and Carisse, O. (2011). "Monitoring de l'inoculum aérien de *Phytophthora infestans* au Nouveau Brunswick et à l'île du Prince Édouard.", Groupe d'experts du RAP sur la pomme de terre, Québec City, QC, Canada, November 23, 2011. (Presentation)

Carisse, O., Morissette, D.C., and Morissette-Thomas, V. (2011). "Analysis of aerobiological data: a new approach to model the influence of weather on dynamic of airborne spores.", Canadian Phytopathological Society (CPS) 82nd Annual Meeting (with Plant Canada 2011), Halifax, NS, Canada, July 17-21, 2011.

Carisse, O. (Ed.) (2011). *Fongicides*, InTech, Open Access Publisher. (Book)

Carisse, O., Tremblay, D.M., Jobin, T., and Walker, A.S. (2011). "Disease Decision Support Systems: Their Impact on Disease Management and Durability of Fungicide Effectiveness.", in Carisse, O. (ed.) - *Fongicides*, InTech, Open Access Publisher, Chapter 9.

Morissette, D.C., Tremblay, M., Brodeur, L., Van der Heyden, H., and Carisse, O. (2011). "Molecular aerobiology: the contribution of new spore quantification methods.", Canadian Phytopathological Society (CPS) 82nd Annual Meeting (with Plant Canada 2011), Halifax, NS, Canada, July 17-21, 2011.

Carisse, O. and Levasseur, A. (2011). "La gestion des maladies de la vigne. Quoi de neuf?", Atelier en viticulture, Saint-Jean-sur-Richelieu, QC, Canada, March 18, 2011.

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## Research Publications :

2014

Pouliot, É., Gariépy, C., Thériault, M., and Castonguay, F.W. (2014). "Use of electrical stimulation and chilling to enhance meat tenderness of heavy lambs.", *Canadian Journal of Animal Science*, 94(4), pp. 627-637. doi : 10.4141/CJAS-2014-076

2013

Piva, A., Bertrand, A., Bélanger, A., Castonguay, F.W., and Séguin, P. (2013). "Growth and physiological response of timothy to elevated carbon dioxide and temperature under contrasted nitrogen fertilization.", *Crop Science*, 53(2), pp. 704-715. doi : 10.2135/cropsci2012.07.0436

2012

Pouliot, É., Gariépy, C., Thériault, M., Avezard, C., Fortin, J., Simmons, N.J., and Castonguay, F.W. (2012). "Effects of low-voltage electrical stimulation and aging on lamb meat quality.", *Canadian Journal of Animal Science*, 92(1), pp. 59-66. doi : 10.4141/cjas2011-076

## Other Science Related Publications :

2012

Demers Caron, V., Morel, R., Castonguay, F.W., Thériault, M., Element-Boulianne, C., and Maignel, L. (2012). "Au-delà de l'évaluation génétique : la base de données de GenOvis mise à profit!", *Ovin Québec*, 12(1), pp. 33-36.

Baba-Khelil, A., Thériault, M., Castonguay, F.W., Pouliot, G., and Pouliot, É. (2012). "Étude de pesée des produits stripiers chez l'agneau.", *Ovin Québec*, 12(1), pp. 14-16.

2011

Cameron, J., Castonguay, F.W., and Thériault, M. (2011). "Why have photoperiodic programs for controlling sheep reproduction become so popular in Quebec? The complete story.", *Ontario Sheep Seminars, Attwood and Napanee, ON, Canada, 2011.*

Thériault, M., Castonguay, F.W., Poirier, V., and Demers Caron, V. (2011). "Le sevrage hâtif d'un agneau... Solution pour l'élevage des portées multiples?", *Ovin Québec*, 11(3), pp. 41-45.

Maher, G., Maurice, C., Lessard, C.J., Thériault, M., Castonguay, F.W., Cinq-Mars, D., Bernier, J., and Bailey, J.L. (2011). "Egg yolk or milk? Which is preferred by boar spermatozoa?", *36th Annual Conference of the American Society of Andrology Annual Meeting, Hyatt Regency Montréal, Montréal, QC, Canada, April 2-5, 2011. (Abstract)*

Demers Caron, V., Castonguay, F.W., and Pellerin, D. (2011). "Augmenter la prolificité... une valeur sûre!", *Ovin Québec*, 11(1), pp. 28-31.

Blais, E., Castonguay, F.W., and Element-Boulianne, C. (2011). "Le CIDR : Protocoles d'utilisation et efficacité sous la loupe.", *Ovin Québec*, 11(4), pp. 41-42.

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## Research Publications:

2015

Messerli, J., Bertrand, A., Bourassa, J., Bélanger, G., Castonguay, Y., Tremblay, G.F., Baron, V.S., and Séguin, P. (2015). "Performance of Low-Cost Open-Top Chambers to Study Long-Term Effects of Carbon Dioxide and Climate under Field Conditions.", *Agronomy Journal*, 107(3), pp. 916-920. doi : 10.2134/agronj14.0571

Rocher, S., Jean, M., Castonguay, Y., and Belzile, F.J. (2015). "Validation of genotyping-by-sequencing analysis in populations of tetraploid alfalfa by 454 sequencing.", *PLoS ONE*, 10(6: Article number e0131918), pp. 1-18. doi : 10.1371/journal.pone.0131918

Castonguay, Y., Michaud, J., and Dubé, M.-P. (2015). "Reference Genes for RT-qPCR Analysis of Environmentally and Developmentally Regulated Gene Expression in Alfalfa.", *American Journal of Plant Sciences*, 6(1), pp. 132-143. doi : 10.4236/ajps.2015.61015

2014

Bertrand, A., Castonguay, Y., and Bourassa, J. (2014). "A whole plant screening test to identify genotypes with superior freezing tolerance.", in Hinch, D et Zuther, E. (eds.) - *Plant Cold Acclimation: Methods in Molecular Biology*, Springer Science + Business Media, Chapter 4, pp. 35-41.

Tremblay, G.F., Morin, C., Bélanger, G., Bertrand, A., Castonguay, Y., Berthiaume, R.R., and Allard, G. (2014). "Silage Fermentation of PM- and AM-Cut Alfalfa Wilted in Wide and Narrow Swaths", *Crop Science*, 54(1), pp. 439-452. doi : 10.2135/cropsci2013.07.0443

Hoffman, L., DaCosta, M., Bertrand, A., Castonguay, Y., and Ebdon, J.S. (2014). "Comparative assessment of metabolic responses to cold acclimation and deacclimation in annual bluegrass and creeping bentgrass.", *Environmental and Experimental Botany*, 106, pp. 197-206. doi: 10.1016/j.envexpbot.2013.12.018

Bertrand, A., Piva, A., Tremblay, G.F., Bélanger, G., Castonguay, Y., and Séguin, P. (2014). "Elevated CO<sub>2</sub> and Temperature Affect the Composition and in vitro Degradability of Timothy Roots.", *Crop Science*, 54(6), pp. 2893-2902. doi : 10.2135/cropsci2014.04.0317

Bélanger, G., Castonguay, Y., and Lajeunesse, J. (2014). "Benefits of mixing timothy with alfalfa for forage yield, nutritive value, and weed suppression in northern environments.", *Canadian Journal of Plant Science*, 94(1), pp. 51-60. doi : 10.4141/CJPS2013-228

Brito, A.F., Tremblay, G.F., Bertrand, A., Castonguay, Y., Bélanger, G., Michaud, R., Lafrenière, C., Martineau, R., and Berthiaume, R.R. (2014). "Alfalfa baleage with increased concentration of nonstructural carbohydrates supplemented with a corn-based concentrate did not improve production and nitrogen utilization in early lactation dairy cows.", *Journal of Dairy Science* (JDS), 97(11), pp. 6970-6990. doi: 10.3168/jds.2013-7305

2013

Bertrand, A. and Castonguay, Y. (2013). "Molecular changes in recurrently selected populations of forage legumes.", in Imai, R., Yoshida, M. and Matsumoto, N. (eds.) - *Plant and microbe adaptation to cold in a changing world*, Springer Science + Business Media, pp. 209-218.

Castonguay, Y., Dubé, M.-P., Cloutier, J., Bertrand, A., Michaud, R., and Laberge, S. (2013). "Molecular physiology and breeding at the crossroads of cold hardiness improvement.", *Physiologia Plantarum*, 147(1), pp. 64-74. doi: 10.1111/j.1399-3054.2012.01624.x

Dubé, M.-P., Castonguay, Y., Cloutier, J., Michaud, J., and Bertrand, A. (2013). "Characterization of two novel cold-inducible K<sub>3</sub> dehydrin genes from alfalfa (*Medicago sativa* spp. *sativa* L.).", *Theoretical and Applied Genetics* (TAG), 126(3), pp. 823-835. doi: 10.1007/s00122-012-2020-6

Dubé, M.-P., Castonguay, Y., Duceppe, M.-O., Bertrand, A., and Michaud, R. (2013). "SRAP Polymorphisms Associated to Cell Wall Degradability in Lignified Stems of Alfalfa.", *BioEnergy Research*, 6(2), pp. 644-650. doi: 10.1007/s12155-012-9284-1

Iraba, A., Castonguay, Y., Bertrand, A., Floyd, D.J., Cloutier, J., and Belzile, F.J. (2013). "Characterization of populations of turf-type perennial ryegrass recurrently selected for superior freezing tolerance.", *Crop Science*, 53, pp. 2225-2238. doi : 10.2135/cropsci2013.02.0100



Bélanger, G., Tremblay, G.F., Berthiaume, R.R., Bertrand, A., Castonguay, Y., Michaud, R., and Allard, G.C. (2013). "Increasing non-structural carbohydrates in forages.", in Bittman, S. and Hunt, D. (eds.) - Cool Forages— Advanced management of temperate forages, Pacific Field Corn Association, Agassiz, BC, Canada, Chapter 43, pp. 180-183.

Bertrand, A. and Castonguay, Y. (2013). "Increasing winterhardiness in alfalfa.", in Bittman, S and Hunt, D. (eds.) - Cool Forages - Advanced management of temperate forages, Pacific Field Corn Association, Agassiz, BC, Canada, Chapter 16, pp. 64-67.

Bertrand, A., Castonguay, Y., Azaiez, A., and Dionne, J. (2013). "Low-temperature stress.", in Stier, J., Horgan, B.P., and Bonos, A. (eds.) - Turfgrass: Biology, Use, and Management, ASA, CSSA, and SSSA, Madison, WI, USA, pp. 279-318.

Berthiaume, R.R., Tremblay, G.F., Bélanger, G., Lafrenière, C., Bertrand, A., Castonguay, Y., Michaud, R., and Allard, G.C. (2013). "Taking advantage of diurnal shifts in the nutritive value of forages.", in Bittman, S and Hunt, D. (eds.) - Cool Forages- Advanced management of temperate forages, Pacific Field Corn Association, Agassiz, BC, Canada, Chapter 42, pp. 176-179.

## 2012

Duceppe, M.-O., Bertrand, A., Pattathil, S., Miller, J., Castonguay, Y., Hahn, M.G., Michaud, R., and Dubé, M.-P. (2012). "Assessment of Genetic Variability of Cell Wall Degradability for the Selection of Alfalfa with Improved Saccharification Efficiency.", *BioEnergy Research*, 5(4), pp. 904-914. doi : 10.1007/s12155-012-9204-4

Morin, C., Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R.R., and Allard, G. (2012). "Diurnal variations of nonstructural carbohydrates and nutritive value in timothy.", *Canadian Journal of Plant Science*, 92(5), pp. 883-887. doi : 10.4141/cjps2011-272

Morin, C., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R.R., and Allard, G. (2012). "Nonstructural Carbohydrate Concentration during Field Wilting of PM- and AM-Cut Alfalfa.", *Agronomy Journal*, 104(3), pp. 649-660. doi : 10.2134/agronj2011.0365

## 2011

Castonguay, Y., Dubé, M.-P., Cloutier, J., Michaud, R., Bertrand, A., and Laberge, S. (2011). "Intron-length polymorphism identifies a Y2K4 dehydrin variant linked to superior freezing tolerance in alfalfa.", *Theoretical and Applied Genetics (TAG)*, 124(5), pp. 809-819. doi : 10.1007/s00122-011-1735-0

Castonguay, Y., Bertrand, A., Michaud, R., and Laberge, S. (2011). "Cold-induced biochemical and molecular changes in alfalfa populations selectively improved for freezing tolerance.", *Crop Science*, 51(5), pp. 2132-2144. doi : 10.2135/cropsci2011.02.0060

Morin, C., Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R.R., and Allard, G. (2011). "Diurnal Variations of Nonstructural Carbohydrates and Nutritive Value in Alfalfa.", *Crop Science*, 51(3), pp. 1297-1306. doi : 10.2135/cropsci2010.07.0406

Bertrand, A., Castonguay, Y., Azaiez, A., and Dionne, J. (2011). "Cold-induced responses in annual bluegrass genotypes with differential resistance to pink snow mold (*Microdochium nivale*).", *Plant Science*, 180(1), pp. 111-119. doi : 10.1016/j.plantsci.2010.08.008

Dhont, C., Bertrand, A., Castonguay, Y., and Isabel, N. (2011). "Changes of carbon and nitrogen metabolites in white spruce (*Picea glauca* [Moench] Voss) of contrasted growth phenotypes.", *Trees - Structure and Function*, 25(4), pp. 711-723. doi : 10.1007/s00468-011-0549-7

## Other Science Related Publications:

### 2015

Messerli, J., Bertrand, A., Bélanger, G., Castonguay, Y., Tremblay, G.F., and Séguin, P. (2015). "Mélanges luzerne-fléole des prés : Résultats après deux saisons de croissance sous CO<sub>2</sub> et température élevés.", *Journée d'information scientifique sur les bovins laitiers et les plantes fourragères*, Drummondville, QC, Canada, 25 février 2015, Présentation.

### 2014

Castonguay, Y. and Bélanger, G. (2014). "Foliar freeze injury.", in *The American Phytopathological Society (ed.) - Compendium of alfalfa diseases (Third Edition)*, pp. 117-118.

Annicchiarico, P., Castonguay, Y., and Pecetti, L. (2014). "Improving alfalfa tolerance to abiotic stress.", *Legume Perspectives*, 4, pp. 23-34.

Castonguay, Y. and Bélanger, G. (2014). "Winter injury.", in *The American Phytopathological Society (ed.) - Compendium of alfalfa diseases (Third Edition)*, pp. 118-119.

Claessens, A., Chouinard-Michaud, C., Michaud, A.R., Tremblay, G.F., Bertrand, A., Bélanger, G., Castonguay, Y., Berthiaume, R.R., and Allard, G.C. (2014). "Nonstructural carbohydrates and some attributes of nutritive value in alfalfa as influenced by genetic selection.", North American Alfalfa Improvement Conference, Lethbridge, Alberta, Canada, July 6-11, 2014.

Bertrand, A., Renaut, J., Castonguay, Y., and Papadopoulos, Y.A. (2014). "A proteome analysis of subfreezing temperature tolerance in red clover (*Trifolium pratense*).", International Plant Cold Hardiness Seminar (IPCHS), Poznań, Poland, August 17-21, 2014.

Audy, P., Desgagnés, R., Claessens, A., and Castonguay, Y. (2014). "Nouvelle approche de sélection assistée par marqueurs dans le développement d'une luzerne plus résistante aux maladies.", Demi-journée d'information scientifique sur les fourrages 2012, Victoriaville, QC, Canada, February 12, 2014, Presentation, pp. 23-35.

Castonguay, Y., Rocher, S., Jean, M., Gagné, D., and Belzile, F.J. (2014). "Genotyping-by-sequencing to identify SNP markers that vary in frequency in response to recurrent selection for freezing tolerance in alfalfa.", Joint Conference of NAAIC, Trifolium, & Grass Breeders, Lethbridge, Alberta, Canada, July 8-10, 2014.

Audy, P., Castonguay, Y., Claessens, A., and Desgagnés, R. (2014). "SRAP polymorphisms associated with Phytophthora Root Rot (PRR) tolerance in alfalfa.", Joint Conference of NAAIC, Trifolium, & Grass Breeders, Lethbridge, Alberta, Canada, July 8-10, 2014.

Audy, P., Castonguay, Y., Claessens, A., and Desgagnés, R. (2014). "SRAP polymorphisms associated with Phytophthora Root Rot (PRR) tolerance in alfalfa.", North American Alfalfa Improvement Conference, Lethbridge, AB, Canada, July 8-10, 2014, Invited speaker.

Bélanger, G., Castonguay, Y., and Lajeunesse, J. (2014). "Une espèce fourragère c'est bien, mais deux c'est mieux.", Demi-journée d'information scientifique sur les fourrages, Victoriaville, QC, Canada, 12 février, 2014.

## 2013

Tremblay, G.F., Morin, C., Bélanger, G., Bertrand, A., Castonguay, Y., Michaud, R., Berthiaume, R.R., and Allard, G.C. (2013). "Increased sugar concentration with PM-cutting and wide swathing improves alfalfa silage fermentation.", Symposium de l'industrie laitière, Moncton, NB, Canada, November 13-14, 2013.

Berthiaume, R.R., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Michaud, R., Pelletier, S., Brito, A.F., Lafrenière, C., and Allard, G. (2013). "High quality forages: How sweet should they be?", Advances in Dairy Technology (Western Canadian Dairy Seminar Proceedings), 25, pp. 235-252.

Castonguay, Y., Claessens, A., Bertrand, A., and Audy, P. (2013). "Reaping the benefits of new breeding technologies to improve forage yield and quality.", Annual meeting of the "Canadian Forage Grassland Association", Olds, Alberta, Canada, December 9-11, 2013, Oral presentation.

Rocher, S., Jean, M., Castonguay, Y., and Belzile, F.J. (2013). "A genotype-by-sequencing analysis of genetic variations associated to superior freezing tolerance in alfalfa (*Medicago sativa* spp. *sativa* L.).", Canadian Society of Plant Biologists (CSPB), Québec, Canada, June 25-28, 2013. (Poster)

Tremblay, G.F., Morin, C., Bélanger, G., Bertrand, A., Castonguay, Y., Michaud, R., Berthiaume, R.R., and Allard, G.C. (2013). "Increased sugar concentration with PM-cutting and wide swathing improves alfalfa silage fermentation.", 22nd International Grassland Congress, September 15-19, 2013, pp. 766-767.

Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Berthiaume, R.R., Michaud, R., Pelletier, S., Morin, C., Lafrenière, C., and Allard, G.C. (2013). "Improving forage nonstructural carbohydrates through management and breeding.", 22nd International Grassland Congress, September 15-19, 2013, pp. 668-669.

Berthiaume, R.R., Brito, A.F., Tremblay, G.F., Bélanger, G., Lafrenière, C., Bertrand, A., Castonguay, Y., Michaud, R., and Allard, G.C. (2013). "High-sugar alfalfa for dairy cows.", 22nd International Grassland Congress, September 15-19, 2013, pp. 729-731.

Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Berthiaume, R.R., Michaud, R., Pelletier, S., Morin, C., Lafrenière, C., and Allard, G.C. (2013). "Improving forage nonstructural carbohydrates through management and breeding.", Symposium de l'industrie laitière, Moncton, NB, Canada, November 13-14, 2013.

Castonguay, Y., Michaud, J.-P., and Dubé, M.-P. (2013). "Identification of transcript-derived sequences associated to the acquisition of freezing tolerance in alfalfa (*Medicago sativa* spp. *Sativa* L.).", Canadian Society of Plant Biologists (CSPB), Québec, Canada, June 25-28, 2013. (Poster)

## 2012

Castonguay, Y., Dubé, M.-P., Cloutier, J., Michaud, R., Bertrand, A., and Laberge, S. (2012). "Intron-length polymorphism identifies a Y2K4 dehydrin variant linked to superior freezing tolerance in alfalfa (Erratum).", Theoretical and Applied Genetics (TAG), 124(5), pp. 821-824.

Bertrand, A., Bourassa, J., Bélanger, G., Mongrain, D., Tremblay, G.F., and Castonguay, Y. (2012). "Les hausses de températures et du CO<sub>2</sub> affecteront-elles la productivité des plantes fourragères?", Demi-journée d'information scientifique sur les fourrages 2012, Victoriaville, QC, Canada, February 21, 2012, pp. 32-33.

Berthiaume, R.R., Lafrenière, C., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Allard, G., Pellerin, D., Fournier, A., and Lefebvre, D.M. (2012). "Forages: Cows like them sweet!", Thunder Bay District Soil and Crop Improvement Association's Spring Farm Conference 2012, Thunder Bay, ON, Canada, April 11, 2012.

Tremblay, G.F., Berthiaume, R.R., Allard, G., Bertrand, A., Brito, A.F., Castonguay, Y., Chouinard-Michaud, C., Drapeau, R., Lafrenière, C., Lefebvre, D.M., Michaud, R., Pellerin, D., Fournier, A., Morin, C., and Pelletier, S. (2012). "Du fourrage su cré pour mieux performer.", Analyse de groupe de lait 2011 et valorisation des fourrages: Du champ au réservoir à lait, Hôtel du jardin, Saint-Félicien, QC, Canada, April 24, 2012, pp. 1-10.

Audy, P., Castonguay, Y., Claessens, A., and Desgagnés, R. (2012). "SRAP polymorphisms associated with Phytophthora Root Rot (PRR) resistance within two alfalfa genetic backgrounds.", 22nd Trifolium Conference & 41st Grass Breeders Conference, Ithaca, New York, USA, July 10-12, 2012. (Poster)

Brito, A.F., Régimbald, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Bélanger, G., Michaud, R., Lafrenière, C., and Berthiaume, R.R. (2012). "High-total nonstructural carbohydrates timothy enhanced performance of mid-lactation dairy cows.", Western Canadian Dairy Seminar, Red Deer, Alberta, Canada, 6-9 mars, 2012, WCDS Advances in Dairy Technology, Volume 24, Abstract, page 399.

Allard, G., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R.R., Pellerin, D., Lefebvre, D.M., and Fournier, A. (2012). "Production de fourrages riches en sucres pour améliorer les performances de la vache laitière.", Forum Technologique NOVALAIT / IDF Dairy Science and Technology Week 2012, Hôtel et Suites Le Dauphin, Drummondville, QC, Canada, May 29, 2012, P2012-01. (Abstract)

2011

Bertrand, A., Bélanger, G., Castonguay, Y., and Tremblay, G.F. (2011). "Temperature and CO<sub>2</sub> affect yield, root biomass, and nutritive value of Canadian tame and native forage species.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011, Abstract 68182. (Abstract)

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## Research Publications:

2015

Layberry, R.A., Catling, P.M., and Schmidt, B.C. (2015). "History of the northern silvery blue (*Glaucopsyche lygdamus couperi*) (Lepidoptera: Lycaenidae) in southern Ontario, Canada: separating range expansion from original populations and other subspecies.", *The Canadian Entomologist*, 147(1), pp. 59-70. doi: 10.4039/tce.2014.26

2014

Catling, P.M. and Layberry, R.A. (2014). "An alvar race of the *couperi* subspecies of the silvery blue (*Glaucopsyche lygdamus couperi*) in southeastern Ontario?", *Canadian Field Naturalist*, 127(3), pp. 224-228.

Mitrow, G., Catling, P.M., and Ward, A. (2014). "Preventing humidity and direct water damage in a dried plant collection (DAO).", *Botanical Electronic News*, 477, pp. 3-5.

Catling, P.M. and Kostiuk, B. (2014). "Use of a marsh dominated by the introduced European Lake Sedge, *Carex acutiformis*, by highly localized native butterflies.", *Canadian Field Naturalist*, 128(4), pp. 358-362.

Catling, P.M. (2014). "Impact of the 2014 drought on woody vegetation invading alvar grasslands in the Burnt Lands Alvar, eastern Ontario.", *Canadian Field Naturalist*, 128(3), pp. 243-249.

Catling, P.M. (2014). "Impact of the 2012 drought on woody vegetation invading alvar grasslands in the Burnt Lands Alvar, eastern Ontario.", *Canadian Field Naturalist*, 128(3), pp. 243-249.

Mitrow, G. and Catling, P.M. (2014). "Valuing and processing herbarium backlog.", *Botanical Electronic News*, 477, pp. 2-4.

Catling, P.M. (2014). "Vegetation restoration for open sandy habitats in the Ottawa Valley, Ontario, Canada, using richness, rarity, coefficients of conservatism, the floristic quality index and a case study from the Pinhey Dune.", *Biodiversity*, 15(2-3), pp. 73-87. doi: 10.1080/14888386.2014.932258

Mitrow, G., Catling, P.M., Kostiuk, B., and Brooke, B.M. (2014). "Kamloops Herbarium (ACK) transferred to AAFC National Collection of Vascular Plants (DAO). (<http://www.ou.edu/cas/botany-micro/ben/ben476.html>)", *Botanical Electronic News*, 476, pp. 2-4.

2013

Catling, P.M. (2013). "Can we create alvars or fully repair those damaged?", *Canadian Field Naturalist*, 127(1), pp. 97-101.

Catling, P.M. (2013). "Ecological and geographical separation of three varieties of *Sporobolus vaginiflorus* (Poaceae) in eastern Ontario.", *Canadian Field Naturalist*, 127(2), pp. 155-163.

Catling, P.M. (2013). "The cult of the Red Pine – a useful reference for the over-afforestation period of Ontario.", *Canadian Field Naturalist*, 127(2), pp. 198-199.

Reddoch, J.M., Catling, P.M., and Reddoch, A.H. (2013). "Great Plains Ladies-tresses, *Spiranthes magnicamporum*: Disjunct in eastern Ontario and a new orchid species for the Ottawa District and Lanark County.", *Canadian Field Naturalist*, 127(4), pp. 348-351.

Catling, P.M., McAlpine, D.F., Adam, C.I.G., Belliveau, G., Doucet, D., Fairweather, A.D., Malloch, D., Sabine, D.L., and Thomas, A.W. (2013). "New and noteworthy records of Orthoptera and allies in the Maritimes and the Îles-de-la-Madeleine, Quebec.", *Canadian Field Naturalist*, 127(4), pp. 332-337.

Catling, P.M. (2013). "Using coefficients of conservatism and the floristic quality index to assess the potential for serious and irreversible damage to plant communities.", *Canadian Field Naturalist*, 127(3), pp. 285-288.

2012

Freedman, W., Catling, P.M., and Lucas, Z. (2012). "Effects of Feral Horses on Vegetation of Sable Island, Nova Scotia.", *Canadian Field Naturalist*, 125(3), pp. 200-212.

2011

Hall, P.W., Catling, P.M., and Lafontaine, J.D. (2011). "Insects at Risk in the Prairie Region.", in Floate, K.D. (ed.) - Arthropods of Canadian Grasslands. Vol. 2: Inhabitants of a Changing Landscape, Biological Survey of Canada (BSC), Chapter 13, pp. 323-349.

Catling, P.M. and Oldham, M.J. (2011). "Recent expansion of *Spiranthes cernua* (Orchidaceae) into Northern Ontario due to climate change?", *Canadian Field Naturalist*, 125(1), pp. 34-40.

Catling, P.M. and Mitrow, G. (2011). "The Recent Spread and Potential Distribution of *Phragmites australis* subsp. *australis* in Canada.", *Canadian Field Naturalist*, 125(2), pp. 95-104.

Taylor, A.N. and Catling, P.M. (2011). "Bees and butterflies in burned and unburned alvar woodland: Evidence for the importance of postfire succession to insect pollinator diversity in an imperiled ecosystem.", *Canadian Field Naturalist*, 125(4), pp. 297-306.

## Other Science Related Publications:

2014

Freedman, W., Catling, P.M., Lucas, Z., Colville, D., and Lacoul, P. (2014). Vegetation of Sable Island., Canadian Parks Service. (Report)

Catling, P.M., Freedman, W., Lucas, Z., and Blaney, S. (2014). Vascular plants of Sable Island., Canadian Parks Service. (Report)

Freedman, W., Lucas, Z., Lacoul, P., and Catling, P.M. (2014). Chemistry of ponds on Sable Island., Canadian Parks Service. (Report)

Catling, P.K., Catling, P.M., Cayouette, J., Oldham, M.J., Ford, B., Hamel, C., and Friesen, C. (2014). "Canadian alvars and limestone barrens: areas of "Special Conservation Concern" for plants?", *Canadian Botanical Association Bulletin*, 47(1), pp. 9-11.

Catling, P.M., Mitrow, G., and Vasseur, L. (2014). "Major invasive alien plants of natural habitats in Canada, 8. Smooth Brome, *Bromus inermis* L.", *Canadian Botanical Association Bulletin*, 47(2), pp. 56-63.

Catling, P.M., Mitrow, G., and Ward, A. (2014). "Major invasive alien plants of natural habitats in Canada, 9. Reed Canarygrass, *Phalaris rosea* L.", *Canadian Botanical Association Bulletin*, 47(1), pp. 25-34.

Catling, P.M., Mitrow, G., and Ward, A. (2014). "The *Phragmites* database: New information on the spread, potential distribution, habitats, identification and problems with European Common Reed in the Canadian portion of the Great Lakes and across Canada.", *International Association for Great Lakes Research*, McMaster University, Hamilton, Canada. (Abstract)

Catling, P.M., Mitrow, G., and Ward, A. (2014). "Database Update - European Common Reed: Past, future, and identity.", *Canadian Botanical Association Annual Meeting 2014*, Montreal, Quebec, Canada. (Abstract)

Mitrow, G. and Catling, P.M. (2014). "Collections Sharing Strategic Information.", *AAFC Plant Gene Resources of Canada in Saskatoon*, University of Alberta herbarium (ALTA), Alberta provincial Museum herbarium (PMAE) and the University of Calgary herbarium (UAC), August 2014. (Abstract)

Mitrow, G., Catling, P.M., Cayouette, J., Macklin, J.A., Smith, T.W., and Ward, A. (2014). "Preventing humidity and direct water damage in a dried plant collection (DAO).", *The Society for Preservation of Natural History Collection (SPNHC)*, June 2014. (Poster)

Côté, M.J., Leduc, L., Kerr, D., Dollard, C., Blain, A., Catling, P.M., Mitrow, G., Martin, S.L., Smith, T.W., and Macklin, J.A. (2014). "Barcoding of Quarantine and invasive species in Canada: Invasive Plants.", *Weeds Across Borders*, Ottawa, Canada, October 2014. (Abstract)

Catling, P.M. (2014). "Review of Dickenson, R., and F. Royer, *Plants of southern Ontario, trees, shrubs, wildflowers, grasses, ferns and aquatic plants* (2014) Lone Pine Publishing. 527 pp." (Review)

Mitrow, G., Catling, P.M., Cayouette, J., Macklin, J.A., Smith, T.W., and Ward, A. (2014). *Annual Report of the AAFC National Collection of Vascular Plants (DAO Herbarium) and National Vascular Plant Identification Service (January – December 2013)*. Completed in May 2014. (Report)

Catling, P.M. and Mitrow, G. (2014). "Major Invasive Alien plants of Canada series now at number 10. <http://www.ou.edu/cas/botany-micro/ben/ben483.html#3>", *Botanical Electronic News*, 483.

## 2013

Catling, P.M. (2013). "New book: Eastern Alpine Guide (<http://www.ou.edu/cas/botany-micro/ben/ben463.html>).", Botanical Electronic News, 463.

Catling, P.M. and Mitrow, G. (2013). "Major invasive alien plants of natural habitats in Canada, 6. European Frog-Bit.", Canadian Botanical Association Bulletin, 46(1), pp. 13-18.

Catling, P.M. and Mitrow, G. (2013). "Major invasive alien plants of natural habitats in Canada, 7a. Japanese Knotweed, 7b. Giant Knotweed, 7c. Bohemian Knotweed, 7d. Himalayan Knotweed.", Canadian Botanical Association Bulletin, 46(2), pp. 53-60.

Catling, P.M., Mitrow, G., Small, E., Macklin, J.A., and Cayouette, J. (2013). "Examples of the value of The AAFC National Collection of Vascular Plants.", Bulletin technique soumis à la Direction du CRECO, 2013(Avril), pp. 9p.

Catling, P.M., Kostiuk, B., Brooke, B.M., and Wheatley, B. (2013). The Kamloops Herbarium at the AAFC Range Experiment Station, Kamloops, BC., Agriculture and Agri-Food Canada. (Report)

Mitrow, G., Catling, P.M., Cayouette, J., Macklin, J.A., and Ward, A. (2013). Annual Report – Vascular Plant Herbarium. (Report)

Mitrow, G. and Catling, P.M. (2013). "Valuing and processing collection backlog.", International Society for the Preservation of Natural History Collections Annual Meeting, Rapid City, South Dakota, USA, pp. 32. (Abstract)

Catling, P.M. (2013). "Regional Taxonomic studies of Amelanchier: 1. Morphological variation in Saskatoon, Amelanchier alnifolia in the Victoria region of southwestern Vancouver Island.", Davidsonia, 23(1), pp. 1-19.

Côté, M.J., Leduc, L., Kerr, D., Dollard, C., Catling, P.M., Mitrow, G., Martin, S.L., Smith, T.W., and Macklin, J.A. (2013). "Barcoding of Quarantine and Invasive Species in Canada: Invasive Plants. Co-operation project between the Canadian Food Inspection Agency – CFIA and AAFC (GRDI - Genomics Research and Development).", Plant Genome Evolution Meeting 2013, Amsterdam, The Netherlands, September 8-10, 2013. (Abstract)

## 2012

Small, E., Catling, P.M., and Brookes, B. (2012). Official Plant Emblems of Canada: A Biodiversity Treasure., Public Works and Government Services Canada (PWGSC) / Travaux publics et Services gouvernementaux Canada (TPSGC). (Book)

Small, E. and Catling, P.M. (2012). Canadian medicinal crops., NRC Research Press. (Book)

## 2011

Catling, P.M. and Mitrow, G. (2011). "How do you tell the real Christmas Mistletoe?", Botanical Electronic News, 444, pp. 1-2.

Mitrow, G. and Catling, P.M. (2011). "Evaluation of a collections network as a source of information on economically important plants.", Collection Forum, 26(1-2), pp. 70-87.

Catling, P.M. and Mitrow, G. (2011). "Major invasive alien plants of natural habitats in Canada. 2. Scotch Broom or Common Broom, genet à balais, *Cytisus scoparius* (L.) Link.", Canadian Botanical Association Bulletin, 44(3), pp. 90-99.

Catling, P.M. (2011). "History of improvement in insect pest control in the Canadian National Collection of Vascular Plants (DAO).", Botanical Electronic News, 443, pp. 2-6.

Consaul, L., Morgan, I., Charette, D., Catling, P.M., Kattuk, E., Kudlerokjr., S., Eklak, C., Tsujimoto, M., and Doubleday, N. (2011). "Traditional knowledge and botanical collections help study climate change effects in the southern arctic.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011, pp. 111. (Abstract)

Mitrow, G. and Catling, P.M. (2011). "Collection network, the best source of information on invasive alien plants. Annual Meeting of the International Society for the Preservation of Natural History Collections.", 4th Joint Meeting of the Society for the Preservation of Natural History Collections and the Natural Science Collections Alliance (NSCA), San Francisco, CA, USA, May 23-28, 2011, pp. 40. (Abstract)

Venn, J. and Catling, P.M. (2011). "Remembering John Morton (1928-2011).", Canadian Botanical Association Bulletin, 44(1), pp. 10-11.

Small, E. and Catling, P.M. (2011). "Native plant emblems of Canada - 15. Maples.", Canadian Botanical Association Bulletin, 44(1), pp. 17-32.

Catling, P.M. and Mitrow, G. (2011). "Major invasive alien plants of natural habitats in Canada. 1. European Common Reed, *Phragmites australis* (Cav.) Trin. Ex Steud. Subsp. *Australis*.", Canadian Botanical Association Bulletin, 44(2), pp. 52-61.

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## Research Publications :

2014

Léveillé-Bourret, É., Bailleul, S.M., Cayouette, J., and Joly, S. (2014). "Testing Hybridization Hypotheses with Morphometry: the Case of Eastern American Arctic Species of *Potentilla* sect. *Niveae* (Rosaceae).", *Systematic Botany*, 39(1), pp. 193-204. doi: 10.1600/036364414X678017

Cayouette, J. (2014). *À la découverte du Nord. Deux siècles et demi d'exploration de la flore nordique du Québec et du Labrador.* Éditions MultiMondes, Québec. 363 pages. (Book)

Cayouette, J. (2014). *À la découverte du Nord. Deux siècles et demi d'exploration de la., Canada: Éditions Multimondes inc.* (Book)

Cayouette, J. (2014). "Cinq oubliés du Nord québécois.", *Quatre-temps*, 38(2), pp. 29-35.

## Other Science Related Publications :

2014

Mitrow, G., Catling, P.M., Cayouette, J., Macklin, J.A., Smith, T.W., and Ward, A. (2014). Annual Report of the AAFC National Collection of Vascular Plants (DAO Herbarium) and National Vascular Plant Identification Service (January – December 2013). Completed in May 2014. (Report)

Mitrow, G., Catling, P.M., Cayouette, J., Macklin, J.A., Smith, T.W., and Ward, A. (2014). "Preventing humidity and direct water damage in a dried plant collection (DAO).", *The Society for Preservation of Natural History Collection (SPNHC)*, June 2014. (Poster)

Cayouette, J. (2014). "Une grande première au Québec : de l'ergotsur l'ammophile!", *La Corne d'Abondance*, 30(3), pp. 9-11.

Cayouette, J. (2014). Inventaire du site des botryches au chemin de la Montagne, parc de la Gatineau, en 2013. Rapport préparé pour la Commission de la capitale nationale (CCN), parc de la Gatineau, Québec. 5 p. (Report)

Asselin, A., Cayouette, J., and Mathieu, J. (2014). *Curieuses histoires de plantes du Canada. Tome 1.* Éditions du Septentrion, Québec. 250 pages. (Book)

Catling, P.K., Catling, P.M., Cayouette, J., Oldham, M.J., Ford, B., Hamel, C., and Friesen, C. (2014). "Canadian alvars and limestone barrens: areas of "Special Conservation Concern" for plants?", *Canadian Botanical Association Bulletin*, 47(1), pp. 9-11.

2013

Cayouette, J. (2013). Inventaire des plantes vasculaires rares à deux sites du parc de la Gatineau en 2012. Rapport préparé pour la Commission de la capitale nationale (CCN), parc de la Gatineau, Québec. 9 p. (Report)

Cayouette, J. (2013). "Contribution des moraves à la bryologie du Labrador.", *Carnets de bryologie*, 3, pp. 1-12.

Sabourin, A., Cayouette, J., Léveillé-Bourret, É., and Garon-Labrecque, M.-È. (2013). Inventaire des plantes vasculaires de la Réserve de biodiversité projetée du Mont-Sainte-Marie en 2012. Rapport préparé pour la Direction du patrimoine écologique et des parcs, Ministère du Développement durable, de l'Environnement, de la Faune et des Parcs du Québec. 34 p. (Report)

Catling, P.M., Mitrow, G., Small, E., Macklin, J.A., and Cayouette, J. (2013). "Examples of the value of The AAFC National Collection of Vascular Plants.", *Bulletin technique soumis à la Direction du CRECO*, 2013(Avril), pp. 9p.

Mitrow, G., Catling, P.M., Cayouette, J., Macklin, J.A., and Ward, A. (2013). Annual Report – Vascular Plant Herbarium. (Report)

2011

Cayouette, J. and Labrecque, J. (2011). "Le parc national du Bic: un site exceptionnel pour la diversité et la rareté des botryches (*Botrychium* spp.)", La recherche scientifique au parc national du Bic - II, Bic, QC, Canada, May 9, 2011, pp. 3.

Cayouette, J., Grenier, C., Lapointe, A., and Lynch, D. (2011). "Flore vasculaire et son importance régionale.", *FloraQuebeca*, pp. 14-50.

Cayouette, J. (2011). *Plantes vasculaires de la vallée de la rivière Sainte-Marguerite*. Document préparé pour la réalisation d'un rapport. (Report)

Vasseur, L. and Cayouette, J. (2011). "Obituaries. M. Albert Legault (1919-2011) / Mr. Albert Legault (1919-2011).", *Canadian Botanical Association Bulletin*, 44(1), pp. 8-10.

Sabourin, A., Cayouette, J., Paquette, D., and Labrecque, J. (2011). "Randonnée de l'Action de grâce 2010, en Outaouais.", *FloraQuebeca*, 16(1), pp. 2-4.



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## Research Publications:

2015

Cerkauskas, R.F. and Brown, J.R. (2015). "Aspects of the epidemiology and control of powdery mildew (*Oidium neolycopersici*) on tomato in Ontario, Canada.", *Canadian Journal of Plant Pathology*, 37(4), pp. 448-464. doi : 10.1080/07060661.2015.1113443

Cerkauskas, R.F., Ferguson, G.M., and MacNair, C. (2015). "Management of phytophthora blight (*Phytophthora capsici*) on vegetables in Ontario: some greenhouse and field aspects.", *Canadian Journal of Plant Pathology*, 37(3), pp. 285-304. doi : 10.1080/07060661.2015.1078411

2014

Cerkauskas, R.F. and Ferguson, G. (2014). "Management of powdery mildew (*Podosphaera xanthii*) on greenhouse cucumber in Ontario.", *Canadian Journal of Plant Pathology*, 36(1), pp. 22-37. doi : 10.1080/07060661.2013.878754

2011

Cerkauskas, R.F., Ferguson, G., and Banik, M. (2011). "Powdery mildew (*Leveillula taurica*) on greenhouse and field peppers in Ontario - host range, cultivar response and disease management strategies.", *Canadian Journal of Plant Pathology*, 33(4), pp. 485-498. doi : 10.1080/07060661.2011.619828

## Other Science Related Publications:

2015

Cerkauskas, R.F. (2015). Etiology and control of *Fusarium oxysporum* affecting greenhouse pepper. (Report)

Cerkauskas, R.F. (2015). "Etiology and control of *Fusarium oxysporum* affecting greenhouse pepper.", Presentation to Ontario Greenhouse Vegetable Growers, OGVG building, Leamington, ON, Canada, March 2015. (Presentation)

2013

Cerkauskas, R.F. (2013). "Phytophthora blight of field and greenhouse vegetables.", published by Agriculture and Agri-Food Canada. (Factsheet)

2012

Cerkauskas, R.F. and Ferguson, G. (2012). "Yellow Stem of Greenhouse Tomato.", Greenhouse vegetable growers at Essex Bounty of the County, Leamington, ON, November 2012. (Presentation)

Cerkauskas, R.F. and Ferguson, G. (2012). Yellow Stem of Greenhouse Tomato. Report to Ontario Greenhouse Vegetable Growers (OGVG). (Report)

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## Research Publications:

2015

Sura, S., Degenhardt, D., Cessna, A.J., Lamey, F.J., Olson, A.F., and McAllister, T.A. (2015). "Transport of three veterinary antimicrobials from feedlot pens via simulated rainfall runoff.", *Science of the Total Environment*, 521-522, pp. 191-199. doi: 10.1016/j.scitotenv.2015.03.080

Xu, S., Sura, S., Zaheer, R., Wang, G., Smith, A., Cook, S.R., Olson, A.F., Cessna, A.J., Lamey, F.J., and McAllister, T.A. (2015). "Dissipation of Antimicrobial Resistance Determinants in Composted and Stockpiled Beef Cattle Manure.", *Journal of Environmental Quality*. doi: 10.2134/jeq2015.03.0146

Cessna, A.J., Donald, D.B., Bailey, J., and Waiser, M.J. (2015). "Persistence of the sulfonylurea herbicides sulfosulfuron, rimsulfuron, and nicosulfuron in farm dugouts (ponds).", *Journal of Environmental Quality*, 44(6), pp. 1948-1955. doi: 10.2134/jeq2014.11.0503

Sura, S., Waiser, M.J., Tumber, V., Raina-Fulton, R., and Cessna, A.J. (2015). "Effects of a herbicide mixture on primary and bacterial productivity in four prairie wetlands with varying salinities: An enclosure approach.", *Science of the Total Environment*, 512-513, pp. 526-539. doi: 10.1016/j.scitotenv.2015.01.064

Gagnon, P., Sheedy, C., Farenhorst, A., Cessna, A.J., Newlands, N.K., and McQueen, R.D.A. (2015). "Environmental Sustainability of Canadian Agriculture: Agri-Environmental Indicator Report Series.", - Indicator of Risk of Water Contamination – Pesticides (IROWC-PEST), Agriculture and Agri-Food Canada, pp. 8 pages.

2014

Amarakoon, I.D., Zvomuya, F., Cessna, A.J., Degenhardt, D., Lamey, F.J., and McAllister, T.A. (2014). "Runoff Losses of Excreted Chlorotetracycline, Sulfamethazine, and Tylosin from Surface-Applied and Soil-Incorporated Beef Cattle Feedlot Manure.", *Journal of Environmental Quality*, 43, pp. 549-557. doi: 10.2134/jeq2013.02.0039

Gagnon, P., Sheedy, C., Farenhorst, A., McQueen, R.D.A., Cessna, A.J., and Newlands, N.K. (2014). "A coupled stochastic/deterministic model to estimate the evolution of the risk of water contamination by pesticides across Canada.", *Integrated Environmental Assessment and Management*, 10(3), pp. 429-436. doi: 10.1002/ieam.1533

Sura, S., Degenhardt, D., Cessna, A.J., Lamey, F.J., Olson, A.F., and McAllister, T.A. (2014). "Dissipation of three veterinary antimicrobials in beef cattle feedlot manure stockpiled over winter.", *Journal of Environmental Quality*, 43(3), pp. 1061-1070. doi: 10.2134/jeq2013.11.0455

Main, A.R., Headley, J.V., Peru, K.M., Michel, N.L., Cessna, A.J., and Morrissey, C.A. (2014). "Widespread use and frequent detection of neonicotinoid insecticides in wetlands of Canada's prairie pothole region.", *PLoS ONE*, 9(6): e101400. doi: 10.1371/journal.pone.0092821

de Lafontaine, Y., Beauvais, C., Cessna, A.J., Gagnon, P., Hudon, C., and Poissant, L. (2014). "Sulfonylurea herbicides in an agricultural catchment basin and its adjacent wetland in the St. Lawrence River basin.", *Science of the Total Environment*, 479-480(1), pp. 1-10. doi: 10.1016/j.scitotenv.2014.01.094

2012

Glozier, N.E., Struger, J., Cessna, A.J., Gledhill, M., Rondeau, M., Ernst, W.R., Sekela, M.A., Cagampan, S.J., Sverko, E., Murray, J.L., Murphy, C., and Donald, D.B. (2012). "Occurrence of glyphosate and acidic herbicides in select urban rivers and streams in Canada, 2007.", *Environmental Science and Pollution Research*, 19(3), pp. 821-834. doi: 10.1007/s11356-011-0600-7

Cessna, A.J., Elliott, J.A., and Bailey, J. (2012). "Leaching of Three Imidazolinone Herbicides during Sprinkler Irrigation.", *Journal of Environmental Quality*, 41(3), pp. 882-892. doi: 10.2134/jeq2011.0198

Degenhardt, D., Humphries, D., Cessna, A.J., Messing, P., Badiou, P.H., Raina, R., Farenhorst, A., and Pennock, D.J. (2012). "Dissipation of glyphosate and aminomethylphosphonic acid in water and sediment of two Canadian prairie wetlands.", *Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Wastes*, 47(7), pp. 631-639. doi: 10.1080/03601234.2012.668459

2011

Cessna, A.J., Waite, D.T., Bailey, J., Kerr, L.A., and Quiring, D.V. (2011). "Desorption of herbicides from atmospheric particulates during high-volume air sampling.", *Atmosphere*, 2(4), pp. 671-687. doi : 10.3390/atmos2040671

Cessna, A.J., Lamey, F.J., Kuchta, S.L., Hao, X., Entz, T., Topp, E., and McAllister, T.A. (2011). "Veterinary antimicrobials in feedlot manure: dissipation during composting, effects on composting processes and extent in ground water.", *Journal of Environmental Quality*, 40(1), pp. 188-198. doi : 10.2134/jeq2010.0079

Degenhardt, D., Cessna, A.J., Raina, R., Farenhorst, A., and Pennock, D.J. (2011). "Dissipation of six acid herbicides in water and sediment of two Canadian Prairie wetlands.", *Environmental Toxicology and Chemistry*, 30(9), pp. 1982-1989. doi : 10.1002/etc.598

Hao, X., Xu, S., Lamey, F.J., Stanford, K.I.M., Cessna, A.J., and McAllister, T.A. (2011). "Inclusion of antibiotics in feed alters greenhouse gas emissions from feedlot manure during composting.", *Nutrient Cycling in Agroecosystems*, 89(2), pp. 257-267. doi : 10.1007/s10705-010-9391-3

## Other Science Related Publications:

2015

McAllister, T.A., Sura, S., Lamey, F.J., Cessna, A.J., Amarakoon, I.D., Tymensen, L.D., Charest, J., Olson, A.F., Headley, J.V., and Zvomuya, F. (2015). "The Fate of Antimicrobial Residues in Livestock Manure.", *Manure Management Update 2015*, Lethbridge, AB, Canada, January 19, 2015.

2014

Amarakoon, I.D., Sura, S., Zvomuya, F., Cessna, A.J., Lamey, F.J., and McAllister, M. (2014). "Microwave-assisted extraction of chlortetracycline, sulfamethazine and tylosin. Abstr. Poster presentation.", 57th Annual Manitoba Soil Science Society Conference, Winnipeg, Manitoba, Canada, February 6-7, 2014.

Amarakoon, I.D., Zvomuya, F., Sura, S., Lamey, F.J., Cessna, A.J., and McAllister, T.A. (2014). "Persistence of excreted veterinary antimicrobials in soils amended with beef cattle manure.", *Manitoba Environmental Industries Association*, Winnipeg, Canada.

Sura, S., Degenhardt, D., Peru, K.M., Bailey, J., Cessna, A.J., Lamey, F.J., McAllister, T.A., and Headley, J.V. (2014). "Analysis of veterinary antimicrobials in stockpiled feedlot manure using LC-ESI/MS/MS.", 62nd American Society Mass Spectrometry Conference, Baltimore, MD, USA, June 15-19, 2014, Poster. (Abstract)

Xu, S., Sura, S., Wang, G.P., Smith, A.M., Zaheer, R., Cook, S.R., Olson, A.F., Cessna, A.J., Lamey, F.J., and McAllister, T.A. (2014). "Degradation of antimicrobial resistance determinants during windrow composting and stockpiling of manure from cattle administered sub-therapeutic antimicrobials.", XVth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada, July 27-August 1, 2014.

Amarakoon, I.D., Sura, S., Zvomuya, F., Lamey, F.J., Cessna, A.J., and McAllister, T.A. (2014). "Dissipation of chlortetracycline, sulfamethazine and tylosin in manure-amended soil following field application of beef cattle manure.", *EmCon 2014: 4th Int. Conf. on Occurrence, Fate, Effects & Analysis of Emerging Contaminants in the Environment*, Iowa City, IA, USA, August 19-22, 2014. (Abstract)

Sura, S., Degenhardt, D., Cessna, A.J., Lamey, F.J., Olson, A.F., and McAllister, T.A. (2014). "Transport of three veterinary antimicrobials from feedlot pens via simulated rainfall runoff.", *SETAC North America 35th Annual Meeting*, Society of Environmental Toxicology and Chemistry (SETAC), Vancouver, BC, Canada, November 9-13, 2014, Oral Presentation.

Sura, S., Degenhardt, D., Cessna, A.J., Lamey, F.J., Olson, A.F., and McAllister, T.A. (2014). "Transport of three veterinary antimicrobials in combined surface runoff and leachate from windrows of composting cattle manure.", *SETAC North America 35th Annual Meeting*, Society of Environmental Toxicology and Chemistry (SETAC), Vancouver, BC, Canada, November 9-13, 2014. (Poster)

2013

Sura, S., Degenhardt, D., Peru, K.M., Bailey, J., Cessna, A.J., Lamey, F.J., McAllister, T.A., and Headley, J.V. (2013). "Analysis of veterinary antimicrobials in stockpiled feedlot manure using LC-ESI/MS/MS.", 26th Tandem Mass Spectrometry Workshop, Lake Louise, AB, Canada, December 4-7, 2013. (Poster)

Sura, S., Degenhardt, D., Cessna, A.J., Lamey, F.J., Olson, A.F., and McAllister, T.A. (2013). "Transport of three veterinary antimicrobials from feedlot pens via simulated rainfall runoff.", 40th Aquatic Toxicology Workshop, Moncton, NB, Canada, October 6-9, 2013.

Amarakoon, I.D., Sura, S., Zvomuya, F., McAllister, T.A., Lamey, F.J., Degenhardt, D., Cessna, A.J., and Xu, S. (2013). "Degradation kinetics of spiked vs. excreted chlortetracycline, sulfamethazine and tylosin during composting of beef cattle manure.", Canadian Society of Soil Science-Manitoba Soil Science Soc.-Can. Soc. Agric. Forest Meteorology Joint Ann. Meeting, Winnipeg, MB, Canada, July 22-25, 2013. (Abstract)

## 2012

Amarakoon, I.D., Sura, S., Degenhardt, D., Zvomuya, F., McAllister, T.A., Lamey, F.J., and Cessna, A.J. (2012). "Dissipation of fortified vs. excreted chlortetracycline, sulfamethazine and tylosin during composting of beef cattle manure.", 55th Annual Manitoba Soil Science Society Meeting, Winnipeg, MB, Canada, February 2-3, 2012. (Poster)

Amarakoon, I.D., Sura, S., Degenhardt, D., Zvomuya, F., McAllister, T.A., Lamey, F.J., and Cessna, A.J. (2012). "Degradation of veterinary antimicrobials during composting of manure containing excreted antimicrobials vs. manure spiked with antimicrobials.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012, Oral presentation, pp. 52.

Amarakoon, I.D., Sura, S., Degenhardt, D., Zvomuya, F., McAllister, T.A., Lamey, F.J., and Cessna, A.J. (2012). "Microwave-assisted extraction of chlortetracycline, sulfamethazine and tylosin from cattle manure.", 47th Annual Western Canada Trace Organic Workshop, Saskatoon, SK, Canada, April 22-25, 2012. (Abstract)

Amarakoon, I.D., Sura, S., Degenhardt, D., Zvomuya, F., McAllister, T.A., Lamey, F.J., and Cessna, A.J. (2012). "Dissipation of Fortified vs. Cattle Excreted Chlortetracycline, Sulfamethazine and Tylosin During Manure Composting.", Canadian Society of Soil Science and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) are organizing the joint conference, Manoir St-Castin, Lac Beauport, Quebec, Canada, June 3-7, 2012.

## 2011

Degenhardt, D., Lamey, F.J., Cessna, A.J., Sura, S., Olson, A.F., and McAllister, T.A. (2011). "Dissipation of three veterinary antimicrobials in feedlot manure stockpiles.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Abstract)

Amarakoon, I.D., Zvomuya, F., Degenhardt, D., Cessna, A.J., McAllister, T.A., Lamey, F.J., and Farenhorst, A. (2011). "Antimicrobial transport in simulated rainfall runoff from cropland amended with solid beef cattle manure.", 3rd International Conference on Occurrence, Fate, Effects and Analysis of Emerging Contaminants in the Environment, Copenhagen, Denmark, August 23-26, 2011. (Poster)

Amarakoon, I.D., Zvomuya, F., Degenhardt, D., Cessna, A.J., Lamey, F.J., and McAllister, T.A. (2011). "Antimicrobial transport in simulated rainfall runoff from cropland amended with solid beef cattle manure.", 46th Annual Western Canada Trace Organic Workshop, Edmonton, AB, Canada, May 8-11, 2011. (Abstract)

Lamey, F.J., Cessna, A.J., and McAllister, T.A. (2011). "Composting effects on antibiotic in feedlot manure.", County of Lethbridge Newsletter, 2011 (Winter).

Lamey, F.J., Cessna, A.J., Kuchta, S.L., Hao, X., Entz, T., Topp, E., and McAllister, T.A. (2011). "Composting effects on antibiotics in feedlot manure.", Manure Management Update 2011, Lethbridge, AB, Canada, January 17, 2011, pp. 46-54.

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## Research Publications:

2016

Haddad, L.E., Roy, J.-P., Khalil, G.E., St-Gelais, D., Champagne, C.P., Labrie, S., and Moineau, S. (2016). "Efficacy of two Staphylococcus aureus phage cocktails in cheese production.", *International Journal of Food Microbiology*, 217, pp. 7-13. doi : 10.1016/j.ijfoodmicro.2015.10.001

Famworth, E.R. and Champagne, C.P. (2016). "Production of probiotic cultures and their incorporation into foods.", in Watson, R.R. and Preedy, V.R. (eds.) - *Bioactive foods in promoting health: probiotics and prebiotics*, Elsevier Inc. Academic Press, Chapter 20, pp. 303-318.

2015

Champagne, C.P., Raymond, Y., Guertin, N., Martoni, C.J., Jones, M.L., Mainville, I., and Arcand, Y. (2015). "Impact of a yogurt matrix and cell microencapsulation on the survival of Lactobacillus reuteri in three in vitro gastric digestion procedures.", *Beneficial Microbes*, 6(5), pp. 753-763. doi : 10.3920/BM2014.0162

Champagne, C.P., Raymond, Y., Guertin, N., and Bélanger, G. (2015). "Effects of storage conditions, microencapsulation and inclusion in chocolate particles on the stability of probiotic bacteria in ice cream.", *International Dairy Journal*, 47, pp. 109-117. doi : 10.1016/j.idairyj.2015.03.003

Stratulat, I., Britten, M., Salmieri, S., Fustier, P., St-Gelais, D., Champagne, C.P., and Lacroix, M. (2015). "Enrichment of cheese with vitamin D3 and vegetable omega-3.", *Journal of Functional Foods*, 13, pp. 300-307. doi : 10.1016/j.jff.2015.01.004

Raymond, Y. and Champagne, C.P. (2015). "The use of flow cytometry to accurately ascertain total and viable counts of Lactobacillus rhamnosus in chocolate.", *Food Microbiology*, 46, pp. 176-183. doi : 10.1016/j.fm.2014.07.002

2014

Stratulat, I., Britten, M., Salmieri, S., Fustier, P., St-Gelais, D., Champagne, C.P., and Lacroix, M. (2014). "Enrichment of cheese with bioactive lipophilic compounds.", *Journal of Functional Foods*, 6(1), pp. 48-59. doi : 10.1016/j.jff.2013.11.023

Robitaille, G. and Champagne, C.P. (2014). "Growth-promoting effects of pepsin- and trypsin-treated caseinomacropeptide from bovine milk on probiotics.", *Journal of Dairy Research*, 81(3), pp. 319-324. doi : 10.1017/S0022029914000247

Amine, K.M., Champagne, C.P., Raymond, Y., St-Gelais, D., Britten, M., Fustier, P., Salmieri, S., and Lacroix, M. (2014). "Survival of microencapsulated Bifidobacterium longum in Cheddar cheese during production and storage.", *Food Control*, 37(1), pp. 193-199. doi : 10.1016/j.foodcont.2013.09.030

Champagne, C.P., Raymond, Y., Pouliot, Y., Gauthier, S.F., and Lessard, M. (2014). "Effect of bovine colostrum, cheese whey, and spray-dried porcine plasma on the in vitro growth of probiotic bacteria and Escherichia coli.", *Canadian Journal of Microbiology*, 60(5), pp. 287-295. doi : 10.1139/cjm-2014-0130

Liu, X., Champagne, C.P., Lee, B.-H., Boye, J.I., and Casgrain, M. (2014). "Thermostability of probiotics and their  $\alpha$ -galactosidases, and the potential for bean processing.", *Biotechnology Research International*, 2014(Article ID 472723). doi : 10.1155/2014/472723

Amine, K.M., Champagne, C.P., Salmieri, S., Britten, M., St-Gelais, D., Fustier, P., and Lacroix, M. (2014). "Effect of palmitoylated alginate microencapsulation on viability of Bifidobacterium longum during freeze-drying", *Food Science & Technology (London)*, 56(1), pp. 111-117. doi : 10.1016/j.lwt.2013.11.003

Raymond, Y. and Champagne, C.P. (2014). "Dissolution of lipid-based matrices in simulated gastro-intestinal solutions to evaluate their potential for the encapsulation of bioactive ingredients for foods.", *International Journal of Food Science and Technology*, 2014(Article ID 749630). doi : 10.1155/2014/749630

Champagne, C.P. (2014). "Development of fermented milk products containing probiotics.", in Ozer, B. & Akdemir-Evrendilek, G. (eds.) - *Dairy Microbiology and Biochemistry: Recent Developments*, CRC Press Taylor, Boca Raton, FL, USA, Chapter 9, pp. 214-244.

Jedidi, H., Champagne, C.P., Raymond, Y., Farnworth, E.R., Van Calsteren, M.-R., Chouinard, P.Y., and Fliss, I. (2014). "Effect of milk enriched with conjugated linoleic acid and digested in a simulator (TIM-1) on the viability of probiotic bacteria.", *International Dairy Journal*, 37(1), pp. 20-25. doi: 10.1016/j.idairyj.2014.02.006

## 2013

Giroux, H.J., De Grandpré, G., Fustier, P., Champagne, C.P., St-Gelais, D., Lacroix, M., and Britten, M. (2013). "Production and characterization of Cheddar-type cheese enriched with green tea extract.", *Dairy Science & Technology*, 93(3), pp. 241-254. doi: 10.1007/s13594-013-0119-4

Lacroix, N., St-Gelais, D., Champagne, C.P., and Vuillemand, J.-C. (2013). "Gamma-aminobutyric acid-producing abilities of lactococcal strains isolated from old-style cheese starters.", *Dairy Science & Technology*, 93(3), pp. 315-327. doi: 10.1007/s13594-013-0127-4

Giroux, H.J., Constantineau, S., Fustier, P., Champagne, C.P., St-Gelais, D., Lacroix, M., and Britten, M. (2013). "Cheese fortification using water-in-oil-in-water double emulsions as carrier for water soluble nutrients.", *International Dairy Journal*, 29(2), pp. 107-114. doi: 10.1016/j.idairyj.2012.10.009

Pouliot-Mathieu, K., Gardner-Fortiera, C., Lemieux, S., St-Gelais, D., Champagne, C.P., and Vuillemand, J.-C. (2013). "Effect of cheese containing gamma-aminobutyric acid-producing lactic acid bacteria on blood pressure in men.", *PharmaNutrition*, 1(4), pp. 141-148. doi: 10.1016/j.phanu.2013.06.003

Zare, F., Boye, J.I., Champagne, C.P., Orsat, V., and Simpson, B.K. (2013). "Probiotic Milk Supplementation with Pea Flour: Microbial and Physical Properties.", *Food and Bioprocess Technology*, 6(5), pp. 1321-1331. doi: 10.1007/s11947-012-0828-3

Gaudreau, H., Champagne, C.P., Remondetto, G., Bazinet, L., and Subirade, M. (2013). "Effect of catechins on the growth of oxygen-sensitive probiotic bacteria.", *Food Research International*, 53(2), pp. 751-757. doi: 10.1016/j.foodres.2012.10.014

Lacroix, M., Han, J., Britten, M., Champagne, C.P., and Fustier, P. (2013). "Cheese Fortification.", in Victor, R.S., Preedy, R. and Patel, V.B. (eds.) - *Handbook of Food Fortification and Health - From Concepts to Public Health Applications Vol. 2*, Springer London, pp. 71-86.

Champagne, C.P. (2013). "Algal hydrocolloids for the production and delivery of probiotic bacteria.", in Dominguez, H. (ed.) - *Functional ingredients from algae for foods and nutraceuticals*, Elsevier, pp. 671-693.

Gardner-Fortiera, C., St-Gelais, D., Champagne, C.P., and Vuillemand, J.-C. (2013). "Determination of optimal conditions for gamma-aminobutyric acid production by *Lactococcus lactis* ssp. *Lactis*.", *International Dairy Journal*, 32(2), pp. 136-143. doi: 10.1016/j.idairyj.2013.03.013

Stratulat, I., Britten, M., Salmieri, S., St-Gelais, D., Champagne, C.P., Fustier, P., and Lacroix, M. (2013). "Encapsulation of coenzyme Q10 in a simple emulsion-based nutraceutical formulation and application in cheese manufacturing", *Food Chemistry*, 141(3), pp. 2707-2712. doi: 10.1016/j.foodchem.2013.05.057

## 2012

Zare, F., Champagne, C.P., Simpson, B.K., Orsat, V., and Boye, J.I. (2012). "Effect of the addition of pulse ingredients to milk on acid production by probiotic and yogurt starter cultures.", *Food Science and Technology - LWT*, 45(2), pp. 155-160. doi: 10.1016/j.lwt.2011.08.012

Zare, F., Orsat, V., Champagne, C.P., Simpson, B.K., and Boye, J.I. (2012). "Microbial and physical properties of probiotic fermented milk supplemented with lentil flour.", *Journal of Food Research*, 1(1), pp. 94-109. doi: 10.5539/jfr.v1n1p94

Champagne, C.P., Raymond, Y., and Simon, J.-P. (2012). "Effect of water activity and protective solutes on growth and subsequent survival to air-drying of *Lactobacillus* and *Bifidobacterium* cultures.", *Applied Microbiology and Biotechnology*, 95(3), pp. 745-756. doi: 10.1007/s00253-012-3912-8

## 2011

Champagne, C.P., Ross, R.P., Saarela, M., Hansen, K.F., and Charalampopoulos, D. (2011). "Recommendations for the viability assessment of probiotics as concentrated cultures and in food matrices.", *International Journal of Food Microbiology*, 149(3), pp. 185-193. doi: 10.1016/j.ijfoodmicro.2011.07.005

Fortin, M.-H., Champagne, C.P., St-Gelais, D., Britten, M., Fustier, P., and Lacroix, M. (2011). "Viability of *Bifidobacterium longum* in cheddar cheese curd during manufacture and storage: Effect of microencapsulation and point of inoculation.", *Dairy Science & Technology*, 91(5), pp. 599-614. doi: 10.1007/s13594-011-0034-5

Champagne, C.P., Achary, A.A., and Prapulla, S.G. (2011). "Technology and Stability of Probiotics in Probiotic and Prebiotic Vegetable Foods.", in Shah, N.P., da Cruz, A.G., and de Assis Fonseca Faria, J. (eds.) - *Probiotic and Prebiotic Foods: Technology, Stability and Benefits to Human Health*. Series: *Advances in Food Safety and Food Microbiology*, Nova Science Publishers Inc, Chapter 14, pp. 365-404.

Masotti, A.I., Buckley, N.D., Champagne, C.P., and Green-Johnson, J.M. (2011). "Immunomodulatory bioactivity of soy and milk ferments on monocyte and macrophage models.", *Food Research International*, 44(8), pp. 2475-2481. doi : 10.1016/j.foodres.2011.02.004

Zare, F., Boye, J.I., Orsat, V., Champagne, C.P., and Simpson, B.K. (2011). "Microbial, physical and sensory properties of yogurt supplemented with lentil flour.", *Food Research International*, 44(8), pp. 2482-2488. doi : 10.1016/j.foodres.2011.01.002

Fortin, M.-H., Champagne, C.P., St-Gelais, D., Britten, M., Fustier, P., and Lacroix, M. (2011). "Effect of time of inoculation, starter addition, oxygen level and salting on the viability of probiotic cultures during Cheddar cheese production.", *International Dairy Journal*, 21(2), pp. 75-82. doi : 10.1016/j.idairyj.2010.09.007

Kailasapathy, K. and Champagne, C.P. (2011). "Some current food products with microencapsulated probiotics.", *Agro Food Industry Hi-Tech*, 22(2), pp. 54-56.

Han, J., Britten, M., St-Gelais, D., Champagne, C.P., Fustier, P., Salmieri, S., and Lacroix, M. (2011). "Effect of polyphenolic ingredients on physical characteristics of cheese.", *Food Research International*, 44(1), pp. 494-497. doi : 10.1016/j.foodres.2010.10.026

Han, J., Britten, M., St-Gelais, D., Champagne, C.P., Fustier, P., Salmieri, S., and Lacroix, M. (2011). "Polyphenolic compounds as functional ingredients in cheese.", *Food Chemistry*, 124(4), pp. 1589-1594. doi : 10.1016/j.foodchem.2010.08.021

## Other Science Related Publications:

### 2014

Gaudreau, H., Champagne, C.P., Remondetto, G., and Subirade, M. (2014). "Lipid modification in *Lactobacillus* cells in response to oxygen and green tea extract exposure.", 17th World Congress of Food Science & Technology (IUFOST 2014), Montréal, Québec, Canada, August 17-21, 2014. (Poster)

Champagne, C.P. (2014). "Encapsulated probiotic bacteria: one protection system is probably not enough. Bioencapsulation innovations.", *Bioencapsulation Research Group (BRG) Newsletter*, 2014(4), pp. 4-5.

Champagne, C.P. (2014). "Encapsulated probiotic bacteria in supplements and foods. Bioencapsulation innovations.", *Bioencapsulation Research Group (BRG) Newsletter*, 2014(4), pp. 18-19.

### 2012

Champagne, C.P. and Zare, F. (2012). "Biochemistry and probiotics.", in Simpson, B.K. (ed.) - *Food Biochemistry and Food Processing*. 2nd Edition, Wiley - Blackwell, Chapter 35, pp. 675-685.

Champagne, C.P., Raymond, Y., and Guertin, N. (2012). "Encapsulation of probiotics for cereal bars. XXth International Conference on Bioencapsulation.", 20th International Conference on Bioencapsulation, Orillia, ON, Canada, September 21-24, 2012.

Champagne, C.P. (2012). "Microencapsulation of probiotics in food: Challenges and future prospects (Editorial).", *Therapeutic Delivery*, 3(11), pp. 1249-1251.

### 2011

Masotti, A.I., Buckley, N.D., Champagne, C.P., Tompkins, T.A., and Green-Johnson, J.M. (2011). "Effects of soy and dairy ferments on monocyte viability, cytokine production and cell surface molecule expression: Impact in a low-shear modeled microgravity system.", 61st International Astronautical Congress 2010 (IAC 2010), Prague Congress Centre, Prague, Czech Republic, September 27-October 1, 2010, Paper No.: IAC-10.A1.7.8.

Kailasapathy, K. and Champagne, C.P. (2011). "Fermentation and manufacture of probiotic-enriched yogurt.", in Kailasapathy, K., Champagne, C., and Moore, S. (eds.) - *Synbiotic Yoghurt - A Smart Gut Food: Science, Technology and Applications*, Nova Science Publishers Inc, Chapter 3, pp. 29-47.

Kailasapathy, K. and Champagne, C.P. (2011). "Probiotics and probiotic yoghurts and health benefits.", in Kailasapathy, K., Champagne, C., and Moore, S. (eds.) - *Synbiotic Yoghurt - A Smart Gut Food: Science, Technology and Applications*, Nova Science Publishers Inc, Chapter 4, pp. 49-79.

Kailasapathy, K., Champagne, C.P., and Moore, S. (Eds.) (2011). *Synbiotic Yoghurt - A Smart Gut Food: Science, Technology and Applications*, Nova Science Publishers Inc. (Book)

Champagne, C.P., Raymond, Y., Mainville, I., Arcand, Y., Do, C.B., and Bélanger, G. (2011). "The effect of encapsulation technologies on the stability of *Lactobacillus rhamnosus* in ice cream during storage and in a simulated gastro-enteric environment.", *Plant Bioactives Research in Canada. Canada-United Kingdom Gut and Health Workshop, AAFC-FRDC / AAC-CRDA, Saint-Hyacinthe, QC, Canada, February 24-25, 2011. (Poster)*

Kailasapathy, K. and Champagne, C.P. (2011). "Soy yoghurts-synbiotic effects and nutritional benefits.", in Kailasapathy, K., Champagne, C., and Moore, S. (eds.) - Synbiotic Yoghurt - A Smart Gut Food: Science, Technology and Applications, Nova Science Publishers Inc, Chapter 7, pp. 117-133.



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## Research Publications:

2015

Hu, F., Fu, S., Huang, J., Anderson, D.P., and Chang, P.R. (2015). "Structure and Properties of Polysaccharide Nanocrystals.", in Huang, J., Chang, P.R., Lin, N. and Dufresne, A. (eds.) - Polysaccharide-Based Nanocrystals: Chemistry and Applications, Wiley - Blackwell, pp. 15-62.

Yu, H.-Y., Huang, J., and Chang, P.R. (2015). "Surface grafting of cellulose nanowhisker.", in Thakur, V.K. (ed.) - Cellulose-Based Graft Copolymers: Structure and Chemistry, CRC Press, Chapter 22, pp. 497-517.

Liu, X., Chang, P.R., Zheng, P., Anderson, D.P., and Ma, X. (2015). "Porous cellulose facilitated by ionic liquid [BMIM]Cl: fabrication, characterization, and modification.", *Cellulose*, 22(1), pp. 709-715. doi : 10.1007/s10570-014-0467-0

Huang, J., Chang, P.R., Lin, N., and Dufresne, A. (Eds.) (2015). Polysaccharide-Based Nanocrystals: Chemistry and Applications., Wiley - Blackwell. doi: 10.1002/9783527689378 (Book)

Yu, H.-Y., Huang, J., Chen, Y., and Chang, P.R. (2015). "Preparation of Polysaccharide Nanocrystal-Based Nanocomposites.", in Huang, J., Chang, P.R., Lin, N. and Dufresne, A. (eds.) - Polysaccharide-Based Nanocrystals: Chemistry and Applications, Wiley - Blackwell, pp. 109-164.

Wang, N., Chang, P.R., Zheng, P., and Ma, X. (2015). "Carbon nanotube-cyclodextrin adducts for electrochemical recognition of tartaric acid.", *Diamond and Related Materials*, 55(Article number 6391), pp. 117-122. doi : 10.1016/j.diamond.2015.03.017

Hu, F., Lin, N., Chang, P.R., and Huang, J. (2015). "Reinforcement and nucleation of acetylated cellulose nanocrystals in foamed polyester composites.", *Carbohydrate Polymers*, 129, pp. 208-215. doi : 10.1016/j.carbpol.2015.04.061

Zheng, P., Du, Y., Chang, P.R., and Ma, X. (2015). "Amylose-halloysite-TiO<sub>2</sub> composites: Preparation, characterization and photodegradation.", *Applied Surface Science*, 329, pp. 256-261. doi : 10.1016/j.apsusc.2014.12.158

Ma, X., Liu, X., Anderson, D.P., and Chang, P.R. (2015). "Modification of porous starch for the adsorption of heavy metal ions from aqueous solution.", *Food Chemistry*, 181, pp. 133-139. doi : 10.1016/j.foodchem.2015.02.089

Lu, Y., Chang, P.R., Zheng, P., and Ma, X. (2015). "Porous 3D network rectorite/chitosan gels: Preparation and adsorption properties.", *Applied Clay Science*, 107, pp. 21-27. doi : 10.1016/j.clay.2015.01.020

Wang, F., Chang, P.R., Zheng, P., and Ma, X. (2015). "Monolithic porous rectorite/starch composites: Fabrication, modification and adsorption.", *Applied Surface Science*, 349, pp. 251-258. doi : 10.1016/j.apsusc.2015.05.013

Huang, J., Chen, Y., and Chang, P.R. (2015). "Surface Modification of Cellulose Nanocrystals for Nanocomposites.", in Thakur, V.K. and Singha, A.S. (eds.) - Surface Modification of Biopolymers, Wiley-Scrivener, Chapter 11, pp. 258-290.

Huang, J., Chang, P.R., and Dufresne, A. (2015). "Polysaccharide Nanocrystals: Current Status and Prospects in Material Science.", in Huang, J., Chang, P.R., Lin, N. and Dufresne, A. (eds.) - Polysaccharide-Based Nanocrystals: Chemistry and Applications, Wiley - Blackwell, pp. 1-14.

2014

Ma, T., Chang, P.R., Zheng, P., Zhao, F., and Ma, X. (2014). "Porous graphene gels: preparation and its electrochemical properties.", *Materials Chemistry and Physics*, 146(3), pp. 446-451. doi : 10.1016/j.matchemphys.2014.03.051

Cheng, J., Chang, P.R., Zheng, P., and Ma, X. (2014). "Characterization of magnetic carbon nanotube-cyclodextrin composite and its adsorption of dye.", *Industrial & Engineering Chemistry Research*, 53(4), pp. 1415-1421. doi : 10.1021/ie402658x

Ma, T., Chang, P.R., Zheng, P., Zhao, F., and Ma, X. (2014). "Fabrication of ultra-light graphene-based gels and their adsorption of methylene blue.", *Chemical Engineering Journal*, 240, pp. 595-600. doi : 10.1016/j.cej.2013.10.077

Zhang, Q., Wei, S., Huang, J., Feng, J.-W., and Chang, P.R. (2014). "Effect of Surface Acetylated-Chitin Nanocrystals on Structure and Mechanical Properties of Poly(lactic acid).", *Journal of Applied Polymer Science*, 131(2). doi : 10.1002/app.39809

Du, X., Li, Y.P., Liu, X., Wang, X., Huselstein, C., Zhao, Y.T., Chang, P.R., and Chen, Y. (2014). "Fabrication and evaluation of physical and cytotoxicity properties of zein-based polyurethanes.", *Journal of Materials Science*, 25(3), pp. 823-833. doi : 10.1007/s10856-013-5117-9

Huang, J., Hao, J., Anderson, D.P., and Chang, P.R. (2014). "Supramolecular hydrogels based on cyclodextrin poly(pseudo)rotaxane for new and emerging biomedical applications.", in Tiwari, A. (ed.) - *Advanced Healthcare Materials*, Wiley-Scrivener, Chapter 11, pp. 405-438.

Huang, Q., Huang, J., and Chang, P.R. (2014). "Polycaprolactone grafting of cellulose nanocrystals in ionic liquid [BMIM]Cl.", *Wuhan University Journal of Natural Sciences*, 19(2), pp. 117-122. doi : 10.1007/s11859-014-0987-3

Wang, N., Chang, P.R., Zheng, P., and Ma, X. (2014). "Graphene-poly(vinyl alcohol) composites: fabrication, adsorption and electrochemical properties.", *Applied Surface Science*, 314, pp. 815-821. doi : 10.1016/j.apsusc.2014.07.075

Lu, Y., Chang, P.R., Zheng, P., and Ma, X. (2014). "Rectorite-TiO<sub>2</sub>-Fe<sub>3</sub>O<sub>4</sub> composites: Assembly, characterization, adsorption and photodegradation.", *Chemical Engineering Journal*, 255, pp. 49-54. doi : 10.1016/j.cej.2014.06.062

Liu, D., Zhang, Y., Sun, X., and Chang, P.R. (2014). "Recent Advances in Bio-Sourced Polymeric Carbohydrate/Nanotube Composites.", *Journal of Applied Polymer Science*, 131(12: Article 40359). doi : 10.1002/app.40359

## 2013

Li, J., Chang, P.R., Huang, J., Wang, Y., Yuan, H., and Ren, H. (2013). "Physiological effects of magnetic iron oxide nanoparticles towards watermelon.", *Journal of Nanoscience and Nanotechnology*, 13(8), pp. 5561-5567. doi : 10.1166/jnn.2013.7533

Shang, W., Huang, J., Luo, H., Chang, P.R., Feng, J.-W., and Xie, G. (2013). "Hydrophobic modification of cellulose nanocrystal via covalently grafting of castor oil.", *Cellulose*, 20(1), pp. 179-190. doi : 10.1007/s10570-012-9795-0

Ma, T., Chang, P.R., Zheng, P., and Ma, X. (2013). "The composites based on plasticized starch and graphene oxide/reduced graphene oxide.", *Carbohydrate Polymers*, 94(1), pp. 63-70. doi : 10.1016/j.carbpol.2013.01.007

Lin, S., Huang, J., Chang, P.R., Wei, S., Xu, Y., and Zhang, Q. (2013). "Structure and mechanical properties of new biomass-based nanocomposite: Castor oil-based polyurethane reinforced with acetylated cellulose nanocrystal.", *Carbohydrate Polymers*, 95(1), pp. 91-99. doi : 10.1016/j.carbpol.2013.02.023

Zheng, P., Chang, P.R., and Ma, X. (2013). "Preparation and characterization of rectorite gels.", *Industrial & Engineering Chemistry Research*, 52(14), pp. 5066-5071. doi : 10.1021/ie3027372

Liu, D., Zhu, C., Peng, K., Guo, Y., Chang, P.R., and Cao, X.D. (2013). "Facile preparation of soy protein/poly(vinyl alcohol) blend fibers with high mechanical performance by wet-spinning.", *Industrial & Engineering Chemistry Research*, 52(18), pp. 6177-6181. doi : 10.1021/ie400521a

Chang, P.R., Huang, J., Huang, Q., and Anderson, D.P. (2013). "Morphological and thermal investigations of starch-based nanocomposites.", in Dufresne, A., Thomas, S. and Pothan, L. (eds.) - *Biopolymer Nanocomposites: Processing, Properties, and Applications*, John Wiley & Sons, Ltd, Chapter 11, pp. 227-259.

Huang, J., Huang, Q., Chang, P.R., and Yu, J. (2013). "Chemical modification of starch nanoparticles.", in Dufresne, A., Thomas, S. and Pothan, L. (eds.) - *Biopolymer Nanocomposites: Processing, Properties, and Applications*, John Wiley & Sons, Ltd, Chapter 9, pp. 181-202.

Huang, H., Zhang, X., Yu, J.H., Zeng, J., Chang, P.R., Xu, H., and Huang, J. (2013). "Fabrication and reduction-sensitive behavior of polyion complex nano-micelles based on PEG-conjugated polymer containing disulfide bonds as a potential carrier of anti-tumor paclitaxel.", *Colloids and Surfaces B, Biointerfaces*, 110, pp. 59-65. doi : 10.1016/j.colsurfb.2013.04.023

## 2012

Qian, D., Chang, P.R., Zheng, P., and Ma, X. (2012). "Preparation and Characterization of Plasticized Starch/Carbon Black-Oxide Nanocomposites.", *Industrial & Engineering Chemistry Research*, 51(23), pp. 7941-7947. doi : 10.1021/ie3001666

Yan, L., Chang, P.R., Zheng, P., and Ma, X. (2012). "Characterization of magnetic guar gum-grafted carbon nanotubes and the adsorption of the dyes.", *Carbohydrate Polymers*, 87(3), pp. 1919-1924. doi : 10.1016/j.carbpol.2011.09.086

Chen, H., Deng, S., Chang, P.R., Wang, C.Y., Ma, X.-C., Liu, K., Tian, Y., Yao, J.H., and Guo, X. (2012). "Simultaneous Determination of Resibufogenin and Its Major Metabolite 3-epi-Resibufogenin in Rat Plasma by HPLC Coupled with Tandem Mass Spectrometry.", *Chromatographia*, 75(3-4), pp. 103-109. doi : 10.1007/s10337-011-2165-5

Chang, P.R., Qian, D., Anderson, D.P., and Ma, X. (2012). "Preparation and properties of the succinic ester of porous starch.", *Carbohydrate Polymers*, 88(2), pp. 604-608. doi: 10.1016/j.carbpol.2012.01.001

Zeng, J., Yu, J.H., Huang, J., and Chang, P.R. (2012). "Self-Assembled Polymeric Nanomicelles as Delivery Carriers for Antitumor Drug Camptothecin.", *Journal of Dispersion Science and Technology*, 33(2), pp. 293-306. doi : 10.1080/01932691.2011.562407

Wang, X.-M., Shi, N., Chen, Y., Li, C., Du, X., Jin, W., Chen, Y., and Chang, P.R. (2012). "Improvement in hemocompatibility of chitosan/soy protein composite membranes by heparinization.", *Bio-Medical Materials and Engineering*, 22(1-3), pp. 143-150. doi : 10.3233/BME-2012-0700

Zhou, S., Zhou, J., Zhang, Q., Huang, J., Chang, P.R., and Li, J. (2012). "Konjac Glucomannan-Assisted Synthesis of FeNi nanoparticles and Their Magnetic Properties.", *Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry*, 42(7), pp. 1036-1039. doi: 10.1080/15533174.2012.680141

Liu, D., Song, J., Anderson, D.P., Chang, P.R., and Hua, Y. (2012). "Bamboo fiber and its reinforced composites: structure and properties.", *Cellulose*, 19(5), pp. 1449-1480. doi: 10.1007/s10570-012-9741-1

Chang, P.R., Wu, D., Anderson, D.P., and Ma, X. (2012). "Nanocomposites based on plasticized starch and rectorite clay: Structure and properties.", *Carbohydrate Polymers*, 89(2), pp. 687-693. doi: 10.1016/j.carbpol.2012.03.076

Chang, P.R., Zou, J.W., Shang, W., Yu, J.H., Xia, T., and Huang, J. (2012). "Effects of pea protein nanophase on structure and properties of waterborne polyurethane-based composites.", *Journal of Biobased Materials and Bioenergy*, 6(1), pp. 108-114. doi : 10.1166/jbmb.2012.1192

## 2011

Liu, D., Chang, P.R., Wu, Q., and Chen, M. (2011). "Chitosan colloidal suspension composed of mechanically disassembled nanofibers.", *Journal of Colloid and Interface Science*, 354(2), pp. 637-643. doi : 10.1016/j.jcis.2010.11.041

Huang, J., Zou, J.W., Chang, P.R., Yu, J.H., and Dufresne, A. (2011). "New waterborne polyurethane-based nanocomposites reinforced with low loading levels of chitin whisker.", *eXPRESS Polymer Letters*, 5(4), pp. 362-373. doi : 10.3144/expresspolymlett.2011.35

Chang, P.R., Xie, Y., Wu, D., and Ma, X. (2011). "Amylose Wrapped Halloysite Nanotubes.", *Carbohydrate Polymers*, 84(4), pp. 1426-1429. doi : 10.1016/j.carbpol.2011.01.038

Yan, L., Chang, P.R., and Zheng, P. (2011). "Preparation and characterization of starch-grafted multiwall carbon nanotube composites.", *Carbohydrate Polymers*, 84(4), pp. 1378-1383. doi: 10.1016/j.carbpol.2011.01.042

Lin, Y.-H., Chien, W.-S., Duan, K.-J., and Chang, P.R. (2011). "Effect of aeration timing and aeration interval during very-high-gravity ethanol fermentation.", *Process Biochemistry*, 46(4), pp. 1025-1028. doi: 10.1016/j.procbio.2011.01.003

Lin, N., Chang, P.R., Li, J., and Huang, J. (2011). "Poly(butylene succinate)-Based Biocomposites Filled With Polysaccharide Nanocrystals: Structure and Properties.", *Polymer Composites*, 32(3), pp. 472-482. doi : 10.1002/pc.21066

Chang, P.R., Zheng, P., Liu, B., Anderson, D.P., Yu, J., and Ma, X. (2011). "Characterization of magnetic soluble starch-functionalized carbon nanotubes and its application for the adsorption of the dyes.", *Journal of Hazardous Materials*, 186(2-3), pp. 2144-2150. doi: 10.1016/j.jhazmat.2010.12.119

Liu, D., Wu, Q., Chang, P.R., and Gao, G. (2011). "Self-assembled liquid crystal film from mechanically-defibrillated chitosan nanofibers.", *Carbohydrate Polymers*, 84(1), pp. 686-689. doi : 10.1016/j.carbpol.2010.12.028

Zou, J.W., Zhang, F., Huang, J., Chang, P.R., Su, Z., and Yu, J.H. (2011). "Effects of starch nanocrystal on structure and properties of waterborne polyurethane-based composites.", *Carbohydrate Polymers*, 85(4), pp. 824-831. doi : 10.1016/j.carbpol.2011.04.006

Li, F.Y., Chang, P.R., Huang, S.S., Zhang, B.J., Xin, X.L., Yao, J.H., Zhou, Q., Tian, Y., Deng, S., and Ma, X.-C. (2011). "Microbial transformation of deoxyandrographolide by *Cunninghamella echinulata*.", *Journal of Molecular Catalysis B: Enzymatic*, 68(2), pp. 187-191. doi: 10.1016/j.molcatb.2010.11.001

Lin, N., Huang, J., Chang, P.R., Feng, J.-W., and Yu, J.H. (2011). "Surface acetylation of cellulose nanocrystal and its reinforcing function in poly(lactic acid).", *Carbohydrate Polymers*, 83(4), pp. 1834-1842. doi: 10.1016/j.carbpol.2010.10.047

Lin, N., Huang, J., Chang, P.R., Anderson, D.P., and Yu, J.H. (2011). "Preparation, modification, and application of starch nanocrystals in nanomaterials. A review.", *Journal of Nanomaterials*, 2011 (Article ID 573687). doi : 10.1155/2011/573687

Chang, P.R., Yu, J., and Ma, X. (2011). "Preparation of porous starch and its use as a structure-directing agent for production of porous zinc oxide.", *Carbohydrate Polymers*, 83(2), pp. 1016-1019. doi : 10.1016/j.carbpol.2010.08.076

Chang, P.R., Yu, J., Ma, X., and Anderson, D.P. (2011). "Polysaccharides as stabilizers for the synthesis of magnetic nanoparticles", *Carbohydrate Polymers*, 83(2), pp. 640-644. doi : 10.1016/j.carbpol.2010.08.027

Fan, D., Chang, P.R., Lin, N., Yu, J.H., and Huang, J. (2011). "Structure and properties of alkaline lignin-filled poly (butylene succinate) plastics", *Iranian Polymer Journal (IPJ)*, 20(1), pp. 3-14.

Lin, Y.-H., Chang, J.-W., Duan, K.-J., and Chang, P.R. (2011). "Development of  $t_{50}$  and its application to evaluate very-high-gravity ethanol fermentation.", *Journal of Bioscience and Bioengineering*, 112(4), pp. 388-394. doi : 10.1016/j.jbiosc.2011.06.014

Xie, Y., Chang, P.R., Wang, S., Yu, J., and Ma, X. (2011). "Preparation and properties of halloysite nanotubes/plasticized *Dioscorea opposita* Thunb. starch composites.", *Carbohydrate Polymers*, 83(1), pp. 186-191. doi : 10.1016/j.carbpol.2010.07.039

Wu, D., Zheng, P., Chang, P.R., and Ma, X. (2011). "Preparation and characterization of magnetic rectorite/iron oxide nanocomposites and its application for the removal of the dye.", *Chemical Engineering Journal*, 174(1), pp. 489-494. doi : 10.1016/j.cej.2011.09.029

Fabunmi, O.O., Tabil, L.G., Panigrahi, S., and Chang, P.R. (2011). "Effects of Incorporating Polycaprolactone and Flax Fiber into Glycerol-Plasticized Pea Starch.", *Journal of Polymers and the Environment*, 19(4), pp. 841-848. doi : 10.1007/s10924-011-0374-5

Lin, N., Fan, D., Chang, P.R., Yu, J.H., Cheng, X., and Huang, J. (2011). "Structure and properties of poly (butylene succinate) filled with lignin: A case of lignosulphonate.", *Journal of Applied Polymer Science*, 121(3), pp. 1717-1724. doi : 10.1002/app.33754

Sakiyan, O., Sumnu, G., Sahin, S., Meda, V., Koksul, H., and Chang, P.R. (2011). "A study on degree of starch gelatinization in cakes baked in three different ovens.", *Food and Bioprocess Technology*, 4(7), pp. 1237-1244. doi : 10.1007/s11947-009-0210-2

Wang, X.-M., Chang, P.R., Li, Z., Wang, H., Liang, H., Cao, X.D., and Chen, Y. (2011). "Chitosan-coated cellulose/soy protein membranes with improved physical properties and hemocompatibility.", *BioResources*, 6(2), pp. 1392-1413.

Qian, D., Chang, P.R., and Ma, X. (2011). "Preparation of controllable porous starch with different starch concentrations by the single or dual freezing process.", *Carbohydrate Polymers*, 86(3), pp. 1181-1186. doi : 10.1016/j.carbpol.2011.06.012

Wu, D., Chang, P.R., and Ma, X. (2011). "Preparation and properties of layered double hydroxide-carboxymethylcellulose sodium/glycerol plasticized starch nanocomposites.", *Carbohydrate Polymers*, 86(2), pp. 877-882. doi : 10.1016/j.carbpol.2011.05.030

Huang, J., Lin, N., Chen, Y., Chang, P.R., and Yu, J.H. (2011). "Soy protein-based polymer nanocomposites", in Mittal, V. (ed.) - *Nanocomposites with biodegradable polymers: synthesis, properties and future perspectives*, Oxford University Press, UK, Chapter 11, pp. 261-282.

Chang, P.R., Huang, J., and Lin, N. (2011). "Bio-nanocomposites with non-cellulosic biofillers.", in Mittal, V. (ed.) - *Nanocomposites with biodegradable polymers: synthesis, properties and future perspectives*, Oxford University Press, UK, Chapter 4, pp. 71-100.

Lin, N., Huang, J., Chang, P.R., Feng, L., and Yu, J.H. (2011). "Effect of polysaccharide nanocrystal on structure, properties, and drug release kinetics of alginate-based microspheres.", *Colloids and Surfaces B, Biointerfaces*, 85(2), pp. 270-279. doi : 10.1016/j.colsurfb.2011.02.039

Liu, D., Chang, P.R., Deng, S., Wang, C., Zhang, B.J., Tian, Y., Huang, S.S., Yao, J.H., and Ma, X.-C. (2011). "Fabrication and characterization of zirconium hydroxide-carboxymethyl cellulose sodium/plasticized *Trichosanthes Kirilowii* starch nanocomposites.", *Carbohydrate Polymers*, 86(4), pp. 1699-1704. doi : 10.1016/j.carbpol.2011.06.088

## Other Science Related Publications:

2013

Shang, W., Huang, J., Luo, H., Chang, P.R., Feng, J.-W., and Xie, G. (2013). "Erratum to: Hydrophobic modification of cellulose nanocrystal via covalently grafting of castor oil.", *Cellulose*, 20(6), pp. 3247. doi : 10.1007/s10570-013-0083-4

2012

Chang, P.R., Ma, X., Anderson, D.P., and Yu, J. (2012). "Recent Progress in Starch-Based Biodegradable Hybrids and Nanomaterials.", in Ahmed, J., Tiwari, B., Imam, S.H., and Rao, M.A. (eds.) - *Starch-based Polymeric Materials and Nanocomposites: Chemistry, Processing, and Applications*, CRC Press Taylor & Francis, Boca Raton, FL, USA, Chapter 15, pp. 301-323.

Ma, X., Chang, P.R., and Yu, J. (2012). "Plasticized starch.", in Ahmed, J., Tiwari, B., Imam, S.H., and Rao, M.A. (eds.) - Starch-based Polymeric Materials and Nanocomposites: Chemistry, Processing, and Applications, CRC Press Taylor & Francis, Boca Raton, FL, USA, Chapter 4, pp. 69-83.

2011

Chang, P.R., Anderson, D.P., McIntosh, T.C., and Westcott, N.D. (2011). "Process for producing polysaccharide gum.", published by United States Patent and Trademark Office (USPTO), Washington, DC, USA Patent 7,910,339, March 22, 2011. (Patent)

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## Research Publications:

2015

Thomas, B.W., Whalen, J.K., Sharifi, M., Chantigny, M.H., and Zebarth, B.J. (2015). "Labile organic matter fractions as early-season nitrogen supply indicators in manure-amended soils.", *Journal of Plant Nutrition and Soil Science*. doi : 10.1002/jpln.201400532

Maillard, É., Angers, D.A., Chantigny, M.H., Bittman, S., Rochette, P., Lévesque, G., Hunt, D.E., and Parent, L.-É. (2015). "Carbon accumulates in organo-mineral complexes after long-term liquid dairy manure application.", *Agriculture, Ecosystems and Environment*, 202, pp. 108-119. doi : 10.1016/j.agee.2014.12.013

Tatti, E., Goyer, C., Burton, D.L., Wertz, S., Zebarth, B.J., Chantigny, M.H., and Filion, M. (2015). "Tillage Management and Seasonal Effects on Denitrifier Community Abundance, Gene Expression and Structure over Winter.", *Microbial Ecology*. doi : 10.1007/s00248-015-0591-x

Thivierge, M.-N., Chantigny, M.H., Séguin, P., and Vanasse, A. (2015). "Sweet pearl millet and sweet sorghum have high nitrogen uptake efficiency under cool and wet climate.", *Nutrient Cycling in Agroecosystems*, 102(2), pp. 195-208. doi : 10.1007/s10705-015-9689-2

Aita, C., Schirrmann, J., Pujol, S.B., Giacomini, S.J., Rochette, P., Angers, D.A., Chantigny, M.H., Gonzatto, R., Giacomini, D.A., and Doneda, A. (2015). "Reducing nitrous oxide emissions from a maize-wheat sequence by decreasing soil nitrate concentration: Effects of split application of pig slurry and dicyandiamide.", *European Journal of Soil Science*, 66(2), pp. 359-368. doi : 10.1111/ejss.12181

Curtin, D., Beare, M.H., Qiu, W., and Chantigny, M.H. (2015). "Temperature dependence of organic matter solubility: Influence of biodegradation during soil-water extraction.", *Soil Science Society of America Journal*, 79(3), pp. 858-863. doi : 10.2136/sssaj2015.02.0068

Miola, E.C.C., Aita, C., Rochette, P., Chantigny, M.H., Angers, D.A., Bertrand, N., and Gasser, M.-O. (2015). "Static chamber measurements of ammonia volatilization from manured soils: Impact of deployment duration and manure characteristics.", *Soil Science Society of America Journal*, 79(1), pp. 305-313. doi : 10.2136/sssaj2014.07.0305

Thomas, B.W., Sharifi, M., Whalen, J.K., and Chantigny, M.H. (2015). "Mineralizable nitrogen responds differently to manure type in contrasting soil textures.", *Soil Science Society of America Journal*, 79(5), pp. 1396-1405. doi : 10.2136/sssaj2015.03.0124

Bélanger, G., Rochette, P., Chantigny, M.H., Ziadi, N., Angers, D.A., Charbonneau, É., Pellerin, D., and Liang, C. (2015). "Nitrogen availability from dairy cow dung and urine applied to forage grasses in eastern Canada.", *Canadian Journal of Plant Science*, 95(1), pp. 55-65. doi : 10.4141/CJPS-2014-039

Faubert, P., Lemay-Bélisle, C., Bertrand, N., Bouchard, S., Chantigny, M.H., Durocher, S., Rochette, P., Tremblay, P., Ziadi, N., and Villeneuve, C. (2015). "La gestion des biosolides de papeteries au Québec : quelle serait la meilleure option pour réduire les émissions de gaz à effet de serre? Pulp and paper mill sludge management in Quebec: what should be the best option to reduce greenhouse gas emissions?", *Vecteur Environnement*, 48(5), pp. 50-58.

2014

Chantigny, M.H., Angers, D.A., Rochette, P., and Pelster, D.E. (2014). "Evidencing overwinter loss of residual organic and clay-fixed nitrogen from spring-applied, 15N-labelled pig slurry.", *Canadian Journal of Soil Science*, 94(1), pp. 1-8. doi : 10.4141/cjss2013-072

Miola, E.C.C., Rochette, P., Chantigny, M.H., Angers, D.A., Aita, C., Gasser, M.-O., Pelster, D.E., and Bertrand, N. (2014). "Ammonia volatilization after surface application of laying-hen and broiler-chicken manures.", *Journal of Environmental Quality*, 43(6), pp. 1864-1872. doi : 10.2134/jeq2014.05.0237

Novinscak, A., Goyer, C., Zebarth, B.J., Burton, D.L., Chantigny, M.H., Filion, M., and Petit, H.V. (2014). "Development of a PCR-based assay to detect and characterize soil-inhabiting fungal denitrifiers.", 15th International symposium on microbial ecology (ISME 15), Seoul, South Korea, August 24-29, 2014. (Poster)

Chantigny, M.H., Lamey, F.J., Bittman, S., Lapen, D.R., Angers, D.A., Rochette, P., and Hunt, D.E. (2014). "Transformations and fate of fall-applied nitrogen as a function of winter conditions – a multi-site experiment", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014, Extended Abstract – reviewed. (Abstract)

Aita, C., Gonzatto, R., Midá, E.C.C., dos Santos, D.B., Rochette, P., Angers, D.A., Chantigny, M.H., Pujol, S.B., Giacomina, D.A., and Giacomini, S.J. (2014). "Injection of dicyandiamide-treated pig slurry reduced ammonia volatilization without enhancing soil nitrous oxide emissions from no-till corn in Southern Brazil.", *Journal of Environmental Quality*, 43(3), pp. 789-800. doi : 10.2134/jeq2013.07.0301

Ziadi, N., Angers, D.A., Gagnon, B., Lalande, R., Morel, C., Rochette, P., and Chantigny, M.H. (2014). "Long-term tillage and synthetic fertilization affect soil functioning and crop yields in a corn-soybean rotation in eastern Canada.", *Canadian Journal of Soil Science*, 94(3), pp. 365-376. doi : 10.4141/CJSS2013-067

Jégo, G., Chantigny, M.H., Pattey, E., Bélanger, G., Rochette, P., Vanasse, A., and Goyer, C. (2014). "Improved snow-cover model for multi-annual simulations with the STICS crop model under cold, humid continental climates.", *Agricultural and Forest Meteorology*, 195-196, pp. 38-51. doi : 10.1016/j.agrformet.2014.05.002

Rochette, P., Chantigny, M.H., Ziadi, N., Angers, D.A., Bélanger, G., Charbonneau, É., Pellerin, D., Liang, C., and Bertrand, N. (2014). "Soil Nitrous Oxide Emissions Following Deposition of Dairy Cow Excreta in Eastern Canada.", *Journal of Environmental Quality*, 43(3), pp. 829-841. doi : 10.2134/jeq2013.11.0474

Tatti, E., Goyer, C., Chantigny, M.H., Wertz, S., Zebarth, B.J., Burton, D.L., and Filion, M. (2014). "Influences of over winter conditions on denitrification and nitrous oxide-producing microorganism abundance and structure in an agricultural soil amended with different nitrogen sources.", *Agriculture, Ecosystems and Environment*, 183, pp. 47-59. doi : 10.1016/j.agee.2013.10.021

St. Luce, M., Whalen, J.K., Ziadi, N., Zebarth, B.J., and Chantigny, M.H. (2014). "Labile organic nitrogen transformations in clay and sandy-loam soils amended with <sup>15</sup>N-labelled faba bean and wheat residues.", *Soil Biology & Biochemistry*, 68, pp. 208-218. doi : 10.1016/j.soilbio.2013.09.033

Chantigny, M.H., Harrison-Kirk, T., Curtin, D., and Beare, M.H. (2014). "Temperature and duration of extraction affect the biochemical composition of soil water-extractable organic matter.", *Soil Biology & Biochemistry*, 75, pp. 161-166. doi : 10.1016/j.soilbio.2014.04.011

Thivierge, M.-N., Chantigny, M.H., Bélanger, G., Séguin, P., Bertrand, A., and Vanasse, A. (2014). "Response to Nitrogen of Sweet Pearl Millet and Sweet Sorghum Grown for Ethanol in Eastern Canada.", *BioEnergy Research*. doi : 10.1007/s12155-014-9558-x

## 2013

Pelster, D.E., Chantigny, M.H., Rochette, P., Angers, D.A., Laganière, J., Zebarth, B.J., and Goyer, C. (2013). "Crop residue incorporation alters soil nitrous oxide emissions during freeze-thaw cycles.", *Canadian Journal of Soil Science*, 93(4), pp. 415-425. doi : 10.4141/cjss2012-043

Rochette, P., Angers, D.A., Chantigny, M.H., Gasser, M.-O., MacDonald, J.D., Pelster, D.E., and Bertrand, N. (2013). "Ammonia Volatilization and Nitrogen Retention: How Deep to Incorporate Urea?", *Journal of Environmental Quality*, 42, pp. 1635-1642. doi : 10.2134/jeq2013.05.0192

Cade-Menun, B.J., Fouli, Y., and Chantigny, M.H. (2013). "Preface: Biological, chemical and physical processes in seasonally frozen soils.", *Canadian Journal of Soil Science*, 93(4), pp. 397-399. doi : 10.4141/CJSS2013-502

Rochette, P., Angers, D.A., Chantigny, M.H., Gasser, M.-O., MacDonald, J.D., Pelster, D.E., and Bertrand, N. (2013). "NH<sub>3</sub> volatilization, soil NH<sub>4</sub><sup>+</sup> concentration and soil pH following subsurface banding of urea at increasing rates.", *Canadian Journal of Soil Science*, 93(2), pp. 261-268. doi : 10.4141/cjss2012-095

Chantigny, M.H., MacDonald, J.D., Angers, D.A., Rochette, P., Royer, I., and Gasser, M.-O. (2013). "Soil nitrogen dynamics following herbicide kill and tillage of manured and unmanured grasslands.", *Canadian Journal of Soil Science*, 93(2), pp. 229-237. doi : 10.4141/cjss2012-094

Rieux, C.M., Vanasse, A., Chantigny, M.H., Gélinas, P., Angers, D.A., Rochette, P., and Royer, I. (2013). "Yield and bread-making potential of spring wheat under mineral and organic fertilization.", *Crop Science*, 53(3), pp. 1139-1147. doi : 10.2135/cropsci2012.07.0448

Wertz, S., Goyer, C., Zebarth, B.J., Burton, D.L., Tatti, E., Chantigny, M.H., and Filion, M. (2013). "Effects of temperature near the freezing point on N<sub>2</sub>O emissions, denitrification and on the abundance and structure of nitrifying and denitrifying soil communities.", *FEMS Microbiology Ecology*, 83(1), pp. 242-254. doi : 10.1111/j.1574-6941.2012.01468.x

## 2012

Bittman, S., Liu, A., Hunt, D.E., Forge, T.A., Kowalenko, C.G., Chantigny, M.H., and Buckley, K.E. (2012). "Precision Placement of Separated Dairy Sludge Improves Early Phosphorus Nutrition and Growth in Corn (*Zea mays* L.).", *Journal of Environmental Quality*, 41(2), pp. 582-591. doi : 10.2134/jeq2011.0284

Gagnon, B., Demers, I., Ziadi, N., Chantigny, M.H., Parent, L.-É., Forge, T.A., Lamey, F.J., and Buckley, K.E. (2012). "Forms of phosphorus in composts and in compost-amended soils following incubation.", *Canadian Journal of Soil Science*, 92(5), pp. 711-721. doi : 10.4141/CJSS2012-032

Gagnon, B., Ziadi, N., Chantigny, M.H., Bélanger, G., and Massé, D.I. (2012). "Biosolids from treatment of swine manure and papermill residues affect fertilizer value in corn.", *Agronomy Journal*, 104(2), pp. 483-492. doi: 10.2134/agnonj2011.0327

Gasser, M.-O., Chantigny, M.H., Angers, D.A., Bittman, S., Buckley, K.E., Rochette, P., and Massé, D.I. (2012). "Plant-available and water-soluble phosphorus in soils amended with separated manure solids.", *Journal of Environmental Quality*, 41(4), pp. 1290-1300. doi: 10.2134/jeq2011.0290

Pelster, D.E., Chantigny, M.H., Rochette, P., Angers, D.A., Rieux, C.M., and Vanasse, A. (2012). "Nitrous Oxide Emissions Respond Differently to Mineral and Organic Nitrogen Sources in Contrasting Soil Types.", *Journal of Environmental Quality*, 41(2), pp. 427-435. doi: 10.2134/jeq2011.0261

Chantigny, M.H., Pelster, D.E., Perron, M.-H., Rochette, P., Angers, D.A., Parent, L.-É., Massé, D.I., and Ziadi, N. (2012). "Nitrous Oxide Emissions from Clayey Soils Amended with Paper Sludges and Biosolids of Separated Pig Slurry.", *Journal of Environmental Quality*, 42(1), pp. 30-39. doi: 10.2134/jeq2012.0196

## 2011

Pelster, D.E., Larouche, F., Rochette, P., Chantigny, M.H., Allaire, S.E., and Angers, D.A. (2011). "Nitrogen fertilization but not soil tillage affects nitrous oxide emissions from a clay loam soil under a maize-soybean rotation.", *Soil & Tillage Research*, 115-116, pp. 16-26. doi: 10.1016/j.still.2011.06.001

Bittman, S., Hunt, D.E., Kowalenko, C.G., Chantigny, M.H., Buckley, K.E., and Bounaix, F. (2011). "Removing solids improves response of grass to surface-banded dairy manure slurry: A multiyear study.", *Journal of Environmental Quality*, 40(2), pp. 393-401. doi: 10.2134/jeq2010.0177

MacDonald, J.D., Rochette, P., Chantigny, M.H., Angers, D.A., Royer, I., and Gasser, M.-O. (2011). "Ploughing a poorly drained grassland reduced N<sub>2</sub>O emissions compared to chemical fallow.", *Soil & Tillage Research*, 111(2), pp. 123-132. doi: 10.1016/j.still.2010.09.005

MacDonald, J.D., Chantigny, M.H., Angers, D.A., Rochette, P., Royer, I., and Gasser, M.-O. (2011). "Soil soluble carbon dynamics of manured and unmanured grasslands following chemical kill and ploughing.", *Geoderma*, 164(1-2), pp. 64-72. doi: 10.1016/j.geoderma.2011.05.011

Curtin, D., Beare, M.H., Chantigny, M.H., and Greenfield, L.G. (2011). "Controls on the extractability of soil organic matter in water over the 20 to 80°C temperature range.", *Soil Science Society of America Journal*, 75(4), pp. 1423-1430. doi: 10.2136/sssaj2010.0401

Gagnon, B., Ziadi, N., Rochette, P., Chantigny, M.H., and Angers, D.A. (2011). "Fertilizer Source Influenced Nitrous Oxide Emissions from a Clay Soil under Corn.", *Soil Science Society of America Journal*, 75(2), pp. 595-604. doi: 10.2136/sssaj2010.0212

## Other Science Related Publications:

### 2015

Pageau, D., Verville, F., Vanasse, A., and Chantigny, M.H. (2015). "Les engrais verts: efficaces ou non?", Conférence présentée à la Journée Grandes Cultures – Saguenay-Lac-St-Jean, St-Bruno, QC, Canada, 25 février 2015. (Présentation)

Jégo, G., Pattey, E., Chantigny, M.H., Brin, L., Goyer, C., and Léonard, J. (2015). "Coupling the STICS soil-crop model with a snow-cover model for improving simulation of agricultural soil nitrogen processes under northern climates.", ASA-CSSA-SSSA International Annual Meeting: Synergy in Science. Partnering for Solutions, Minneapolis, MN, USA, November 15-18, 2015.

Vaillancourt, M., Vanasse, A., Chantigny, M.H., Pageau, D., and Angers, D.A. (2015). "Impact of cover crops and organic and mineral fertilization on canola yields and nitrogen uptake.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, McGill University, Montreal, QC, Canada, July 5-10, 2015.

Brin, L., Goyer, C., Zebarth, B.J., Burton, D.L., Wertz, S., and Chantigny, M.H. (2015). "Changes in snow cover alter nitrogen cycling and gaseous emissions in agricultural soils.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

Chantigny, M.H., Angers, D.A., Rochette, P., and Goyer, C. (2015). "Nitrification occurs in frozen agricultural soils – consequences on fate and management of fall-applied and soil residual N under cold climate.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

Jégo, G., Chantigny, M.H., Pattey, E., Bélanger, G., Rochette, P., Vanasse, A., and Goyer, C. (2015). "Improved snow-cover model for multi-annual simulations with the STICS crop model under northern climates.", STICS workshop 2015, Rennes, France, March 24-26, 2015, pp. 2 pages.

Chantigny, M.H., Rochette, P., Royer, I., Massé, D.I., and Benchaar, C. (2015). "Gaz à effet de serre, stratégies alimentation et entreposage des déjections.", *Le Producteur de Lait Québécois*, Avril 2015, pp. 13-18.



Chantigny, M.H., Royer, I., Rochette, P., Angers, D.A., Massé, D.I., Benchaar, C., and others (2015). "Influence des stratégies alimentaires et d'entreposage des effluents d'élevage sur la disponibilité de l'azote et les émissions de protoxyde d'azote des sols de fermes laitières.", Journée d'information scientifique – Bovins laitiers et plantes fourragères, Centre de référence en agriculture et agroalimentaire du Québec, Drummondville, QC, Canada, 25 février 2015.

Maillard, É., Chantigny, M.H., Angers, D.A., Lévesque, G., Lafond, G.P., Pageau, D., Bitman, S., and Hunt, D.W.A. (2015). "Réduire son empreinte carbone grâce aux lisiers.", *Le Producteur de Lait Québécois*, 36(1), pp. 45-48.

Goyer, C., Wertz, S., Zebarth, B.J., Burton, D.L., Tatti, E., Chantigny, M.H., and Filion, M. (2015). "The amplitude of soil freeze-thaw cycles influences temporal dynamics of N<sub>2</sub>O emissions and denitrifier transcriptional activity and community structure.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

## 2014

Chantigny, M.H., Lamey, F.J., Bittman, S., Lapen, D.R., Angers, D.A., Rochette, P., and Hunt, D.W.A. (2014). "Transformation and fate of fall-applied nitrogen as a function of winter conditions – a multi-site experiment.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014. (Poster)

Thivierge, M.-N., Vanasse, A., Chantigny, M.H., Angers, D.A., and Séguin, P. (2014). "Millet perlé sucré, sorgho sucré et maïs pour l'éthanol: ce que les racines ont à dire.", Conférence présentée au congrès annuel de l'Association Québécoise des Spécialistes en Science du Sol (AQSSS), Victoriaville, QC, Canada, 26-29 mai 2014.

Goyer, C., Tatti, E., Wertz, S., Zebarth, B.J., Brin, L., Burton, D.L., Chantigny, M.H., and Filion, M. (2014). "Importance of nitrous oxide emissions and changes in denitrifier and nitrifier communities in fields under different agricultural practices over winter in Eastern Canada.", 15th International Society of Microbial Ecology Meeting, Seoul, South Korea, August 24-30, 2014. (Abstract)

Jégo, G., Chantigny, M.H., and Pattey, E. (2014). "Simulation du couvert de neige et des processus du sol en conditions hivernales.", Séminaires du Centre de recherche et de développement sur les sols et les grandes cultures, Québec, QC, Canada, 30 octobre 2014. (Presentation)

Rochette, P., Chantigny, M.H., Ziadi, N., Angers, D.A., Bélanger, G., Charbonneau, É., Pellerin, D., Liang, C., and Bertrand, N. (2014). "Nitrous oxide emission factors for dairy cow excreta in eastern Canada.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, 30 juin-3 juillet, 2014.

Faubert, P., Bertrand, N., Bouchard, S., Chantigny, M.H., Côté, R., Dessureault, P.L., Durocher, S., Lemay-Bélisle, C., Paré, M., Rochette, P., Tremblay, P., Ziadi, N., and Villeneuve, C. (2014). "Management of paper mill sludge: what is the best scenario to mitigate greenhouse gas emissions? Oral presentation.", 7th Canadian Biosolids and Residual Conference - BC Water and Waste Association, Vancouver, BC, Canada, June 4-7, 2014.

Thomas, B.W., Whalen, J.K., Sharifi, M., Chantigny, M.H., Zebarth, B.J., and Burton, D.L. (2014). "Labile soil organic matter C and N concentrations to predict N mineralization parameters in sandy and clayey soils amended with manure.", Annual meeting of the Canadian Soil Science Society, Banff, Alberta, Canada, May 4-7, 2014.

Chantigny, M.H., Rochette, P., Angers, D.A., Vanasse, A., and Goyer, C. (2014). "Significance and temporal dynamics of N<sub>2</sub>O emissions in snow-covered agricultural soils.", Canadian Soil Science Society – Canadian Geophysical Union Joint Annual Meetings – Advances in Geophysical and Soil Sciences, Banff, Alberta, Canada, May 4-8, 2014, Oral presentation.

Chantigny, M.H. and Angers, D.A. (2014). "Organic amendments for agriculture: soil conditioner or fertilizer?", Canadian Soil Science Society – Canadian Geophysical Union Joint Annual Meetings – Advances in Geophysical and Soil Sciences, Banff, Alberta, Canada, May 4-8, 2014, Invited keynote speaker.

Thomas, B.W., Whalen, J.K., Sharifi, M., Chantigny, M.H., Zebarth, B.J., and Burton, D.L. (2014). "The C:N ratio of water extractable organic matter as a potential soil N supply indicator in manure-amended soils.", Annual meeting of the Canadian Soil Science Society, Banff, Alberta, Canada, May 4-7, 2014.

Royer, I., Chantigny, M.H., Angers, D.A., Rochette, P., Massé, D.I., Bittman, S., and Benchaar, C. (2014). "Trace metals content of soils and plants from different dairy manure types based on feeding and manure storage strategies", Annual meeting of the Canadian Soil Science Society, Banff, Alberta, Canada, May 4-7, 2014.

Royer, I., Chantigny, M.H., Angers, D.A., Rochette, P., Massé, D.I., Bittman, S., and Benchaar, C. (2014). "La stratégie d'alimentation et de stockage du fumier de bovin laitier influence-t-elle le contenu en éléments traces métalliques des sols?", Congrès annuel de l'AQSSS à Victoriaville, Québec, Canada, du 26 au 29 mai 2014.

Novinscak, A., Goyer, C., Zebarth, B.J., Burton, D.L., Chantigny, M.H., and Filion, M. (2014). "Development of a PCR-based assay to detect and characterize soil-inhabiting fungal denitrifiers.", 15th International Society of Microbial Ecology Meeting, Seoul, South Korea, August 24-30, 2014. (Abstract)

Verville, F., Vanasse, A., Chantigny, M.H., Pageau, D., and Tremblay, G. (2014). "Effets des engrais verts et de leur période d'enfouissement sur les rendements du blé.", Conférence présentée à la Journée d'Information scientifique sur les Grandes Cultures, Drummondville, QC, Canada, 20 Février 2014.

Verville, F., Vanasse, A., Chantigny, M.H., Pageau, D., and Tremblay, G. (2014). "Effets des engrais verts et de leur période d'enfouissement sur les rendements du blé.", Conférence présentée au congrès annuel de l'Association Québécoise des Spécialistes en Science du Sol (AQSSS), Victoriaville, QC, Canada, 26-29 mai 2014.

Chantigny, M.H. (2014). "Environmental Benefits of Forages - Agronomic Perspective.", 5e Assemblée annuelle de la Canadian Forage and Grassland Association, Bromont, Québec, Canada, November 17-19, 2014, Invited keynote speaker.

## 2013

Hunt, D.E., Bittman, S., Kowalenko, C.G., Chantigny, M.H., and Lemke, R.L. (2013). "Winter time nitrous oxide emission from grass receiving whole and separated dairy slurry or fertilizer in a mild maritime climate.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013. (Abstract)

Royer, I., Angers, D.A., Chantigny, M.H., and Rochette, P. (2013). "Contenu en éléments traces métalliques suite au travail du sol d'une vieille prairie fertilisée avec du lisier de porc.", Congrès annuel de l'AQSSS à Chicoutimi, Québec, Canada, du 28 au 30 mai 2013.

Chantigny, M.H., Lamey, F.J., Angers, D.A., Bittman, S., Lapen, D.R., and Rochette, P. (2013). "Overwinter transformation and fate of fall-applied nitrogen in various Canadian ecozones.", Canadian Society of Soil Science - Manitoba Soil Science Soc. - Can. Soc. Agric. Forest Meteorology Joint Ann. Meeting, Winnipeg, MB, Canada, July 22-25, 2013, pp. 46. (Abstract)

Royer, I., Angers, D.A., Chantigny, M.H., and Rochette, P. (2013). "Influence of Liquid Swine Manure Application on the Trace Metal Contents and links with dissolved organic carbon.", International conference on the biogeochemistry of trace elements (ICOBTE) meeting, Athens, Georgia, USA, June 16-20, 2013.

## 2012

Bittman, S., Hunt, D.E., Chantigny, M.H., Kowalenko, C.G., and Lemke, R.L. (2012). "Precision Manure Injection on Nitrogen Use and N<sub>2</sub>O Emissions in Corn.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012. (Abstract)

Hunt, D.E., Bittman, S., Chantigny, M.H., Kowalenko, C.G., and Lemke, R.L. (2012). "Removing solids from dairy slurry: Effect on N use efficiency and emissions of N<sub>2</sub>O.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012. (Abstract)

Nyiraneza, J., Chantigny, M.H., N'Dayegamiye, A., and Laverdière, M.R. (2012). "Les systèmes de culture qui laissent peu de résidus de récolte sont-ils durables à long-terme? Cas du maïs ensilage alterné avec les céréales?", Journée scientifique sur les grandes cultures, Centre de Référence en Agriculture et Agroalimentaire du Québec (CRAAQ), Drummondville, QC, Canada, February 23, 2012. (Presentation)

Gagnon, B., Ziadi, N., Chantigny, M.H., Bélanger, G., Tremblay, G.F., and Massé, D.I. (2012). "Valorisation des sous-produits du traitement des lisiers de porc et des eaux usées de papeteries en production de maïs-fourragers.", Demi-journée d'information scientifique sur les fourrages 2012, Victoriaville, QC, Canada, February 21, 2012, pp. 34-37.

Chantigny, M.H., Royer, I., Rochette, P., Angers, D.A., Massé, D.I., and Benchaar, C. (2012). "Manure storage strategies alter nutrient availability and greenhouse gas emissions following application to soils.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012.

Royer, I., MacDonald, J.D., Angers, D.A., Chantigny, M.H., Rochette, P., and Gasser, M.-O. (2012). "Influence of Liquid Swine Manure Application on the Trace Metal Contents of an Old Grassland Soil.", Annual meeting of the Soils Science Society of America, Cincinnati, Ohio, USA, October 21-24, 2012.

Chantigny, M.H., Pelster, D.E., Rochette, P., Angers, D.A., Royer, I., and Vanasse, A. (2012). "Significance of N losses through gaseous emissions and leaching in the non-growing season in snow-covered agricultural soils.", Congrès conjoint SCSS-AQSSS à Lac Beauport, Québec, Canada, du 3 au 8 juin 2012.

## 2011

Chantigny, M.H. (2011). "Evaluation of the greenhouse gas emissions and carbon change in dairy farm soils.", Dairy Research Cluster: Communications and Consultation Workshop - Shaping a dairy research agenda for 2013 - 2018, Queen Elizabeth Hotel, Montréal, QC, Canada, November 16-17, 2011.

Musset, G., Chantigny, M.H., Royer, I., Angers, D.A., Vanasse, A., Menasseri-Aubry, S., Morvan, T., Rochette, P., and MacDonald, J.D. (2011). "Étude lysimétrique de la lixiviation du phosphore selon le type de sol et de fertilisant.", Congrès annuel de l'AQSSS, Wendake, Québec, Canada, du 25 au 27 mai 2011.

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## Research Publications :

2016

Charles, M.T., Arul, J., Charlebois, D., Yaganza, E.-S., Rolland, D., Roussel, D., and Merisier, M.J. (2016). "Postharvest UV-C treatment of tomato fruits: Changes in simple sugars and organic acids contents during storage.", *Food Science and Technology - LWT*, 65, pp. 557-564. doi : 10.1016/j.lwt.2015.08.055

2015

Charles, M.T., Rolland, D., Roussel, D., Merisier, M.J., Yaganza, E.-S., Charlebois, D., and Arul, J. (2015). "Assessment of Changes in Organic Acid and Sugar Profiles of Tomato Fruits Induced by UV-C Hormesis.", *Acta Horticulturae (ISHS)*, 1079, pp. 159-164.

Xie, Z., Charles, M.T., Fan, J.S., Charlebois, D., Khanizadeh, S., Rolland, D., Roussel, D., Deschênes, M., and Dubé, C. (2015). "Effects of preharvest ultraviolet-C irradiation on fruit phytochemical profiles and antioxidant capacity in three strawberry (*Fragaria x ananassa* Duch.) cultivars", *Journal of the Science of Food and Agriculture*, 95(14), pp. 2996-3002. doi : 10.1002/jsfa.7064

Xie, Z., Charles, M.T., Charlebois, D., Rolland, D., Roussel, D., Deschênes, M., Dubé, C., Khanizadeh, S., and Fan, J. (2015). "Preharvest exposure to UV-C radiation: impact on strawberry fruit quality.", *Acta Horticulturae (ISHS)*, 1079, pp. 589-592.

2014

Xie, Z., Fan, J.S., Charlebois, D., Roussel, D., Dubé, C., Charles, M.T., and Khanizadeh, S. (2014). "Agronomic characteristics and phytochemical profiles of advanced June-bearing strawberry lines for the northern Canadian climate.", *Agricultural and Food Science*, 23(1), pp. 38-47.

2012

Fan, L., Roux, V., Dubé, C., Charlebois, D., Tao, S., and Khanizadeh, S. (2012). "Effect of mulching systems on fruit quality and phytochemical composition of newly developed strawberry lines.", *Agricultural and Food Science*, 21(2), pp. 132-140.

LeBlanc, D.I., Vigneault, C., Boutin, J., Toussaint, V., Charlebois, D., Fomey, C.F., Bourgeois, G., Clément, A., and Bezanson, G.S. (2012). "Design and performance of a controlled environment mini-chamber for measuring produce quality deterioration.", *Journal of Agricultural Science and Technology B*, 2, pp. 391-399.

Drapeau, R. and Charlebois, D. (2012). "American elder cultivation under cold climates: Potential and limitations.", *Canadian Journal of Plant Science*, 92(3), pp. 473-484. doi : 10.4141/CJPS2011-145

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## Research Publications:

2016

Charles, M.T., Arul, J., Charlebois, D., Yaganza, E.-S., Rolland, D., Roussel, D., and Merisier, M.J. (2016). "Postharvest UV-C treatment of tomato fruits: Changes in simple sugars and organic acids contents during storage.", *Food Science and Technology - LWT*, 65, pp. 557-564. doi: 10.1016/j.lwt.2015.08.055

2015

Charles, M.T., Rolland, D., Roussel, D., Merisier, M.J., Yaganza, E.-S., Charlebois, D., and Arul, J. (2015). "Assessment of Changes in Organic Acid and Sugar Profiles of Tomato Fruits Induced by UV-C Hormesis.", *Acta Horticulturae (ISHS)*, 1079, pp. 159-164.

Wang, Y., Moidu, H., Charles, M.T., Dubé, C., and Khanizadeh, S. (2015). "Differential Regulation of Superoxide Dismutase Activity in Selected Strawberry Lines Exposed to *Mycosphaerella fragariae*.", *Journal of Plant Studies (JPS)*, 4(1), pp. 30-41. doi: 10.5539/jps.v4n2p30

Xie, Z., Charles, M.T., Fan, J.S., Charlebois, D., Khanizadeh, S., Rolland, D., Roussel, D., Deschênes, M., and Dubé, C. (2015). "Effects of preharvest ultraviolet-C irradiation on fruit phytochemical profiles and antioxidant capacity in three strawberry (*Fragaria x ananassa* Duch.) cultivars", *Journal of the Science of Food and Agriculture*, 95(14), pp. 2996-3002. doi: 10.1002/jsfa.7064

Xie, Z., Charles, M.T., Charlebois, D., Rolland, D., Roussel, D., Deschênes, M., Dubé, C., Khanizadeh, S., and Fan, J. (2015). "Preharvest exposure to UV-C radiation: impact on strawberry fruit quality.", *Acta Horticulturae (ISHS)*, 1079, pp. 589-592.

2014

Khanizadeh, S., Fan, L., Fang, C.Q., Charles, M.T., and Tao, S. (2014). "Effect of production systems on phenolic compositions of strawberry fruits.", *Acta Horticulturae (ISHS)*, 1049, pp. 513-516.

Wang, Y., Charles, M.T., Dong, W., Dubé, C., and Khanizadeh, S. (2014). "Distribution of Phenolic Components and their Antioxidant Capacity in Strawberries.", *Journal of Food Research*, 3(2), pp. 54-60. doi: 10.5539/jfr.v3n2p54

Xie, Z., Fan, J.S., Charlebois, D., Roussel, D., Dubé, C., Charles, M.T., and Khanizadeh, S. (2014). "Agronomic characteristics and phytochemical profiles of advanced June-bearing strawberry lines for the northern Canadian climate.", *Agricultural and Food Science*, 23(1), pp. 38-47.

2013

Liplap, P., Vigneault, C., Toivonen, P.M.A., Charles, M.T., and Raghavan, G.S.V. (2013). "Effect of hyperbaric pressure and temperature on respiration rates and quality attributes of tomato.", *Postharvest Biology and Technology*, 86, pp. 240-248. doi: 10.1016/j.postharvbio.2013.07.002

Damm, A., Charles, M.T., Gondet, L., Hampson, C.R., Dubé, C., and Khanizadeh, S. (2013). "Activity and concentration of polyphenolic antioxidants and agronomic characteristics of selected cultivars and advanced apple lines from Quebec and British Columbia, Canada.", *Journal of Food, Agriculture & Environment (JFAE)*, 11(3&4), pp. 834-843.

Zhang, Z., Zhu, X., Xie, Z., Zhao, Z.-Y., Dubé, C., Roussel, D., Charles, M.T., and Khanizadeh, S. (2013). "Yield, fruit quality, antioxidant capacity and phenolic composition of advanced raspberry lines from Quebec.", *Journal of Food, Agriculture & Environment (JFAE)*, 11(2), pp. 278-284.

2012

Yaganza, E.-S., Arul, J., Tweddell, R.J., and Charles, M.T. (2012). "Postharvest Application of Organic and Inorganic Salts to Control Potato (*Solanum tuberosum* L.) Storage Soft Rot: a Physico-Chemical Basis.", *Acta Horticulturae (ISHS)*, 945, pp. 435-439.

Zhang, Z.-M., Zhao, Z.-Y., Liu, H., Dubé, C., Charles, M.T., Kempler, C., and Khanizadeh, S. (2012). "Horticultural characteristics and chemical composition of advanced raspberry lines from British Columbia.", *Journal of Food, Agriculture & Environment (JFAE)*, 10(3-4), pp. 883-887.

Goyette, B., Vigneault, C., Charles, M.T., and Raghavan, G.S.V. (2012). "Effect of hyperbaric treatments on the quality attributes of tomato.", *Canadian Journal of Plant Science*, 92(3), pp. 541-551. doi : 10.4141/CJPS2011-168

Khanizadeh, S., Charles, M.T., Yu, C., Tao, S., and Fan, L. (2012). "Effect of Cultural Practices on Fruit Quality and Polyphenols Content.", *Acta Horticulturae (ISHS)*, 926, pp. 401-406.

Fan, L., Dubé, C., Fang, C.Q., Dominique, R., Charles, M.T., Desjardins, Y., and Khanizadeh, S. (2012). "Effect of production systems on phenolic compositions and oxygen radical absorbance capacity of 'Orléans' strawberry.", *Food Science and Technology - LWT*, 45(2), pp. 241-245. doi : 10.1016/j.lwt.2011.09.004

2011

Li, D., Charles, M.T., Carisse, O., Tsao, R., Dubé, C., and Khanizadeh, S. (2011). "Changes in ascorbate-glutathione pathway enzymes in response to *Mycosphaerella fragariae* infection in selected strawberry genotypes.", *Archives of Phytopathology and Plant Protection*, 44(8), pp. 712-725. doi : 10.1080/03235400903266297

Goyette, B., Vigneault, C., Raghavan, G.S.V., and Charles, M.T. (2011). "Hyperbaric treatment on respiration rate and respiratory quotient of tomato.", *Food and Bioprocess Technology*, 5(8), pp. 3066-3074. doi : 10.1007/s11947-011-0671-y

Charles, M.T., Arul, J., and Benhamou, N. (2011). "UV-C-Induced Disease Resistance in Tomato Fruit is a Multi-Component and Time-Dependent System.", *Acta Horticulturae (ISHS)*, 905, pp. 251-260.

Jagadeesh, S.L., Charles, M.T., Gariépy, Y., Goyette, B., Raghavan, G.S.V., and Vigneault, C. (2011). "Influence of Postharvest UV-C Hormesis on the Bioactive Components of Tomato during Post-treatment Handling.", *Food and Bioprocess Technology*, 4(8), pp. 1463-1472. doi : 10.1007/s11947-009-0259-y

Yu, C., Ranieri, M., Lv, D., Zhang, M., Charles, M.T., Tsao, R., Rékika, D., Kempler, C., and Khanizadeh, S. (2011). "Phenolic Composition and Antioxidant Capacity of Newly Developed Strawberry Lines from British Columbia and Quebec.", *International Journal of Food Properties*, 14(1), pp. 59-67. doi : 10.1080/10942910903131415

## Other Science Related Publications:

2014

Nicolas, O., Toussaint, V., Jenni, S., Charles, M.T., and Beaulieu, C. (2014). "Rôle des tomates et des éléments minéraux dans la tolérance de la laitue à la tache bactérienne causée par *Xanthomonas campestris* pv. *vitiens*", 106e Réunion annuelle de la SPPQ : Les plantes bio-industrielles : enjeux environnementaux et phytosanitaires, Saint-Mathieu de Beloeil, QC, Canada, June 10-12, 2014.

2013

Nicolas, O., Toussaint, V., Jenni, S., Charles, M.T., and Beaulieu, C. (2013). "Étude de facteurs contribuant à la tolérance des cultivars de laitue à la tache bactérienne causée par *Xanthomonas campestris* pv. *Vitiens*", 105e réunion annuelle de la SPPQ : Nano, l'infiniment petit : une solution d'avenir en phytoprotection., Québec, QC, Canada, 5-6 juin, 2013.

2011

Owen, J., Fillmore, S.A.E., Sanderson, K.R., Nurse, R.E., Mercier, G., Charles, M.T., and Benoît, D.-L. (2011). An eastern Canada Research Network for the study of organic vegetable rotational cropping systems: Project Final Report. March 31, 2011. (Report)

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## Research Publications:

2015

Balasubramanian, P.M., Mündel, H.-H., Chatterton, S., Conner, R.L., and Hou, A. (2015). "AAC Burdett Pinto dry bean.", *Canadian Journal of Plant Science*, 95(1), pp. 179-181. doi: 10.4141/cjps-2014-248

Balasubramanian, P.M., Mündel, H.-H., Chatterton, S., Conner, R.L., and Hou, A. (2015). "AAC Whitehorse great northern dry bean.", *Canadian Journal of Plant Science*, 95(1), pp. 175-177. doi: 10.4141/cjps-2014-247

Chatterton, S., Bowness, R.T., and Harding, M.W. (2015). "First report of root rot of field pea caused by *Aphanomyces euteiches* in Alberta, Canada.", *Plant Disease*, 99(2), pp. 288. doi: 10.1094/PDIS-09-14-0905-PDN

Balasubramanian, P.M., Mündel, H.-H., Conner, R.L., Chatterton, S., and Hou, A. (2015). "AAC Black Diamond 2 dry bean.", *Canadian Journal of Plant Science*, 95(2), pp. 437-440. doi: 10.4141/cjps-2014-249

Reich, J., Chatterton, S., and Johnson, D.L. (2015). "Potential role of pollen and pollinators in the spread of blossom blight of seed alfalfa caused by *Botrytis cinerea*.", *Canadian Journal of Plant Pathology*, pp. 1-11. doi: 10.1080/07060661.2015.1119734

2014

Balasubramanian, P.M., Conner, R.L., McLaren, D.L., Chatterton, S., and Hou, A. (2014). "Partial resistance to white mould in dry bean.", *Canadian Journal of Plant Science*, 94(4), pp. 683-691. doi: 10.4141/cjps2013-312

Foroud, N.A., Chatterton, S., Reid, L.M., Turkington, T.K., Tittlemier, S.A., and Gräfenhan, T. (2014). "Fusarium Diseases of Canadian Grain Crops: Impact and Disease Management Strategies.", in Goyal A, and Manoharachary C. (eds.) - *Future Challenges in Crop Protection Against Fungal Pathogens*, Springer New York, pp. 267-316.

2013

Erickson, R.S., Chatterton, S., and Huang, H.-C. (2013). "Sensitivity of *Sclerotinia sclerotiorum* and its two biocontrol agents, *Ulocladium atrum* and *Coniothyrium minitans*, to boscalid and benomyl.", *Plant Pathology Bulletin*, 22(1), pp. 57-66.

2012

Chatterton, S. and Punja, Z.K. (2012). "Colonization of geranium foliage by *Clonostachys rosea* f. *catenulata*, a biological control agent of *Botrytis grey mould*.", *Botany*, 90(1), pp. 1-10. doi: 10.1139/b11-076

## Other Science Related Publications:

2015

Balasubramanian, P.M., Kader, K.A., and Chatterton, S. (2015). "Effect of irrigation and plant canopy architecture on white mold development in dry bean.", *Bean Improvement Cooperatives 2015*, Niagara Falls, ON, Canada, November 1-4, 2015. (Abstract)

Reich, J., Chatterton, S., and Alexander, T.W. (2015). "Development of a multiplex qPCR TaqMan assay for the quantification of airborne spores of *Botrytis cinerea* and *Sclerotinia sclerotiorum*.", *Botany 2015*, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015. (Abstract)

Chatterton, S., Carcamo, H.A., Thomas, J.B., Meers, S., Harding, M.W., Harker, K.N., Vandenberg, A., Shirliffe, S.J., Bowness, R.T., Reid, P., Broatch, J.S., Barkley, S., Syrový, A., Kaur, S., Brar, P., and Bruhjel, D. (2015). "Reducing necrotic spots on faba beans: lygus, chocolate spot or both?", *West Forum Pest Management*, Abbotsford, BC, Canada, October 21-23, 2015.

Reich, J. and Chatterton, S. (2015). "Blossom blight and stem rot of seed alfalfa in southern Alberta in 2014.", *Canadian Plant Disease Survey*, 95, pp. 147-148.

Chatterton, S., Erickson, R.S., Burke, D.A., Pugh, C., and Harding, M.W. (2015). "Dry bean diseases in Alberta in 2014.", *Canadian Plant Disease Survey*, 95, pp. 149-150.

Chatterton, S., Harding, M.W., Bowness, R.T., Strydhorst, S.M., Cleland, C., Storozynsky, Q., Dubitz, T., Nielsen, J., and Olson, M.E. (2015). "Survey of root rot in Alberta field pea in 2014.", *Canadian Plant Disease Survey*, 95, pp. 170-172.

Esmaeili Taheri, A., Chatterton, S., Foroud, N.A., Gossen, B.D., and McLaren, D.L. (2015). "Identity and host specificity of root rot pathogens colonizing standing pea stubble from the Canadian Prairies.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015.

Safarieskandari, S., Chatterton, S., and Hall, L.M. (2015). "Evaluation of host range of *Fusarium* species from pea fields in Alberta.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015. (Abstract)

Chatterton, S., Willsey, T., Pinto-Larsen, K., and Banniza, S. (2015). "An update on *Aphanomyces euteiches* research since its first detection in Alberta pea fields in 2013.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015. (Abstract)

Reich, J., Johnson, D.L., and Chatterton, S. (2015). "Seasonal dynamics of *Botrytis cinerea* and *Sclerotinia sclerotiorum* in seed alfalfa fields of Southern Alberta.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015. (Abstract)

Chatterton, S., Harding, M.W., and Bowness, R.T. (2015). "What's lurking beneath the surface? The pathogens causing root rot of field pea in Alberta.", North American Pulse Improvement Association Conference, Niagara Falls, ON, Canada, November 5-6, 2015. (Abstract)

Chatterton, S., Willsey, T., and Banniza, S. (2015). "Effect of oospore density on *Aphanomyces* root rot of pea in Saskatchewan soil types.", North American Pulse Improvement Association Conference, Niagara Falls, ON, Canada, November 5-6, 2015. (Poster)

Chatterton, S., Harding, M.W., and Bowness, R.T. (2015). "Identification of pathogens associated with root rot of field pea in Alberta.", Botany 2015, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015. (Abstract)

Taheri, A.E., Safarieskandari, S., Chatterton, S., Foroud, N.A., Gossen, B.D., and McLaren, D.L. (2015). "Pathogenic fungi associated with root rot of field pea on the Canadian prairies.", *Canadian Journal of Plant Pathology*, 37, pp. 249. (Abstract)

## 2014

Chatterton, S., Balasubramanian, P.M., Erickson, R.S., Bowness, R.T., and Harding, M.W. (2014). "Pea root rot in Alberta: surveys and pathogen identification.", 35th Meeting of the Plant Pathology Society of Alberta, Canmore, AB, Canada, October 27-29, 2014. (Abstract)

Taheri, A.E., Chatterton, S., Foroud, N.A., Gossen, B.D., and McLaren, D.L. (2014). "Pathogenic fungal communities invading roots, crowns, and lower stems of field pea in Canadian prairies.", 35th Meeting of the Plant Pathology Society of Alberta, Canmore, AB, Canada, October 27-29, 2014. (Poster)

Chatterton, S., Foroud, N.A., Gossen, B.D., and McLaren, D.L. (2014). "Pathogen populations associated with root rot of field pea in western Canada.", 6th International Food Legumes Research Conference, Saskatoon, SK, Canada, July 7-11, 2014. (Poster)

Chatterton, S., Balasubramanian, P.M., and Erickson, R.S. (2014). "Irrigation and cultivar interactions effect development of white mold of bean.", 35th Meeting of the Plant Pathology Society of Alberta, Canmore, AB, Canada, October 2014.

Chatterton, S., Balasubramanian, P.M., McLaren, D.L., Conner, R.L., and Howard, R.J. (2014). "Race structure of *Pseudomonas syringae* pv. *phaseolicola* from dry bean fields on the Canadian prairies.", *Annual Report of the Bean Improvement Cooperative (BIC)*, 57, pp. 147-148.

Chatterton, S. and Reich, L.J. (2014). "Blossom blight and stem rot of seed alfalfa in southern Alberta in 2013.", *Canadian Plant Disease Survey*, 94, pp. 152.

Chatterton, S., Harding, M.W., Bowness, R.T., Erickson, R.S., Dubitz, T., Gibb, K., and Olson, M.E. (2014). "Survey of root rot in Alberta field pea in 2013.", *Canadian Plant Disease Survey*, 94, pp. 189.

Kahlon, J.G., Chatterton, S., Strydhorst, S.M., Bing, D.-J., Bowness, R.T., Olson, M.E., Hassan, F., Jacobsen, H.J., and Hall, L.M. (2014). "Efficacy of transgenic disease resistant peas against *Fusarium* root rot (*Fusarium* spp.) in field.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014. (Abstract)

Reich, L.J., Johnson, D.H., and Chatterton, S. (2014). "Incidence of *Botrytis cinerea* and *Sclerotinia sclerotiorum* in seed alfalfa fields of southern Alberta.", APS-CPS Joint Meeting, Hilton Minneapolis, Minneapolis, MN, USA, August 9-13, 2014. (Abstract)

Kahlon, J.G., Chatterton, S., Strydhorst, S.M., Bing, D.-J., Bowness, R.T., Olson, M.E., Hassan, F., Jacobsen, H.J., and Hall, L.M. (2014). "Efficacy of transgenic disease resistant peas against Fusarium root rot (*F. solani* and *F. avenaceum*) and Mycosphaerella blight (*M. pinodes*) in field.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014. (Abstract)

Reich, L.J., Johnson, D.L., and Chatterton, S. (2014). "The role of pollen in the development of blossom blight of seed alfalfa caused by *Botrytis cinerea*.", 35th Meeting of the Plant Pathology Society of Alberta, Canmore, AB, Canada, October 2014. (Abstract)

Taheri, A.E., Safarieskandari, S., Chatterton, S., Foroud, N.A., Gossen, B.D., and McLaren, D.L. (2014). "Pathogenic fungi associated with root rot of field pea on the Canadian prairies.", Canadian Phytopathological Society 2014 Meeting, Saskatoon, SK, Canada, December 11, 2014. (Abstract)

Chatterton, S., Gossen, B.D., and McLaren, D.L. (2014). "Pathogen populations associated with root rot of field pea in western Canada.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014. (Abstract)

Chatterton, S., Bowness, R.T., Harding, M.W., Hall, L.M., and Olson, M.E. (2014). "Fusarium species composition and root rot incidence in Alberta pea fields in 2013.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014. (Abstract)

## 2012

Balasubramanian, P.M., Chatterton, S., Hou, A., Conner, R.L., McLaren, D.L., Navabi, A., Pauls, K.P., and Bett, K.E. (2012). "Dry bean improvement on the prairies for high yield, disease resistance and seed quality.", Pulse Science Cluster Scientific Meeting 2012, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 5-6, 2012.

Balasubramanian, P.M., Conner, R.L., McLaren, D.L., Chatterton, S., and Hou, A. (2012). "Development of dry bean cultivars with resistance to white mold. Oral presentation.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, Oral presentation.

Erickson, R.S. and Chatterton, S. (2012). "Survey of diseases of dry bean in Southern Alberta in 2011.", Canadian Plant Disease Survey, 92, pp. 118-119.

## 2011

Howard, R.J., Burke, D.A., Chatterton, S., Erickson, R.S., Lisowski, S.L.I., and Pugh, C. (2011). "Dry bean disease survey in Alberta and Manitoba in 2011.", 2011 Alberta Pulse Growers Zone 1 Annual Meeting, Taber, AB, Canada, December 14, 2011. (Presentation)



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## Research Publications:

2015

Xu, S.T., Zhang, L., McLaughlin, N.B., Mi, J.Z., Chen, Q., and Liu, J.H. (2015). "Effect of synthetic and natural water absorbing soil amendment soil physical properties under potato production in a semi-arid region.", *Soil & Tillage Research*, 148, pp. 31-39. doi : 10.1016/j.still.2014.10.002

2014

Liu, W., Frick, M., Huel, R., Nykiforuk, C.L., Wang, X.M., Gaudet, D.A., Eudes, F., Conner, R.L., Kuzyk, A.D., Chen, Q., Kang, Z., and Laroche, A. (2014). "Stripe Rust Resistance Gene Yr10 Encodes an Evolutionary-conserved and Unique CC-NBS-LRR Sequence in Wheat", *Molecular Plant*, 7(12), pp. 1740-1755. doi: 10.1093/mp/ssu112

2013

Zhao, B., Acharya, S.N., Liu, J.H., Zhang, X., Li, J., and Chen, Q. (2013). "Effect of water stress on protective enzyme system and yield of naked oat (*Avena nuda* L.)", *Research on Crops*, 14(3), pp. 702-710.

Zhu, D., Bai, X., Luo, X., Chen, Q., Cai, H., Ji, W., and Zhu, Y. (2013). "Identification of wild soybean (*Glycine soja*) TIFY family genes and their expression profiling analysis under bicarbonate stress.", *Plant Cell Reports*, 32(2), pp. 263-272. doi : 10.1007/s00299-012-1360-7

2012

Zhu, D., Cai, H., Luo, X., Bai, X., Deyholos, M.K., Chen, Q., Chen, C., Ji, W., and Zhu, Y. (2012). "Over-expression of a novel JAZ family gene from *Glycine soja*, increases salt and alkali stress tolerance.", *Biochemical and Biophysical Research Communications (BBRC)*, 426(2), pp. 273-279. doi : 10.1016/j.bbrc.2012.08.086

Yang, L., Ji, W., Gao, P., Li, Y., Cai, H., Bai, X., Chen, Q., and Zhu, Y. (2012). "GsAPK, an ABA-Activated and Calcium-Independent SnRK2-Type Kinase from *G. soja*, Mediates the Regulation of Plant Tolerance to Salinity and ABA Stress.", *PLoS ONE*, 7(3, Article No. e33838). doi: 10.1371/journal.pone.0033838

2011

Wang, Q., Chen, Q., He, M.L., Mir, P.S., Su, J., and Yang, Q. (2011). "Inhibitory effect of antioxidant extracts from various potatoes on the proliferation of human colon and liver cancer cells.", *Nutrition and Cancer*, 63(7), pp. 1044-1052. doi : 10.1080/01635581.2011.597538

Zhu, D., Bai, X., Chen, C., Chen, Q., Cai, H., Li, Y., Ji, W., Zhai, H., Lv, D., Luo, X., and Zhu, Y. (2011). "GsTIFY10, a novel positive regulator of plant tolerance to bicarbonate stress and a repressor of jasmonate signaling.", *Plant Molecular Biology*, 77(3), pp. 285-297. doi : 10.1007/s11103-011-9810-0

Gao, P., Bai, X., Yang, L., Lv, D., Pan, X., Li, Y., Cai, H., Ji, W., Chen, Q., and Zhu, Y. (2011). "osa-MIR393: a salinity- and alkaline stress-related microRNA gene.", *Molecular Biology Reports*, 38(1), pp. 237-242. doi: 10.1007/s11033-010-0100-8

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## Research Publications:

2015

Cheng, B.F., Rakow, G.F.W., Olson, T., Williams, D.J., and Gugel, R.K. (2015). "AAC adagio yellow mustard.", *Canadian Journal of Plant Science*, 95(5), pp. 1043-1045. doi : 10.4141/CJPS-2015-100

Marambe, H.K., McIntosh, T.C., Cheng, B.F., and Wanasundara, P.K.J.P.D. (2015). "Structural stability and Sin a 1 anti-epitope antibody binding ability of yellow mustard (*Sinapis alba* L.) napin during industrial-scale myrosinase inactivation process.", *Food & Function*, 6, pp. 2384-2395. doi : 10.1039/c4fo00806e

2014

Tian, E., Zeng, F., MacKay, K., Roslinsky, V., and Cheng, B.F. (2014). "Detection and Molecular Characterization of Two FAD3 Genes Controlling Linolenic Acid Content and Development of Allele-Specific Markers in Yellow Mustard (*Sinapis alba*).", *PLoS ONE*, 9(5:e97430). doi : 10.1371/journal.pone.0097430

Zeng, F. and Cheng, B.F. (2014). "Self-(in)compatibility inheritance and allele-specific marker development in yellow mustard (*Sinapis alba*).", *Molecular Breeding*, 33(1), pp. 187-196. doi : 10.1007/s11032-013-9943-8

Fu, Y.B., Cheng, B.F., and Peterson, G.W. (2014). "Genetic diversity analysis of yellow mustard (*Sinapis alba* L.) germplasm based on genotyping by sequencing", *Genetic Resources and Crop Evolution*, 61(3), pp. 579-594. doi : 10.1007/s10722-013-0058-1

Marambe, H.K., McIntosh, T.C., Cheng, B.F., and Wanasundara, P.K.J.P.D. (2014). "Quantification of major 2S allergen protein of yellow mustard using anti-Sin a 1 epitope antibody.", *Food Control*, 44, pp. 233-241. doi : 10.1016/j.foodcont.2014.03.053

Zeng, F. and Cheng, B.F. (2014). "Transposable element insertion and epigenetic modification cause the multiallelic variation in the expression of FAE1 in *Sinapis alba*.", *Plant Cell*, 26(6), pp. 2648-2659. doi : 10.1105/pc.114.126631

Tian, E., Roslinsky, V., and Cheng, B.F. (2014). "Molecular marker-assisted breeding for improved *Ogura* cms restorer line (RfoRfo) and mapping of the restorer gene (Rfo) in *Brassica juncea*.", *Molecular Breeding*, 34(3), pp. 1361-1371. doi : 10.1007/s11032-014-0121-4

2013

Javidfar, F. and Cheng, B.F. (2013). "Construction of a genetic linkage map and QTL analysis of erucic acid content and glucosinolate components in yellow mustard (*Sinapis alba* L.)", *BMC Plant Biology*, 13(142). doi : 10.1186/1471-2229-13-142

Javidfar, F. and Cheng, B.F. (2013). "Single Locus, Multiallelic Inheritance of Erucic Acid Content and Linkage Mapping of FAE1 Gene in Yellow Mustard.", *Crop Science*, 53(3), pp. 825-832. doi : 10.2135/cropsci2012.09.0552

2012

Cheng, B.F., Williams, D.J., and Zhang, Y. (2012). "Genetic Variation in Morphology, Seed Quality and Self-(in)Compatibility among the Inbred Lines Developed from a Population Variety in Outcrossing Yellow Mustard (*Sinapis alba*).", *Plants*, 1(1), pp. 16-26. doi : 10.3390/plants1010016

## Other Science Related Publications:

2015

Cheng, B.F., Roslinsky, V., and Williams, D.J. (2015). "Hybrid breeding using the improved *Ogura* cms system in *Brassica juncea*.", 14th International Rapeseed Congress, Saskatoon, Canada, July 5-9, 2015, pp. 198. (Poster)

Cheng, B.F., Javidfar, F., and Roslinsky, V. (2015). "Development and genetic studies of inbred lines with different linoleic acid contents in yellow mustard (*Sinapis alba* L.)", 14th International Rapeseed Congress, Saskatoon, Canada, July 5-9, 2015, pp. 199. (Poster)

Tahir, M., Javidfar, F., Roslinsky, V., and Cheng, B.F. (2015). "Variation and inheritance of mucilage content in yellow mustard (*Sinapis alba* L.)", 14th International Rapeseed Congress, Saskatoon, Canada, July 5-9, 2015, pp. 197. (Poster)

## 2013

McAllister, T.A., He, M.L., McKinnon, J.J., Nair, J., Johnson, E.N., and Cheng, B.F. (2013). "Canola juncea - new meal in town.", Saskatchewan Beef and Forage Symposium, Saskatoon, SK, Canada, January 24, 2013. (Presentation)

Marambe, H.K., McIntosh, T.C., Cheng, B.F., and Wanasundara, P.K.J.P.D. (2013). "Denaturation of 2S Albumin Napin and Implication of Structural Changes on Allergenic Properties of Yellow Mustard (*Sinapis alba*).", Agricultural biotechnology International Conference, Calgary, Canada, September 15-18, 2013.

## 2012

Marambe, H.K., McIntosh, T.C., Cheng, B.F., and Wanasundara, P.K.J.P.D. (2012). "P-Ab based ELISA quantitation of Sin a 1 allergen in yellow mustard (*S. alba*) seed.", 7th Workshop on Food Allergen Methodologies, Montréal, QC, Canada, May 6-9, 2012. (Poster)

Marambe, H.K., McIntosh, T.C., Cheng, B.F., and Wanasundara, P.K.J.P.D. (2012). "Anti-peptide antibody-based ELISA quantitation of Sin a 1 allergen in yellow mustard (*Sinapis alba* L.) seeds.", 7th Workshop on Food Allergen Methodologies, Montréal, QC, Canada, May 6-9, 2012.

# Chiquette, Johanne, Ph.D. (Agr)

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## Research Publications:

2015

Chiquette, J., Lagrost, J., Girard, C.L., Talbot, G., Li, S., Plaizier, J.C., and Hindrichsen, I.K. (2015). "Efficacy of the direct-fed microbial *Enterococcus faecium* alone or in combination with *Saccharomyces cerevisiae* or *Lactococcus lactis* during induced subacute ruminal acidosis.", *Journal of Dairy Science (JDS)*, 98(1), pp. 190-203. doi: 10.3168/jds.2014-8219

Brito, A.F., Chiquette, J., Stabler, S.P., Allen, R.H., and Girard, C.L. (2015). "Supplementing lactating dairy cows with a vitamin B12 precursor, 5,6-dimethylbenzimidazole, increases the apparent ruminal synthesis of vitamin B12.", *Animal*, 9(1), pp. 67-75. doi: 10.1017/S1751731114002201

2013

Ivan, M., Petit, H.V., Chiquette, J., and Wright, A.-D.G. (2013). "Rumen fermentation and microbial population in lactating dairy cows receiving diets containing oilseeds rich in C-18 fatty acids.", *British Journal of Nutrition*, 109(7), pp. 1211-1218. doi: 10.1017/S0007114512003030

2012

Chiquette, J., Allison, M.J., and Rasmussen, M.A. (2012). "Use of *Prevotella bryantii* 25A and a commercial probiotic during subacute acidosis challenge in midlactation dairy cows.", *Journal of Dairy Science (JDS)*, 95(10), pp. 5985-5995. doi: 10.3168/jds.2012-5511

2011

Scott, S.L., Mbiffo, R.S., Chiquette, J., Savoie, P., and Turcotte, G. (2011). "Rumen disappearance kinetics and chemical characterization of by-products from cellulosic ethanol production.", *Animal Feed Science and Technology*, 165(3-4), pp. 151-160. doi: 10.1016/j.anifeedsci.2010.11.020

## Other Science Related Publications:

2015

Fomenky, B., Beaudoin, F., Chiquette, J., Talbot, G., Bissonnette, N., Chouinard, P.Y., Lessard, M., and Ibeagha-Awemu, E.M. (2015). "Amélioration du développement immunitaire chez les veaux laitiers par les probiotiques.", *Symposium sur les bovins laitiers 2015*, Drummondville, QC, Canada, Octobre 29, 2015.

Fomenky, B., Chiquette, J., Chouinard, P.Y., and Ibeagha-Awemu, E.M. (2015). "The effect of two direct fed microbials on calf's performance and oxidative burst capacity during the early period of growth.", *2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council*, Ottawa, Canada, May 6-8, 2015.

Ibeagha-Awemu, E.M., Beaudoin, F., Chiquette, J., Talbot, G., Bissonnette, N., and Lessard, M. (2015). "Probiotics administration enhances calves' lymphoproliferation responses to vaccination during the early weeks of growth.", *2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council*, Ottawa, Canada, May 6-8, 2015.

Chiquette, J., Veilleux, L., Brochu, J., Beaudoin, F., Fomenky, B., and Ibeagha-Awemu, E.M. (2015). "Viability of the direct-fed *Saccharomyces cerevisiae* boulardii in the digestive tract of calves.", *2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council*, Ottawa, Canada, May 6-8, 2015.

Ibeagha-Awemu, E.M., Dudemaine, P.-L., Chiquette, J., Talbot, G., and Bissonnette, N. (2015). "Involvement of microRNAs in calves' intestinal growth and development and probable modulatory role of *Saccharomyces cerevisiae*.", *Symposium on Gut Health in Production of Food Animals*, Kansas City, Missouri, USA, November 9-11, 2015. (Poster)

2013

Chiquette, J., Lagrost, J., Girard, C.L., Talbot, G., Li, S., and Plaizier, K. (2013). "Combination of Bacterial and Yeast Probiotics for Lactating Cows Submitted To a Sub-Acute Rumen Acidosis Challenge.", *WCDS Advances in Dairy Technology*, Canada, Volume 25, page 381. (Abstract)

## 2012

Chiquette, J., Lagrost, J., and Girard, C.L. (2012). "Les probiotiques et l'acidose ruminale subaiguë: Pensez-vous tout savoir?", 36e Symposium sur les bovins laitiers: Agir pour l'avenir, Drummondville, QC, Canada, November 1, 2012, pp. 14.

Chiquette, J., Lagrost, J., Girard, C.L., Li, S., Plaizier, J.C., and Talbot, G. (2012). "Combination of bacterial and yeast probiotics: a step forward to unravel their mode of action.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, Published in: J. Anim. Sci. 90, Suppl. 3; J. Dairy Sci. 95, Suppl. 2, pp. 73, M323. (Abstract)

## 2011

Ouellet, D.R. and Chiquette, J. (2011). "Effect of dietary nitrogen and yeast supplementation on apparent diet digestibility and microbial population in the rumen content of dairy lactating cows.", Journal of Animal Science, 89(Suppl. 1), pp. 372. (Abstract)

Ouellet, D.R. and Chiquette, J. (2011). "Effect of dietary nitrogen levels and yeast supplementation on apparent diet digestibility and microbial population in the rumen content of dairy lactating cows.", 1er Symposium du Centre de recherche et de développement sur le bovin laitier et le porc: Parlons science au CRDBLP! / 1st Symposium of the Dairy and Swine Research and Development Centre: Let's Talk Science at the DSRDC!, Sherbrooke, QC, Canada, June 7, 2011, pp. 24/29.

Chiquette, J. (2011). "Combinaison de bactéries et de levures administrées comme probiotiques à des vaches en lactation soumises à une acidose ruminale subaiguë provoquée.", 1er Symposium du Centre de recherche et de développement sur le bovin laitier et le porc: Parlons science au CRDBLP! / 1st Symposium of the Dairy and Swine Research and Development Centre: Let's Talk Science at the DSRDC!, Sherbrooke, QC, Canada, June 7, 2011.

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## Research Publications:

2015

Choo, T.-M., Martin, R.A., ter Beek, S.M., MacDonald, D., Scott, P., Dion, Y., Rioux, S., Pageau, D., and Abdel-Aal, E-S.M. (2015). "AAC purpose barley.", *Canadian Journal of Plant Science*, 95(3), pp. 599-602. doi : 10.4141/CJPS-2014-395

Choo, T.-M., ter Beek, S.M., Martin, R.A., MacDonald, D., Scott, P., Dion, Y., Rioux, S., Pageau, D., Fregeau-Reid, J., and Abdel-Aal, E-S.M. (2015). "AAC starbuck hullless barley.", *Canadian Journal of Plant Science*, 95(3), pp. 595-598. doi : 10.4141/CJPS-2014-371

Choo, T.-M., Vigier, B.J., Savard, M.E., Blackwell, B.A., Martin, R.A., Wang, J.M., Yang, J., and Abdel-Aal, E-S.M. (2015). "Black Barley as a Means of Mitigating Deoxynivalenol Contamination.", *Crop Science*, 55(May-June), pp. 1096-1103. doi : 10.2135/cropsci2014.05.0405

2014

Choo, T.-M., Martin, R.A., Xue, A.G., MacDonald, D., Scott, P., Rowsell, J., Dion, Y., and Rioux, S. (2014). "AAC Mirabel barley.", *Canadian Journal of Plant Science*, 94, pp. 465-468. doi : 10.4141/CJPS2013-3151

Chamarthi, S.K., Kumar, K., Gunnaiah, R., Kushalappa, A.C., Dion, Y., and Choo, T.-M. (2014). "Identification of fusarium head blight resistance related metabolites specific to doubled-haploid lines in barley.", *European Journal of Plant Pathology*, 138(1), pp. 67-78. doi : 10.1007/s10658-013-0302-8

Choo, T.-M., Martin, R.A., Savard, M.E., and Blackwell, B.A. (2014). "Effects of planting date and earliness on deoxynivalenol contamination in barley under natural epidemic conditions.", *Canadian Journal of Plant Science*, 94(8), pp. 1363-1371. doi : 10.4141/CJPS2013-369

Abdel-Aal, E-S.M. and Choo, T.-M. (2014). "Differences in compositional properties of a hullless barley cultivar grown in 23 environments in eastern Canada.", *Canadian Journal of Plant Science*, 94(5), pp. 807-815. doi : 10.4141/CJPS2013-301

2013

Legge, W.G., Tucker, J.R., Bizimungu, B., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Tekauz, A., Turkington, T. K., Savard, M.E., and Choo, T.-M. (2013). "Cerveza barley.", *Canadian Journal of Plant Science*, 93(3), pp. 557-564. doi : 10.4141/cjps2012-299

Choo, T.-M., ter Beek, S.M., Martin, R.A., Rowsell, J., and Frégeau-Reid, J.A. (2013). "AAC Azimuth hullless barley.", *Canadian Journal of Plant Science*, 93(4), pp. 755-757. doi : 10.4141/CJPS2013-031

Legge, W.G., Tucker, J.R., Bizimungu, B., Tekauz, A., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Turkington, T. K., Martin, R.A., Choo, T.-M., Vigier, B.J., Blackwell, B.A., and Savard, M.E. (2013). "Taylor barley.", *Canadian Journal of Plant Science*, 93(5), pp. 969-977. doi : 10.4141/cjps2013-126

2012

Kumaraswamy, G.K., Kushalappa, A.C., Choo, T.-M., Dion, Y., and Rioux, S. (2012). "Differential metabolic response of barley genotypes, varying in resistance, to trichothecene-producing and -nonproducing (tri5-) isolates of *Fusarium graminearum*.", *Plant Pathology*, 61(3), pp. 509-521. doi : 10.1111/j.1365-3059.2011.02528.x

Luckert, D.E., Toubia-Rahme, H., Steffenson, B.J., Choo, T.-M., and Molnar, S.J. (2012). "Novel Septoria Speckled Leaf Blotch Resistance Loci in a Barley Doubled Haploid Population.", *Phytopathology*, 102(7), pp. 683-691. doi : 10.1094/PHYTO-06-11-0181

Abdel-Aal, E-S.M., Choo, T.-M., Dhillon, S., and Rabalski, I. (2012). "Free and Bound Phenolic Acids and Total Phenolics in Black, Blue, and Yellow Barley and Their Contribution to Free Radical Scavenging Capacity.", *Cereal Chemistry*, 89(4), pp. 198-204. doi : 10.1094/CCHEM-10-11-0116

2011

Kumaraswamy, G.K., Bollina, V., Kushalappa, A.C., Choo, T.-M., Dion, Y., Rioux, S., Mamer, O., and Faubert, D. (2011). "Metabolomics technology to phenotype resistance in barley against *Gibberella zeae*.", *European Journal of Plant Pathology*, 130(1), pp.29-43. doi : 10.1007/s10658-010-9729-3

Legge, W.G., Tucker, J.R., Bizimungu, B., Tekauz, A., Noll, J.S., Fetch Jr., T.G., Menzies, J.G., Haber, S.M., Savard, M.E., Vigier, B.J., Choo, T.-M., Martin, R.A., Turkington, T.K., Rossnagel, B.G., and Harvey, B.L. (2011). "Norman barley.", *Canadian Journal of Plant Science*, 91(6), pp. 1105-1113. doi : 10.4141/cjps2010-020

Bollina, V., Kushalappa, A.C., Choo, T.-M., Dion, Y., and Rioux, S. (2011). "Identification of metabolites related to mechanisms of resistance in barley against *Fusarium graminearum*, based on mass spectrometry.", *Plant Molecular Biology*, 77(4-5), pp. 355-370. doi: 10.1007/s11103-011-9815-8

Kumaraswamy, G.K., Kushalappa, A.C., Choo, T.-M., Dion, Y., and Rioux, S. (2011). "Mass Spectrometry Based Metabolomics to Identify Potential Biomarkers for Resistance in Barley against *Fusarium* Head Blight (*Fusarium graminearum*).", *Journal of Chemical Ecology*, 37(8), pp. 846-856. doi: 10.1007/s10886-011-9989-1

## Other Science Related Publications:

2014

Mills, A.A.S., Choo, T.-M., Izydorczyk, M.S., Durand, J., Kobler, J.F., Martin, R.A., and Sorrells, M.E. (2014). "Evaluation of malting barley quality in Eastern North America as affected by improved cultural practices.", 2014 North American Barley Researchers Workshop, Minneapolis, MN, USA, June 29-July 2, 2014.

Legge, W.G., Tucker, J.R., Banik, M., Tekauz, A., Martin, R.A., Choo, T.-M., Blackwell, B.A., and Savard, M.E. (2014). "Development of TR10214 two-row malting barley with low deoxynivalenol accumulation.", 21st North American Barley Research Workshop, Minneapolis, Minnesota, USA, June 29- July 2, 2014. (Poster)

2011

Choo, T.-M. (2011). "What's new in barley?", Canadian Seed Growers' Association Maritime Branch Annual Meeting, Moncton, NB, Canada, 2011.

Choo, T.-M., Martin, R.A., Savard, M.E., and Xue, A.G. (2011). "Breeding barley for resistance to *Fusarium* head blight for Eastern Canada.", 15th International EWAC Conference, Novi Sad, Serbia, November 7-11, 2011, pp. 32.

Legge, W.G., Tucker, J.R., Tekauz, A., Martin, R.A., Choo, T.-M., Blackwell, B.A., and Savard, M.E. (2011). "Development of two-row malting barley with improved *Fusarium* head blight resistance at Agriculture and Agri-Food Canada's Brandon Research Centre.", 7th Canadian Workshop on *Fusarium* Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, Published in: Gilbert, J. and Tekauz, A. (Eds.), *Proceedings of the 7th Canadian Workshop on *Fusarium* Head Blight*, pp. 105.

# Claessens, Annie, Ph.D.

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## Research Publications:

2012

Ziadi, N., Bélanger, G., and Claessens, A. (2012). "Relationship between soil nitrate accumulation and in-season corn N nutrition indicators.", *Canadian Journal of Plant Science*, 92(2), pp. 331-339. doi: 10.4141/CJPS2011-086

Bélanger, G., Savoie, P., Parent, G., Claessens, A., Bertrand, A., Tremblay, G.F., Massé, D.I., Gilbert, Y., and Babineau, D. (2012). "Switchgrass silage for methane production as affected by date of harvest.", *Canadian Journal of Plant Science*, 92(6), pp. 1187-1197. doi: 10.4141/CJPS2011-202

2011

Bélanger, G., Claessens, A., and Ziadi, N. (2011). "Grain N and P relationships in maize.", *Field Crops Research*, 126(3), pp. 1-7. doi: 10.1016/j.fcr.2011.09.016

Bélanger, G., Claessens, A., and Ziadi, N. (2011). "Relationship between P and N concentrations in maize and wheat leaves.", *Field Crops Research*, 123(1), pp. 28-37. doi: 10.1016/j.fcr.2011.04.007

## Other Science Related Publications:

2015

Séguin, P., Tremblay, G.F., Claessens, A., Bélanger, G., Lajeunesse, J., Berthiaume, R.R., Martel, H., and Wood, S. (2015). "Adaptabilité du système PEAQ aux conditions québécoises.", *Journée d'information scientifique sur les bovins laitiers et les plantes fourragères*, Drummondville, QC, Canada, 25 février 2015, Présentation.

Royer, I., Cambouris, A.N., Claessens, A., Angers, D.A., Ziadi, N., and Perron, I. (2015). "Soil contaminated with trace metal for the production of bioenergy from biomass.", *Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference*, McGill University, Montreal, QC, Canada, July 5-10, 2015. (Poster)

2014

Audy, P., Castonguay, Y., Claessens, A., and Desgagnés, R. (2014). "SRAP polymorphisms associated with Phytophthora Root Rot (PRR) tolerance in alfalfa.", *Joint Conference of NAAIC, Trifolium, & Grass Breeders*, Lethbridge, Alberta, Canada, July 8-10, 2014.

Audy, P., Castonguay, Y., Claessens, A., and Desgagnés, R. (2014). "SRAP polymorphisms associated with Phytophthora Root Rot (PRR) tolerance in alfalfa.", *North American Alfalfa Improvement Conference*, Lethbridge, AB, Canada, July 8-10, 2014, Invited speaker.

Audy, P., Desgagnés, R., Claessens, A., and Castonguay, Y. (2014). "Nouvelle approche de sélection assistée par marqueurs dans le développement d'une luzerne plus résistante aux maladies.", *Demi-journée d'information scientifique sur les fourrages 2012*, Victoriaville, QC, Canada, February 12, 2014, Presentation, pp. 23-35.

Jégo, G., Morissette, R., Thibodeau, F., Claessens, A., and Savoie, P. (2014). "Simulation of yield potential of short rotation willow in Eastern Canada.", *Advancing Woody Biomass - Options & Opportunities in Nova Scotia*, Sydney, NS, Canada, October 21-23, 2014.

Angers, D.A., Claessens, A., Leclerc, M.-L., and Maillard, É. (2014). "Perennial herbaceous crops used for bioenergy: a review of their impact on soil organic carbon.", *20th World Congress of Soil Science*, Jeju, South Korea, June 8-13, 2014.

Claessens, A. and Bélanger, G. (2014). "Les mélanges fourragers.", *Conférencière invitée lors d'une journée sur les plantes fourragères organisée par le Club Agroenvironnemental de la Rive-Nord*, 6 Février 2014. (Presentation)

Claessens, A., Chouinard-Michaud, C., Michaud, A.R., Tremblay, G.F., Bertrand, A., Bélanger, G., Castonguay, Y., Berthiaume, R.R., and Allard, G.C. (2014). "Nonstructural carbohydrates and some attributes of nutritive value in alfalfa as influenced by genetic selection.", *North American Alfalfa Improvement Conference*, Lethbridge, Alberta, Canada, July 6-11, 2014.

Bertrand, A. and Claessens, A. (2014). "Perennial crop biomass for the production of high-quality fibres, bioethanol and value-added co-products.", *13th International Symposium on Bioplastics, Biocomposites and Biorefining*, Guelph, Ontario, Canada, May 19-24, 2014.



Claessens, A., Bélanger, G., Lalonde, O., Martel, H., Séguin, P., Lajeunesse, J., Allard, G.C., Lemay, I., and Bertrand, A. (2014). "Genetic variability and potential of switchgrass as feedstock for the bioindustry in eastern Canada.", 4th Pan-American Congress on Plants and Bioenergy, Guelph, Ontario, Canada, June 4-7, 2014.

## 2013

Castonguay, Y., Claessens, A., Bertrand, A., and Audy, P. (2013). "Reaping the benefits of new breeding technologies to improve forage yield and quality.", Annual meeting of the "Canadian Forage Grassland Association", Old, Alberta, Canada, December 9-11, 2013, Oral presentation.

Claessens, A., Bélanger, G., Savoie, P., Parent, G., Bertrand, A., Tremblay, G.F., Massé, D.I., Gilbert, Y., and Babineau, D. (2013). "Effect of harvest date and nitrogen fertilization on reed canarygrass and switchgrass yield, composition and specific methane production in eastern Canada.", SWITCHGRASS II conference, Madison, Wisconsin, USA, September 10-12, 2013., [www.dfrc.wisc.edu/switchgrass/](http://www.dfrc.wisc.edu/switchgrass/).

Jégo, G., Savoie, P., and Claessens, A. (2013). "Modeling growth of short rotation willow.", Atelier de chercheurs fédéraux sur la biomasse-bioénergie, Montréal, QC, Canada, 20-21 mars 2013.

Claessens, A., Bélanger, G., Savoie, P., Parent, G., Bertrand, A., Tremblay, G.F., Massé, D.I., Gilbert, Y., and Babineau, D. (2013). "Species, harvest date, and nitrogen fertilization affect characteristics of biomass grown for methane production in eastern Canada.", SWITCHGRASS II conference, Madison, Wisconsin, USA, September 9-13, 2013, Invited for an oral presentation.

## 2012

Audy, P., Castonguay, Y., Claessens, A., and Desgagnés, R. (2012). "SRAP polymorphisms associated with Phytophthora Root Rot (PRR) resistance within two alfalfa genetic backgrounds.", 22nd Trifolium Conference & 41st Grass Breeders Conference, Ithaca, New York, USA, July 10-12, 2012. (Poster)

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## Research Publications:

2016

Singh, A.K., Knox, R.E., Clarke, J.M., Clarke, F.R., Singh, A., DePauw, R.M., and Cuthbert, R.D. (2016). "Genetics of pre-harvest sprouting resistance in a cross of Canadian adapted durum wheat genotypes.", *Molecular Breeding*, 33(4), pp. 919-929. doi : 10.1007/s11032-013-0006-y

2015

Singh, A.K., Clarke, J.M., Knox, R.E., DePauw, R.M., Wise, I.L., Thomas, J.B., McCaig, T.N., Cuthbert, R.D., Clarke, F.R., and Fernandez, M.R. (2015). "AAC Marchwell durum wheat.", *Canadian Journal of Plant Science*, 95(1), pp. 189-195. doi : 10.4141/cjps-2014-223

Kumar, S., Knox, R.E., Clarke, F.R., Pozniak, C.J., DePauw, R.M., Cuthbert, R.D., and Fox, S.L. (2015). "Maximizing the identification of QTL for pre-harvest sprouting resistance using seed dormancy measures in a white-grained hexaploid wheat population.", *Euphytica*, 205(1), pp. 287-309. doi : 10.1007/s10681-015-1460-x

Maccaferri, M., Cane, M.A., Sanguineti, M.C., Salvi, S., Colalongo, M.C., Massi, A., Clarke, F.R., Knox, R.E., Pozniak, C.J., Clarke, J.M., Fahima, T., Dubcovsky, J., Xu, S.S., Ammar, K., Karsai, I., Vida, G., and Tuberosa, R. (2015). "A consensus framework map of durum wheat (*Triticum durum* Desf.) suitable for linkage disequilibrium analysis and genome-wide association mapping.", *BMC Genomics*, pp. 1-21. doi : 10.1186/1471-2164-15-873

2014

Knox, R.E., Campbell, H.L., Clarke, F.R., Menzies, J.G., Popovic, Z., Procnier, J.D., Clarke, J.M., DePauw, R.M., Cuthbert, R.D., and Somers, D.J. (2014). "Quantitative trait loci for resistance in wheat (*Triticum aestivum*) to *Ustilago tritici*.", *Canadian Journal of Plant Pathology*, 36(2), pp. 187-201. doi : 10.1080/07060661.2014.905497

Vera, C.L., Irvine, R.B., Duguid, S.D., Rashid, K.Y., Clarke, F.R., and Slaski, J.J. (2014). "Pasm disease and lodging in flax as affected by pyraclostrobin fungicide, N fertility and year.", *Canadian Journal of Plant Science*, 94(1), pp. 119-126. doi : 10.4141/cjps2013-046

Foster, A., Vera, C.L., Malhi, S.S., and Clarke, F.R. (2014). "Forage yield of simple and complex grass-legume mixtures under two management strategies.", *Canadian Journal of Plant Science*, 94(1), pp. 41-50. doi : 10.4141/cjps2013-095

Singh, A.K., Clarke, J.M., Knox, R.E., DePauw, R.M., McCaig, T.N., Cuthbert, R.D., Clarke, F.R., and Fernandez, M.R. (2014). "AAC Raymore durum wheat.", *Canadian Journal of Plant Science*, 94(7), pp. 1289-1296. doi : 10.4141/CJPS-2014-048

2013

Wu, X., Cárcamo, H.A., Beres, B.L., Clarke, F.R., DePauw, R.M., and Pang, B. (2013). "Effects of novel wheat genotype on *Cephus cinctus* Norton (Hymenoptera: Cephidae) and its parasitoid *Bracon cephi* (Hymenoptera: Braconidae).", *Cereal Research Communications*, 41, pp. 647-660.

Beres, B.L., Cárcamo, H.A., Byers, J.R., Clarke, F.R., Pozniak, C.J., Basu, S.K., and DePauw, R.M. (2013). "Host plant interactions between wheat germplasm source and wheat stem sawfly *Cephus cinctus* Norton (Hymenoptera: Cephidae) II. Other germplasm.", *Canadian Journal of Plant Science*, 93(6), pp. 1169-1177. doi : 10.4141/CJPS2013-035

Beres, B.L., Cárcamo, H.A., Byers, J.R., Clarke, F.R., Pozniak, C.J., Basu, S.K., and DePauw, R.M. (2013). "Host plant interactions between wheat germplasm source and wheat stem sawfly *Cephus cinctus* Norton (Hymenoptera: Cephidae) I. Commercial cultivars.", *Canadian Journal of Plant Science*, 93, pp. 607-617. doi : 10.4141/CJPS2012-088

Singh, A., Pandey, M.P., Singh, A.K., Knox, R.E., Ammar, K., Clarke, J.M., Clarke, F.R., Singh, R.P., Pozniak, C.J., DePauw, R.M., McCallum, B.D., Cuthbert, R.D., Randhawa, H.S., and Fetch Jr., T.G. (2013). "Identification and mapping of leaf, stem and stripe rust resistance quantitative trait loci and their interactions in durum wheat.", *Molecular Breeding*, 31(2), pp. 405-418. doi : 10.1007/s11032-012-9798-4

Singh, A., Knox, R.E., DePauw, R.M., Singh, A.K., Cuthbert, R.D., Campbell, H.L., Singh, D., Bhavani, S., Fetch Jr., T.G., and Clarke, F.R. (2013). "Identification and mapping in spring wheat of genetic factors controlling stem rust resistance and the study of their epistatic interactions across multiple environments.", *Theoretical and Applied Genetics (TAG)*, 126(8), pp. 1951-1964. doi : 10.1007/s00122-013-2109-6

Vera, C.L., Fox, S.L., DePauw, R.M., Smith, M.A.H., Wise, I.L., Clarke, F.R., Procnunier, J.D., and Lukow, O.M. (2013). "Relative performance of resistant wheat varietal blends and susceptible wheat cultivars exposed to wheat midge, *Sitodiplosis mosellana* (Géhin).", *Canadian Journal of Plant Science*, 93(1), pp. 59-66. doi : 10.4141/cjps2012-019

## 2012

Prashar, S., Wolfe, D., King, M.C., Vera, C.L., Fox, S.L., DePauw, R.M., Chen, G., Smith, M.A.H., Wise, I.L., Clarke, F.R., Lukow, O.M., and Procnunier, J.D. (2012). "Stability of midge tolerant varietal blends over 3-4 successive generations: High-speed / high-throughput, SNP-DNA fingerprinting in grain seeds.", *Journal of Plant Biochemistry and Biotechnology*, 3(2), pp. 1-10.

Singh, A.K., Clarke, J.M., Knox, R.E., DePauw, R.M., McCaig, T.N., Fernandez, M.R., and Clarke, F.R. (2012). "Transcend Durum wheat.", *Canadian Journal of Plant Science*, 92(4), pp. 809-813. doi : 10.4141/cjps2011-255

Pozniak, C.J., Clarke, J.M., and Clarke, F.R. (2012). "Potential for detection of marker-trait associations in durum wheat using unbalanced, historical phenotypic datasets.", *Molecular Breeding*, 30(4), pp. 1537-1550. doi : 10.1007/s11032-012-9737-4

Vera, C.L., Duguid, S.D., Fox, S.L., Rashid, K.Y., Dribnenki, J.C.P., and Clarke, F.R. (2012). "Comparative effect of lodging on seed yield of flax and wheat.", *Canadian Journal of Plant Science*, 92(1), pp. 39-43. doi : 10.4141/CJPS2011-031

Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., Krishna, P., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2012). "Brassinosteroid leaf unrolling QTL mapping in durum wheat.", *Planta*, 236(1), pp. 273-281. doi : 10.1007/s00425-012-1603-4

Knox, R.E., Clarke, F.R., Clarke, J.M., Fox, S.L., DePauw, R.M., and Singh, A.K. (2012). "Enhancing the identification of genetic loci and transgressive segregants for preharvest sprouting resistance in a durum wheat population.", *Euphytica*, 186(1), pp. 193-206. doi : 10.1007/s10681-011-0557-0

Isidro, J., Knox, R.E., Clarke, F.R., Singh, A.K., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2012). "Quantitative genetic analysis and mapping of leaf angle in durum wheat.", *Planta*, 236(6), pp. 1713-1723. doi : 10.1007/s00425-012-1728-5

## 2011

Suprayogi, Y., Clarke, J.M., Bueckert, R.A., Clarke, F.R., and Pozniak, C.J. (2011). "Nitrogen remobilization and post-anthesis nitrogen uptake in relation to elevated grain protein concentration in durum wheat.", *Canadian Journal of Plant Science*, 91(2), pp. 273-282. doi : 10.4141/cjps10185

DePauw, R.M., Knox, R.E., McCaig, T.N., Clarke, F.R., and Clarke, J.M. (2011). "Much more hard red spring wheat.", *Canadian Journal of Plant Science*, 91(4), pp. 797-803. doi : 10.4141/cjps10188

DePauw, R.M., Knox, R.E., McCaig, T.N., Clarke, F.R., and Clarke, J.M. (2011). "Carberry hard red spring wheat.", *Canadian Journal of Plant Science*, 91(3), pp. 529-534. doi : 10.4141/cjps10187

## Other Science Related Publications:

### 2015

Berraies, S., Ruan, Y., Knox, R.E., Clarke, F.R., Fernandez, M.R., DePauw, R.M., and Cuthbert, R.D. (2015). "Characterization of FHB resistance to *Fusarium* species and associated DON accumulation in spring wheat.", *From Seed to Pasta and Beyond: a Sustainable Durum Wheat Chain for Food Security and Healthy Lives*, Bologna, Italy, May 31 - June 2, 2015. (Poster)

Pozniak, C.J., Wiebe, K., Haile, J.K., Clarke, J.M., Sharpe, A.G., Ruan, Y., Clarke, F.R., Knox, R.E., and Karim Ammar, K. (2015). "Marker-assisted breeding in durum wheat: progress and perspectives.", *From Seed to Pasta and Beyond: a Sustainable Durum Wheat Chain for Food Security and Healthy Lives*, Bologna, Italy, May 31 - June 2, 2015. (Abstract)

Bokore, F.E., Cuthbert, R.D., Knox, R.E., Henriquez, M.A., Ruan, Y., DePauw, R.M., Pozniak, C.J., N'Daiye, A., Sharpe, A.G., Clarke, F.R., and Berraies, S. (2015). "Quantitative Trait Loci Associated with Resistance to *Fusarium* Head Blight in a Carberry x Vesper Derived Wheat Population.", *2015 National Fusarium Head Blight Forum*, St. Louis, MO, USA, December 6-8, 2015. (Poster)

Berraies, S., Knox, R.E., Cuthbert, R.D., Henriquez, M.A., Ruan, Y., DePauw, R.M., Singh, A., Pozniak, C.J., Meyer, B., Clarke, F.R., and Bokore, F.E. (2015). "Molecular Mapping of QTL for *Fusarium* Head Blight Resistance in Spring Wheat.", *2015 National Fusarium Head Blight Forum*, St. Louis, MO, USA, December 6-8, 2015. (Poster)

## 2014

Kumar, S., Knox, R.E., Clarke, F.R., Pozniak, C.J., DePauw, R.M., Cuthbert, R.D., and Fox, S.L. (2014). "Fine mapping of pre-harvest sprouting resistance associated QTL in white-grained wheat.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Knox, R.E., Kumar, S., Fetch Jr., T.G., Singh, A.K., Clarke, J.M., DePauw, R.M., Cuthbert, R.D., Campbell, H.L., Singh, D., Bhavani, S., Pozniak, C.J., and Clarke, F.R. (2014). "Identification of Quantitative Trait Loci for Stem Rust Resistance in Durum Wheat.", Canadian Wheat Alliance Annual Science Meeting 2014, Saskatoon, Canada, April 2014.

Knox, R.E., Singh, A., Kumar, S., DePauw, R.M., Clarke, F.R., Cuthbert, R.D., Singh, A.K., Pozniak, C.J., and Campbell, H.L. (2014). "Epistasis and Preliminary Fine Mapping of Quantitative Trait Loci for Common Bunt Resistance.", XXII International Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2014.

Bokore, F.E., Knox, R.E., DePauw, R.M., Cuthbert, R.D., Clarke, F.R., and Campbell, H.L. (2014). "Validation of DNA markers for Fusarium head blight resistance in Canada Western Red Spring (CWRS) wheat doubled haploid populations.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Bokore, F.E., Knox, R.E., DePauw, R.M., Cuthbert, R.D., Clarke, F.R., and Campbell, H.L. (2014). "Assessment of Canada Western Red Spring (CWRS) Wheat Doubled Haploid Populations with Fusarium Head Blight Resistance Genetic Markers.", Canadian Wheat Alliance Annual Science Meeting 2014, Saskatoon, Canada, April 2014.

N'Daiye, A., Haile, J.K., Clarke, F.R., Clarke, J.M., Knox, R.E., and Pozniak, C.J. (2014). "Genome-Wide Association Analysis of Grain Pigment Colour in Elite Durum Wheat Breeding Lines, Using Single SNP- and Haplotype-Based Approach in Durum Wheat.", XXII International Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2014.

Kumar, S., Knox, R.E., Clarke, F.R., Clarke, J.M., Pozniak, C.J., Isidro, J., Singh, A.K., Cuthbert, R.D., DePauw, R.M., Campbell, H.L., and Somers, D.J. (2014). "QTL mapping for resistance to loose smut in a durum wheat doubled haploid population.", CSA/CSHS Conference, Lethbridge, Alberta, Canada, July 10-14, 2014.

Cuthbert, R.D., Kumar, S., Knox, R.E., Clarke, F.R., Pozniak, C.J., Hucl, P.J., DePauw, R.M., and He, Y. (2014). "High-Density SNP Mapping and Quantitative Trait Locus Analysis of Agronomic Traits in Common Wheat.", XXII International Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2014.

Kumar, S., Knox, R.E., Clarke, F.R., Cuthbert, R.D., Pozniak, C.J., DePauw, R.M., and He, Y. (2014). "High-Density SNP Mapping and Quantitative Trait Locus Analysis of Glaucousness and Leaf Colour in Common Wheat.", XXII International Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2014.

DePauw, R.M., Cuthbert, R.D., Knox, R.E., Kumar, S., Singh, A., Singh, A.K., Campbell, H.L., Bhavani, S., Singh, D., Clarke, F.R., and Fetch Jr., T.G. (2014). "Evidence for Recombination of Sr2 and Fhb1.", Borlaug Global Rust Initiative (BGRI) Technical Workshop 2014, CIMMYT, México, March 2014.

## 2013

Kumar, S., Knox, R.E., Clarke, F.R., Pozniak, C.J., Singh, A., DePauw, R.M., Cuthbert, R.D., Hucl, P.J., Randhawa, H.S., Fox, S.L., Fetch Jr., T.G., McCartney, C., and He, Y. (2013). "High-resolution Mapping of Agronomic and Disease Related Traits Featuring Pre-harvest Sprouting and Common Bunt Resistance.", Canadian Triticum Advancement through Genomics (CTAG) annual meeting 2014, Saskatoon, SK, Canada.

Maccaferri, M., Salvi, S., Ricci, A., Massi, A., Clarke, F.R., Pozniak, C.J., Buerstmayr, H., Buerstmayr, H., Korol, A., Fahima, T., Dubcovsky, J., Xu, S., Karsai, I., Knox, R.E., Clarke, J.M., Cane, M.A., Sanguineti, M.C., and Tuberosa, R. (2013). "A consensus map of durum wheat based on simple sequence repeat and DART® markers for QTL analysis and SNP mapping.", International Symposium on "Genetics and Breeding of Durum Wheat", Rome, Italy.

Ruan, Y., MacLachlan, R., N'Daiye, A., Houshmand, S., Knox, R.E., Clarke, F.R., Clarke, J.M., Feuillet, C., and Pozniak, C.J. (2013). "Utilization of the chromosome 3B sequence to localize SST1, a stem solidness gene in wheat.", International Symposium on "Genetics and Breeding of Durum Wheat", Rome, Italy.

Isidro, J., Knox, R.E., Clarke, F.R., Singh, A.K., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2013). "Quantitative trait loci for chlorophyll content in durum wheat.", XXI Plant and Animal Genome Conference, San Diego, CA, USA, January 12-16, 2013.

## 2012

Singh, A., Pandey, M.P., Singh, A.K., Clarke, J.M., Knox, R.E., Ammar, K., Singh, R.P., Pozniak, C.J., DePauw, R.M., Clarke, F.R., McCallum, B.D., Cuthbert, R.D., and Randhawa, H.S. (2012). "Molecular mapping of leaf rust and stripe rust resistance QTL in durum wheat.", Canadian Journal of Plant Science, 92, pp. 593. (Abstract)

Knox, R.E., Hucl, P.J., Cuthbert, R.D., Singh, A.K., Clarke, F.R., DePauw, R.M., Pozniak, C.J., Fox, S.L., Humphreys, D.G., Clarke, J.M., Randhawa, H.S., Spaner, D.M., McCartney, C., Gaudet, D.A., Menzies, J.G., Gilbert, J.R., Fetch Jr., T.G., McCallum, B.D., and Brûlé-Babel, A.L. (2012). "Phenomics.", Canadian Triticum Advancement through Genomics (CTAG) annual meeting 2014, Saskatoon, SK, Canada.

Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2012). "Leaf angle and its relationship with brassinosteroid response loci in durum wheat.", XX Plant and Animal Genome Conference, San Diego, CA, USA, January 14-18, 2012.

Maccaferri, M., Massi, A., Clarke, F.R., Pozniak, C.J., Knox, R.E., Clarke, J.M., Buerstmayr, H., Buerstmayr, M., Korol, A., Fahima, T., Xu, S., Karsai, I., Sanguineti, M.C., and Tuberosa, R. (2012). "A consensus map for durum wheat as a framework for linkage, association mapping studies and SNP development.", XXI Plant and Animal Genome Conference, San Diego, CA, USA, January 12-16, 2013.

Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2012). "Mapping quantitative trait loci for leaf angle in durum wheat.", Canadian Journal of Plant Science, 92, pp. 593. (Abstract)

## 2011

Singh, M.P., Singh, A.K., Clarke, J.M., Knox, R.E., Ammar, K., Singh, R.P., Pozniak, C.J., DePauw, R.M., Clarke, F.R., McCallum, B.D., Cuthbert, J.L., and Randhawa, H.S. (2011). "Molecular mapping of leaf rust and stripe rust resistance QTL in durum wheat.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Singh, A.K., Knox, R.E., DePauw, R.M., Clarke, F.R., Martin, R.A., Xue, A.G., Gilbert, J., Brûlé-Babel, A.L., Campbell, H., and Cuthbert, R.D. (2011). "Validation of molecular markers linked to Sumai 3 resistance to DON and FDK in Canadian spring wheat populations.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 106.

Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2011). "Mapping quantitative trait loci for leaf angle in durum wheat.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2011). "Leaf angle and its relationship with brassinosteroid response loci in durum wheat.", Plant & Animal Genome XX Conference, Town & Country Convention Center, San Diego, CA, USA, January 14-18, 2012.

Knox, R.E., Clarke, F.R., Clarke, J.M., Fox, S.L., DePauw, R.M., Singh, A.K., and Isidro-Sanchez, J. (2011). "Evaluation of methods of measurement of pre-harvest sprouting resistance in durum wheat", 12th International Symposium on Pre-Harvest Sprouting in Cereals (ISPHSC), Red Deer, AB, Canada, July 24-27, 2011.

Maccaferri, M., Sanguineti, M.C., Cane, M.A., Buerstmayr, H., Buerstmayr, M., Clarke, F.R., Clarke, J.M., Fahima, T., Karsai, I., Knox, R.E., Korol, A., Massi, A., Pozniak, C.J., Xu, S.S., Vida, G., and Tuberosa, R. (2011). "A consensus map for durum wheat as a framework for linkage, association mapping studies and SNP development.", 21st International Research Initiative for Wheat Improvement (ITMI) Workshop, Mexico City, México, September 5-9, 2011.

Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., Krishna, P., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2011). "Brassinosteroid leaf unrolling QTL mapping in durum wheat.", 1st Congress of Cereal Biotechnology and Breeding, Szeged, Hungary, May 24-27, 2011. (Abstract)

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## Research Publications:

2014

Clément, A., Bacon, R., and Dorais, M. (2014). "Greenhouse tomato quality determinants on a north american market: A year round study.", *Acta Horticulturae (ISHS)*, 1037, pp. 377-384.

2013

Panneton, B., Clément, A., and Lagacé, L. (2013). "Potential of fluorescence spectroscopy for the characterisation of maple syrup flavours.", *Journal of the Science of Food and Agriculture*. doi: 10.1002/jsfa.6172

2012

LeBlanc, D.I., Vigneault, C., Boutin, J., Toussaint, V., Charlebois, D., Fomey, C.F., Bourgeois, G., Clément, A., and Bezanson, G.S. (2012). "Design and performance of a controlled environment mini-chamber for measuring produce quality deterioration.", *Journal of Agricultural Science and Technology B*, 2, pp. 391-399.

## Other Science Related Publications:

2014

Clément, A., Panneton, B., Martin, N., and Lagacé, L. (2014). "Maple syrup quality control benefits from advances in technology.", *Canadian Food Insights*, 2(2), pp. 35-36.

2011

Lagacé, L., Panneton, B., Clément, A., and Martin, N. (2011). "Advances in off-flavors and adulteration detection in maple syrup.", 2011 North American Maple Syrup Council (NAMSC) and International Maple Syrup Institute (IMSI) Annual Meetings, Frankenmuth, MI, USA, October 23-28, 2011.

# Cliff, Margaret A., Ph.D.

Research Scientist

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## Research Publications:

2015

Cliff, M.A., Stanich, K., Lu, R., and Hampson, C.R. (2015). "Use of descriptive analysis and preference mapping for early-stage assessment of new and established apples.", *Journal of the Science of Food and Agriculture*. doi : 10.1002/jsfa.7334

Terrell, E., Cliff, M.A., and Van Vuuren, H.J.J. (2015). "Functional characterization of individual- and mixed-Burgundian *Saccharomyces cerevisiae* strain isolates for fermentation of Pinot noir.", *Molecules*, 20(3), pp. 5112-5136. doi : 10.3390/molecules20035112

Cliff, M.A., Law, J.R., Lücker, J., Scaman, C.H., and Kermode, A.R. (2015). "Descriptive and hedonic analyses of low-Phe food formulations containing corn (*Zea mays*) seedling roots: toward development of a dietary supplement for individuals with phenylketonuria", *Journal of the Science of Food and Agriculture*. doi : 10.1002/jsfa.7074

Cheung, L.K.Y., Aluko, R.E., Cliff, M.A., and Li-Chan, E.C.Y. (2015). "Effects of exopeptidase treatment on antihypertensive activity and taste attributes of enzymatic whey protein hydrolysates.", *Journal of Functional Foods*, 13, pp. 262-275. doi : 10.1016/j.jff.2014.12.036

Cliff, M.A., Germain, B., Stanich, K., Gregory, D., and Usher, K.B. (2015). "Tracking the variation of small-batch micro-oxygenated wines using phenolic, anthocyanin and colorimetric determinations.", *Journal of Wine Research*, 26(4), pp. 251-269. doi : 10.1080/09571264.2015.1083952

2014

Saberi, S., Cliff, M.A., and Van Vuuren, H.J.J. (2014). "Comparison of Genetic and Enological Characteristics of New and Existing *S. cerevisiae* Strains for Chardonnay Wine Fermentations.", *Food Biotechnology*, 28(3), pp. 195-215. doi : 10.1080/08905436.2014.931863

Cliff, M.A., Li, J.B., and Stanich, K. (2014). "Survey reveals urban consumers' attitudes and beliefs regarding the use of wax on apples.", *Journal of Food Quality*, 37(1), pp. 29-41. doi : 10.1111/jfq.12065

Cliff, M.A., Stanich, K., and Hampson, C.R. (2014). "Consumer research explores acceptability of a new Canadian apple - Salish™.", *Canadian Journal of Plant Science*, 94(1), pp. 99-108. doi : 10.4141/CJPS2013-236

Stanich, K., Cliff, M.A., Hampson, C.R., and Toivonen, P.M.A. (2014). "Shelf-life and sensory assessments reveal the effects of storage treatments with 1-methylcyclopropene on new and established apples.", *Canadian Journal of Plant Science*, 94, pp. 1427-1439. doi : 10.4141/cjps-2014-139

Hampson, C.R., Stanich, K., McKenzie, D.-L., Herbert, L.C., Lu, R., Li, J.B., and Cliff, M.A. (2014). "Determining the optimum firmness for sweet cherries using Just-About-Right sensory methodology.", *Postharvest Biology and Technology*, 91, pp. 104-111. doi : 10.1016/j.postharvbio.2013.12.022

2013

Cliff, M.A., Fan, L., Sanford, K.A., Stanich, K., Doucette, C., and Raymond, N. (2013). "Descriptive analysis and early-stage consumer acceptance of yogurts fermented with carrot juice.", *Journal of Dairy Science (JDS)*, 96(7), pp. 4160-4172. doi : 10.3168/jds.2012-6287

Kozak, L.M. and Cliff, M.A. (2013). "Systematic comparison of hedonic ranking and rating methods demonstrates few practical differences.", *Journal of Food Science*, 78(8), pp. S1257-S1263. doi : 10.1111/1750-3841.12173

2012

Saberi, S., Cliff, M.A., and Van Vuuren, H.J.J. (2012). "Impact of mixed *S. cerevisiae* strains on the production of volatiles and estimated sensory profiles of Chardonnay wines.", *Food Research International*, 48(2), pp. 725-735. doi : 10.1016/j.foodres.2012.06.012

Cliff, M.A., Stanich, K., Edwards, J.E., and Saucier, C.T. (2012). "Adding grape seed extract to wine affects astringency and other sensory attributes.", *Journal of Food Quality*, 35(4), pp. 263-271. doi : 10.1111/j.1745-4557.2012.00448.x

Cliff, M.A., Li, J.B., Toivonen, P.M.A., and Ehret, D.L. (2012). "Effects of nutrient solution electrical conductivity on the compositional and sensory characteristics of greenhouse tomato fruit.", *Postharvest Biology and Technology*, 74, pp. 132-140. doi : 10.1016/j.postharvbio.2011.12.007

2011

Cliff, M.A., Bansal, M., Stanich, K., and Usher, K.B. (2011). "Comparison of new and existing threshold methods for evaluating sulfur compounds in different base wines.", *Journal of Sensory Studies*, 26(3), pp. 184-196. doi : 10.1111/j.1745-459X.2011.00335.x

Cliff, M.A., Stanich, K., Moran Trujillo, J., Toivonen, P.M.A., and Fomey, C.F. (2011). "Determination and Prediction of Odor Thresholds for Odor Active Volatiles in a Neutral Apple Juice Matrix.", *Journal of Food Quality*, 34(3), pp. 177-186. doi : 10.1111/j.1745-4557.2011.00383.x

## **Other Science Related Publications:**

2014

Toivonen, P.M.A. and Cliff, M.A. (2014). Progress Report for Project ID number J-000379. P020-BCFGA- Canadian Tree Fruit Products Development - Activity 4: Update on Improving Ambrosia™ Apple Quality after Long Term Storage. AIP-ASP reporting: Okanagan Plant Improvement Company (PICO)/Scientist Meeting Agenda – March 26, 2014: PARC-Summerland. (Report)

2013

Cliff, M.A. (2013). "Does wine serving temperature really influence perception of wine quality? (AAFC Coastal Newsletter, Issue 1, May 2013)".

2012

Bowen, P.A., Bogdanoff, C.P., Usher, K.B., Estergaard, B.F., Cliff, M.A., and Stanich, K. (2012). "Irrigation frequency and rate effects on vine growth, leaf gas exchange, berry composition, and wine sensory quality in red wine grapes.", *American Journal of Enology and Viticulture*, 63(3), pp. 440A. (Abstract)



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## Research Publications:

2015

Sekhwal, M.K., Li, P., Lam, I., Wang, X., Cloutier, S., and You, F.M. (2015). "Disease Resistance Gene Analogs (RGAs) in Plants.", *International Journal of Molecular Sciences*, 16(8), pp. 19248-19290. doi : 10.3390/ijms160819248

Shi, G., Zhang, Z.-C., Friesen, T.L., Bansal, U., Cloutier, S., Wicker, T., Rasmussen, J.B., and Faris, J.D. (2015). "Marker development, saturation mapping, and high-resolution mapping of the *Septoria nodorum* blotch susceptibility gene *Snn3-B1* in wheat.", *Molecular Genetics and Genomics*. doi : 10.1007/s00438-015-1091-x

You, F.M., Cloutier, S., Shan, Y.F., and Ragupathy, R. (2015). "LTR Annotator: Automated Identification and Annotation of LTR Retrotransposons in Plant Genomes.", *International Journal of Bioscience, Biochemistry and Bioinformatics*, 5(3), pp. 165-174. doi : 10.17706/ijbbb.2015.5.3.165-174

Kumar, S., You, F.M., Duguid, S.D., Booker, H.M., Rowland, G.G., and Cloutier, S. (2015). "QTL for fatty acid composition and yield in linseed (*Linum usitatissimum* L.)", *Theoretical and Applied Genetics (TAG)*. doi : 10.1007/s00122-015-2483-3

2014

Yu, X.-M., Cloutier, S., Tambong, J.T., and Bromfield, E.S.P. (2014). "*Bradyrhizobium ottawaense* sp. Nov., a symbiotic nitrogen fixing bacterium from root-nodules of soybeans in Eastern Canada.", *International Journal of Systematic and Evolutionary Microbiology (IJSEM)*, 64(Pt. 9), pp. 3202-3207. doi : 10.1099/ijs.0.065540-0

Soto-Cerda, B.J., Diederichsen, A., Duguid, S.D., Booker, H.M., Rowland, G.G., and Cloutier, S. (2014). "Molecular diversity and association analyses reveal the potential of pale flax (*Linum bienne* Mill.), the wild progenitor of cultivated flax (*Linum usitatissimum* L.) as a source of useful genetic variation.", *Molecular Breeding*, 34, pp. 2091-2107.

Zhang, T., Lamb, E.G., Soto-Cerda, B.J., Duguid, S.D., Cloutier, S., Rowland, G.G., Diederichsen, A., and Booker, H.M. (2014). "Structural equation modeling of the Canadian flax (*Linum usitatissimum* L.) core collection for multiple phenotypic traits.", *Canadian Journal of Plant Science*, 94(8), pp. 1325-1332. doi : 10.4141/CJPS-2014-158

Dakouri, A., McCallum, B.D., and Cloutier, S. (2014). "Haplotype diversity and evolutionary history of the *Lr34* locus of a world wheat germplasm collection.", *Molecular Breeding*, 33(3), pp. 639-655. doi : 10.1007/s11032-013-9981-2

Thambugala, D. and Cloutier, S. (2014). "Fatty acid composition and desaturase gene expression in flax (*Linum usitatissimum* L.)", *Journal of Applied Genetics*, 55(4), pp. 423-432. doi : 10.1007/s13353-014-0222-0

Ghose, K., Selvaraj, K., McCallum, J.L., Kirby, C.W., Sweeney-Nixon, M., Cloutier, S., Deyholos, M.K., Datta, R.S.S., and Fofana, B. (2014). "Identification and functional characterization of a flax UDP-glycosyltransferase glucosylating secoisolariciresinol (SECO) into secoisolariciresinol monoglucoside (SMG) and diglucoside (SDG).", *BMC Plant Biology*, 14(1: Article number 82). doi : 10.1186/1471-2229-14-82

Soto-Cerda, B.J., Duguid, S.D., Booker, H.M., Rowland, G.G., Diederichsen, A., and Cloutier, S. (2014). "Genomic regions underlying agronomic traits in linseed (*Linum usitatissimum* L.) as revealed by association mapping.", *Journal of Integrative Plant Biology (JIPB)*, 56(1), pp. 75-87. doi : 10.1111/jipb.12118

Kumar, S., Wang, Z.N., Banks, T.W., Jordan, M.C., McCallum, B.D., and Cloutier, S. (2014). "*Lr1*-mediated leaf rust resistance pathways of transgenic wheat lines revealed by a gene expression study using the Affymetrix GeneChip® Wheat Genome Array.", *Molecular Breeding*, 34(1), pp. 127-141. doi : 10.1007/s11032-014-0022-6

Soto-Cerda, B.J., Westermeyer, F., Iñiguez-Luy, F., Muñoz, G., Montenegro, A.B., and Cloutier, S. (2014). "Assessing the agronomic potential of linseed genotypes by multivariate analyses and association mapping of agronomic traits.", *Euphytica*, 196(1), pp. 35-49. doi : 10.1007/s10681-013-1012-1

Radovanovic, N., Thambugala, D., Duguid, S.D., Loewen, E., and Cloutier, S. (2014). "Functional Characterization of Flax Fatty Acid Desaturase FAD2 and FAD3 Isoforms Expressed in Yeast Reveals a Broad Diversity in Activity", *Molecular Biotechnology*, 56(7), pp. 609-620. doi : 10.1007/s12033-014-9737-1

Soto-Cerda, B.J., Duguid, S.D., Booker, H.M., Rowland, G.G., Diederichsen, A., and Cloutier, S. (2014). "Association mapping of seed quality traits using the flax (*Linum usitatissimum* L.) core collection.", *Theoretical and Applied Genetics (TAG)*, 127(4), pp. 881-896. doi : 10.1007/s00122-014-2264-4

You, F.M., Li, P., Kumar, S., Ragupathy, R., Li, Z.N., Fu, Y.B., and Cloutier, S. (2014). "Genome-wide Identification and Characterization of the Gene Families Controlling Fatty Acid Biosynthesis in Flax (*Linum usitatissimum* L.)", *Journal of Proteomics & Bioinformatics*, 7(10), pp. 310-326. doi: 10.4172/jpb.1000334

## 2013

McCouch, S., Baute, G.J., Bradeen, J., Bramel, P., Bretting, P.K., Buckler, E., Burke, J.M., Charest, D., Cloutier, S., Cole, G., Dempewolf, H., Dingkuhn, M., Feuillet, C., Gepts, P., Grattapaglia, D., Guarino, L., Jackson, S., Knapp, S., Langridge, P., Lawton-Rauh, A., Lijua, Q., Lusty, C.A., Michaels, T.E., Myles, S., Naito, K., Nelson, R.L., Pontarollo, R., Richards, C.M., Rieseberg, L., Ross-Ibarra, J., Rounsley, S., Sackville Hamilton, R., Schurr, U., Stein, N., Tomooka, N., van der Knaap, E., van Tassel, D., Toll, J., Valls, J., Varshney, R.K., Ward, J., Waugh, R., and Zamir, D. (2013). "Agriculture: Feeding the future.", *Nature*, 499, pp. 23-24. doi: 10.1038/499023a

Asgarina, P., Cloutier, S., Duguid, S.D., Rashid, K.Y., Mirlahi, A.F., Banik, M., and Saeidi, G. (2013). "Mapping QTL for powdery mildew resistance in flax (*Linum usitatissimum* L.)", *Crop Science*, 53(6), pp. 2462-2472. doi: 10.2135/cropsci2013.05.0298

Thambugala, D., Duguid, S.D., Loewen, E., Rowland, G.G., Booker, H.M., You, F.M., and Cloutier, S. (2013). "Genetic variation of six desaturase genes in flax and their impact on fatty acid composition.", *Theoretical and Applied Genetics (TAG)*, 126(10), pp. 2627-2641. doi: 10.1007/s00122-013-2161-2

You, F.M., Duguid, S.D., Thambugala, D., and Cloutier, S. (2013). "Statistical analysis and field evaluation of the type 2 modified augmented design (MAD) in phenotyping of flax (*Linum usitatissimum*) germplasms in multiple environments.", *Australian Journal of Crop Science*, 7(11), pp. 1789-1800.

Kumar, S., Jordan, M.C., Datla, R.S.S., and Cloutier, S. (2013). "The LuWD40-1 gene encoding WD repeat protein regulates growth and pollen viability in flax (*Linum usitatissimum* L.)", *PLoS ONE*, 8(7), pp. e69124. doi: 10.1371/journal.pone.0069124

Soto-Cerda, B.J., Diederichsen, A., Ragupathy, R., and Cloutier, S. (2013). "Genetic characterization of a core collection of flax (*Linum usitatissimum* L.) suitable for association mapping studies and evidence of divergent selection between fiber and linseed types.", *BMC Plant Biology*, 13(78), pp. 1-14. doi: 10.1186/1471-2229-13-78

Ragupathy, R., You, F.M., and Cloutier, S. (2013). "Arguments for standardizing transposable element annotation in plant genomes.", *Trends in Plant Science*. doi: 10.1016/j.tplants.2013.03.005

Soto-Cerda, B.J. and Cloutier, S. (2013). "Outlier Loci and Selection Signatures of Simple Sequence Repeats (SSRs) in Flax (*Linum usitatissimum* L.)", *Plant Molecular Biology Reporter*. doi: 10.1007/s11105-013-0568-1

Dakouri, A., McCallum, B.D., Radovanovic, N., and Cloutier, S. (2013). "Molecular and phenotypic characterization of seedling and partial leaf rust resistance in a world wheat collection.", *Molecular Breeding*, 32(3), pp. 663-677. doi: 10.1007/s11032-013-9899-8

Zhang, W., Boyle, K., McCallum, B.D., Cloutier, S., and Fobert, P. (2013). "Capturing dynamic host-parasite interactions.", 9th Canadian Plant Genomics Workshop, Halifax, NS, Canada, August 12-15, 2013.

## 2012

McCallum, B.D., Humphreys, D.G., Somers, D.J., Dakouri, A., and Cloutier, S. (2012). "Allelic variation for the rust resistance gene Lr34/Yr18 in Canadian wheat cultivars.", *Euphytica*, 183(2), pp. 261-274. doi: 10.1007/s10681-011-0519-6

Cloutier, S., Miranda, D.E., Ward, K., Radovanovic, N., Reimer, E., Walichnowski, A.Z., Datla, R.S.S., Rowland, G.G., Duguid, S.D., and Ragupathy, R. (2012). "Simple sequence repeat marker development from bacterial artificial chromosome end sequences and expressed sequence tags of flax (*Linum usitatissimum* L.)", *Theoretical and Applied Genetics (TAG)*, 125(4), pp. 685-694. doi: 10.1007/s00122-012-1860-4

Wang, Z., Hobson, N., Galindo, L., Zhu, S., Shi, D., McDill, J., Yang, L., Hawkins, S., Neutelings, G., Datla, R.S.S., Lambert, G., Galbraith, D.W., Grassa, C.J., Geraldine, A., Cronk, Q.C., Cullis, C., Dash, P.K., Kumar, P.A., Cloutier, S., Sharpe, A.G., Wong, G.K.-S., Wang, J.Y., and Deyholos, M.K. (2012). "The genome of flax (*Linum usitatissimum*) assembled de novo from short shotgun sequence reads.", *Plant Journal*, 72(3), pp. 461-473. doi: 10.1111/j.1365-3113.2012.05093.x

Cloutier, S., Ragupathy, R., Miranda, D.E., Radovanovic, N., Reimer, E., Walichnowski, A.Z., Ward, K., Rowland, G.G., Duguid, S.D., and Banik, M. (2012). "Integrated consensus genetic and physical maps of flax (*Linum usitatissimum* L.)", *Theoretical and Applied Genetics (TAG)*, 125(8), pp. 1783-1795. doi: 10.1007/s00122-012-1953-0

Tang, J., Bromfield, E.S.P., Rodrigue, N., Cloutier, S., and Tambong, J.T. (2012). "Microevolution of symbiotic *Bradyrhizobium* populations associated with soybeans in east North America.", *Ecology and Evolution*, 2(12), pp. 2943-2961. doi: 10.1002/ece3.404

Kumar, S., You, F.M., and Cloutier, S. (2012). "Genome wide SNP discovery in flax through next generation sequencing of reduced representation libraries.", *BMC Genomics*, 13:684. doi: 10.1186/1471-2164-13-684

Malihipour, A., Gilbert, J., Piercey-Normore, M., and Cloutier, S. (2012). "Molecular Phylogenetic Analysis, Trichothecene Chemotype Patterns, and Variation in Aggressiveness of Fusarium Isolates Causing Head Blight in Wheat.", *Plant Disease*, 96(7), pp. 1016-1025. doi: 10.1094/PDIS-10-11-0866-RE

Soto-Cerda, B.J. and Cloutier, S. (2012). "Association mapping in plant genomes.", in Caliskan, M (ed.) - Genetic diversity in plants, InTech, Open Access Publisher, Chapter 3, pp. 29-54.

Kumar, S., Banks, T.W., and Cloutier, S. (2012). "SNP discovery through next-generation sequencing and its applications.", *International Journal of Plant Genomics*, 2012(Article No. 831460). doi: 10.1155/2012/831460

2011

Banik, M., Duguid, S.D., and Cloutier, S. (2011). "Fatty acid desaturase 3A gene controls linolenic acid content in high, moderate and low linolenic acid genotypes of flax (*Linum usitatissimum* L.).", *Genome*, 54(6), pp. 471-483. doi: 10.1139/G11-013

Aboukhaddour, R., Cloutier, S., Lamari, L., and Strelkov, S.E. (2011). "Simple sequence repeats and diversity of globally distributed populations of *Pyrenophora tritici-repentis*.", *Canadian Journal of Plant Pathology*, 33(3), pp. 389-399. doi: 10.1080/07060661.2011.590821

Venglat, S.P., Xiang, D., Qiu, S., Stone, S.L., Tibiche, C., Cram, D., Alting-Mees, M., Nowak, J.J., Cloutier, S., Deyholos, M.K., Bekkaoui, F., Sharpe, A.G., Wang, E., Rowland, G.G., Selvaraj, G., and Datla, R.S.S. (2011). "Gene expression analysis of seed development.", *BMC Plant Biology*, 11:74. doi: 10.1186/1471-2229-11-74

Fofana, B., Cloutier, S., Kirby, C.W., McCallum, J.L., and Duguid, S.D. (2011). "A well balanced omega-6/omega-3 ratio in developing flax bolls after heating and its implications for use as a fresh vegetable by humans.", *Food Research International*, 44(8), pp. 2459-2464. doi: 10.1016/j.foodres.2010.12.018

Cloutier, S., Ragupathy, R., Niu, Z., and Duguid, S.D. (2011). "SSR-based linkage map of flax (*Linum usitatissimum* L.) and mapping of QTLs underlying fatty acid composition traits.", *Molecular Breeding*, 28(4), pp. 437-451. doi: 10.1007/s11032-010-9494-1

Hiebert, C.W., Fetch Jr., T.G., Zegeye, T., Thomas, J.B., Somers, D.J., Humphreys, D.G., McCallum, B.D., Cloutier, S., Singh, D., and Knott, D.R. (2011). "Genetics and mapping of seedling resistance to Ug99 stem rust in Canadian wheat cultivars 'Peace' and 'AC Cadillac'.", *Theoretical and Applied Genetics (TAG)*, 122(1), pp. 143-149. doi: 10.1007/s00122-010-1430-6

Ragupathy, R., Rathinavelu, R., and Cloutier, S. (2011). "Physical mapping and BAC-end sequence analysis provide initial insights into the flax (*Linum usitatissimum* L.) genome.", *BMC Genomics*, 12:217. doi: 10.1186/1471-2164-12-217

Soto-Cerda, B.J., Maureira-Butler, I., Muñoz, G., Rupayan, A.R., and Cloutier, S. (2011). "SSR-based population structure, molecular diversity and linkage disequilibrium analysis of a core collection of flax (*Linum usitatissimum* L.) varying for mucilage seed-coat content.", *Molecular Breeding*, 30(2), pp. 875-888. doi: 10.1007/s11032-011-9670-y

## Other Science Related Publications:

2015

Fofana, B., Ghose, K., You, F.M., and Cloutier, S. (2015). "UGT74S1 Is Unique In Controlling Secoisolariciresinol Diglucoside (SDG) Formation In Flax.", XXIII Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2015, pp. 160. (Abstract)

Shan, Y.F., Li, P., Duguid, S.D., Cloutier, S., Deyholos, M.K., Wang, Y., Gu, Y.Q., Booker, H.M., and You, F.M. (2015). "FlaxDB: A comprehensive and integrated genome and breeding database for flax improvement.", XXIII Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2015. (Poster)

You, F.M., Li, P., Kumar, S., Ragupathy, R., Banik, M., Duguid, S.D., Booker, H.M., Deyholos, M.K., Fu, Y.B., Sharpe, A.G., and Cloutier, S. (2015). "The refined flax genome, its evolution and application.", XXIII Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2015, P1039. (Poster)

Fofana, B., Ghose, K., McCallum, J.L., You, F.M., and Cloutier, S. (2015). "UGT74S1 is a single-copy gene and is unique in controlling Secoisolariciresinol Diglucoside (SDG) formation in flax.", Botany 2015 Joint Conference: Science and plants for people, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-30, 2015. (Poster)

2014

You, F.M., Cloutier, S., Luo, M.-C., and Dvorak, J. (2014). "Genotyping-by-sequencing strategy for genome-wide SNP discovery and genotyping.", 12th Asia Pacific Bioinformatics Conference, Shanghai, China, January 17-19, 2014.

Ragupathy, R., Madhi, S.R., Domaratzki, M., and Cloutier, S. (2014). "Micro RNAs and siRNAs underlying genetic and epigenetic mechanisms of adaptation to abiotic stresses in *Triticum aestivum* cultivar Glenlea.", 2nd Wheat Genetics Symposium, Saskatoon, SK, Canada, June 2014, pp. 8. (Poster)

Cloutier, S., Rowland, G.G., Booker, H.M., Deyholos, M.K., Datla, R.S.S., Duguid, S.D., Fofana, B., Reaney, M.J.T., Selvaraj, G., Smyth, S., Wang, E., Weselake, R.J., You, F.M., Zou, J.W., and Barker, C. (2014). "The TUFGEN project.", 65th Flax Institute, Fargo, North Dakota, USA, March 27-28, 2014, Oral presentation, pp. 39-48.

Fofana, B., Ghose, K., McCallum, J.L., and Cloutier, S. (2014). "Flax SDG lignan glucosylation: from gene discovery to flax lines with altered SDG profiles.", Plant Biology 2014, Portland, Oregon, USA, July 12-16, 2014. (Poster)

Darbyshire, S.J., Bromfield, E.S.P., Cloutier, S., and Robidas, C. (2014). "Symbiotic association with *Neorhizobium galegae* limits the dispersal of *Galega officinalis* (Goat's Rue) in Canada.", 68th Annual Meeting of the Canadian Weed Science Society - Société canadienne de malherbologie, Montreal, QC, Canada, November 17-20, 2014, pp. 31. (Poster)

## 2013

Ragupathy, R., You, F.M., and Cloutier, S. (2013). "Genome-wide comparative analysis of LTR retrotransposon dynamics in flax (*Linum usitatissimum*) and its related genomes, cassava (*Manihot esculenta*) and poplar (*Populus trichocarpa*).", Plant & Animal Genome XXI Conference, Town & Country Convention Center, San Diego, CA, USA, January 12-16, 2013.

You, F.M., Kumar, S., Banik, M., Ragupathy, R., Deyholos, M.K., Fu, Y.B., Sharpe, A.G., and Cloutier, S. (2013). "Ordering the draft genome sequence of flax (*Linum usitatissimum*).", Plant & Animal Genome XXI Conference, Town & Country Convention Center, San Diego, CA, USA, January 12-16, 2013.

Kumar, S., You, F.M., and Cloutier, S. (2013). "The 10K+ SNP maps of flax.", Plant & Animal Genome XXI Conference, Town & Country Convention Center, San Diego, CA, USA, January 12-16, 2013.

You, F.M., Kumar, S., Ragupathy, R., Deyholos, M.K., Fu, Y.B., Sharpe, A.G., and Cloutier, S. (2013). "Organization and evolution of the flax genome.", 2013 CSPB/SCBV Annual General Meeting, Laval University, Quebec City, Canada, June 25-28, 2013, Poster no. F6, page no. 89 of the abstract book (Poster)

Kumar, S. and Cloutier, S. (2013). "Total Utilization Flax GENomics (TUFGEN): Major Thrust - Genomics.", Manitoba Flax Growers Association AGM, Brandon, Manitoba, Canada, January 14, 2013, Oral presentation.

Ghose, K., Selvaraj, K., McCallum, J.L., Datla, R.S.S., Cloutier, S., and Fofana, B. (2013). "Key Catalytic Amino Acids for a Flax Secoisolariciresinol Glycosyltransferase as determined by Molecular Modeling and Site-Directed Mutagenesis.", 2013 CSPB/SCBV Annual General Meeting, Laval University, Quebec City, Canada, June 25-28, 2013.

## 2012

Cloutier, S., Banik, M., You, F.M., Radovanovic, N., Miranda, D.E., Reimer, E., Ward, K., Walichnowski, A.Z., Rowland, G.G., and Duguid, S.D. (2012). "High Density SSR- and SNP-based Genetic Maps of Flax.", Plant & Animal Genome XX Conference, Town & Country Convention Center, San Diego, CA, USA, January 14-18, 2012. (Poster)

McCallum, B.D., Hiebert, C.W., Huerta-Espino, J., and Cloutier, S. (2012). "Wheat Leaf Rust.", in Sharma, I. (ed.) - Disease Resistance in Wheat. CABI Plant Protection Series, CABI Publishing, Wallingford, UK, Chapter 3, pp. 33-63.

Kumar, S., You, F.M., and Cloutier, S. (2012). "High density genetic maps for flax.", Genomics: The Power and the Promise, the Gairdner Foundation and Genome Canada, Ottawa, ON, Canada, November 27-28, 2012.

## 2011

Selvaraj, K., Ghose, K., Nixon, M., Cloutier, S., and Fofana, B. (2011). "Molecular and functional characterization of flax SDG lignan glycosyltransferases.", Canadian Society of Plant Physiologists Eastern Regional Meeting & Plant Development Workshop / Congrès de la Société Canadienne de Physiologie Végétale & Congrès de Développement Végétale (Congrès Régional de l'Est), Carleton University, Ottawa, ON, Canada, December 2-3, 2011, P22, pp. 40.

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## Research Publications:

2015

Morrison, M.J., Cober, E.R., Frégeau-Reid, J.A., and Séguin, P. (2015). "Changes in Lutein and Tocopherol Concentrations in Soybean Cultivars Released Across Seven Decades in the Short-Season Region.", *Crop Science*, 55(1). doi : 10.2135/cropsci2014.04.0294

Sonah, H., O'Donoghue, L.S., Cober, E.R., Rajcan, I., and Belzile, F.J. (2014). "Identification of loci governing eight agronomic traits using a GBS-GWAS approach and validation by QTL mapping in soya bean.", *Plant Biotechnology Journal*. doi : 10.1111/pbi.12249

Cober, E.R. and Morrison, M.J. (2015). "Genetic improvement estimates, from cultivar x crop management trials, are larger in high-yield cropping environments.", *Crop Science*, 55(4), pp. 1425-1434. doi : 10.2135/cropsci2014.09.0609

Xue, A.G., Marchand, G., Chen, Y., Zhang, S.Z., Cober, E.R., and Tenuta, A.U. (2015). "Races of *Phytophthora sojae* in Ontario, Canada, 2010-2012.", *Canadian Journal of Plant Pathology*, 37(3), pp. 376-383. doi : 10.1080/07060661.2015.1052562

2014

Kong, F., Nan, H., Cao, D., Li, Y., Wu, F., Wang, J., Lu, S., Yuan, X., Cober, E.R., Abe, J., and Liu, B. (2014). "A new dominant gene E9 conditions early flowering and maturity in soybean.", *Crop Science*, 54(6), pp. 2529-2535. doi : 10.2135/cropsci2014.03.0228

Chen, Q., Wood, C., Gagnon, C., Cober, E.R., Frégeau-Reid, J.A., Gleddie, S.C., and Xiao, C.W. (2014). "The  $\alpha$  subunit of  $\beta$ -conglycinin and the A1-5 subunits of glycinin are not essential for many hypolipidemic actions of dietary soy proteins in rats.", *European Journal of Nutrition*, 53(5), pp. 1195-1207. doi : 10.1007/s00394-013-0620-9

Cober, E.R., Curtis, D.F., Stewart, D.W., and Morrison, M.J. (2014). "Quantifying the Effects of Photoperiod, Temperature and Daily Irradiance on Flowering Time of Soybean Isolines.", *Plants*, 3(4), pp. 476-497. doi : 10.3390/plants3040476

2013

Cober, E.R., Molnar, S.J., Rai, S., Soper, J.F., and Voldeng, H.D. (2013). "Selection for Cold Tolerance during Flowering in Short-Season Soybean.", *Crop Science*. doi : 10.2135/cropsci2011.07.0392

Zhang, J.X., Xue, A.G., Cober, E.R., Morrison, M.J., Zhang, H.J., Zhang, S.Z., and Gregorich, E.G. (2013). "Prevalence, pathogenicity and cultivar resistance of *Fusarium* and *Rhizoctonia* species causing soybean root rot.", *Canadian Journal of Plant Science*, 93(2), pp. 221-236. doi : 10.4141/CJPS2012-223

Eskandari, M., Rajcan, I., and Cober, E.R. (2013). "Genetic control of soybean seed oil: I. QTL and genes associated with seed oil concentration in RIL populations derived from crossing moderately high-oil parents.", *Theoretical and Applied Genetics (TAG)*, 126(2), pp. 483-495. doi : 10.1007/s00122-012-1995-3

Eskandari, M., Cober, E.R., and Rajcan, I. (2013). "Using the candidate gene approach for detecting genes underlying seed oil concentration and yield in soybean.", *Theoretical and Applied Genetics (TAG)*. doi : 10.1007/s00122-013-2096-7

Morrison, M.J., Frégeau-Reid, J.A., and Cober, E.R. (2013). "Seed protein, soaking duration and soaking temperature effects on gamma-aminobutyric acid concentration in short-season soybean.", *Crop Science*, 53(6), pp. 2563-2568. doi : 10.2135/cropsci2013.02.0088

Eskandari, M., Cober, E.R., and Rajcan, I. (2013). "Genetic control of soybean seed oil: II. QTL and genes that increase oil concentration without decreasing protein or with increased seed yield.", *Theoretical and Applied Genetics (TAG)*. doi : 10.1007/s00122-013-2083-z

2012

Cober, E.R. and Voldeng, H.D. (2012). "A retrospective look at short-season soybean cultivar development in Ontario.", *Canadian Journal of Plant Science*, 92(7), pp. 1239-1243. doi : 10.4141/cjps2012-032

Morrison, M.J., Frégeau-Reid, J.A., and Cober, E.R. (2012). "Genotype and environment influence gamma aminobutyric acid concentration in short-season soybean.", *Canadian Journal of Plant Science*, 92(6), pp. 1093-1100. doi : 10.4141/CJPS2011-271

Molnar, S.J., Charette, M., and Cober, E.R. (2012). "Mapping quantitative trait loci for water uptake in a recombinant inbred line population of natto soybean.", *Canadian Journal of Plant Science*, 92(2), pp. 257-266. doi : 10.4141/CJPS2011-122

Pandurangan, S., Pajak, A., Molnar, S.J., Cober, E.R., Dhaubhadel, S., Hernández-Sebastià, C., Kaiser, W.M., Nelson, R.L., Huber, S.C., and Marsolais, F. (2012). "Relationship between asparagine metabolism and protein concentration in soybean seed.", *Journal of Experimental Botany*, 63(8), pp.3173-3184. doi : 10.1093/jxb/ers039

Xia, Z., Zhai, H., Liu, B., Kong, F., Yuan, X., Wu, H., Cober, E.R., and Harada, K. (2012). "Molecular identification of genes controlling flowering time, maturity, and photoperiod response in soybean.", *Plant Systematics and Evolution*, 298(7), pp. 1217-1227. doi : 10.1007/s00606-012-0628-2

## 2011

Cober, E.R. and Morrison, M.J. (2011). "Short-season soybean genetic improvement evaluated in weed-free and weedy conditions.", *Crop Science*, 51(6), pp. 2582-2588. doi : 10.2135/cropsci2010.12.0673

Cober, E.R. (2011). "Long Juvenile Soybean Flowering Responses under Very Short Photoperiods.", *Crop Science*, 51(1), pp. 140-145. doi : 10.2135/cropsci2010.05.0262

Wei, L., Xue, A.G., Cober, E.R., Babcock, C., Zhang, J.X., Zhang, S.Z., Li, W.B., Wu, J.J., and Liu, L.J. (2011). "Pathogenicity of *Pythium* species causing seed rot and damping-off on soybean under controlled conditions.", *Phytoprotection*, 91, pp. 3-10.

## Other Science Related Publications:

## 2014

Xue, A.G., Chen, Y., Marchand, G., Zhang, S.Z., Meng, Y., Cober, E.R., and Tenuta, A.U. (2014). "Races of *Phytophthora sojae* causing root rot of soybean in Ontario.", American Phytopathological Society (APS) and Canadian Phytopathological Society (CPS) Joint Meeting 2014, Hilton Minneapolis, Minneapolis, MN, USA, August 9-13, 2014.

Xue, A.G., Chen, Y., Marchand, G., Zhang, S.Z., Cober, E.R., and Tenuta, A.U. (2014). "The occurrence and frequency of races of *Phytophthora sojae* in Ontario during 2010–2012.", 11th Conference of the European Foundation for Plant Pathology, Cracow, Poland, September 8-13, 2014, pp. 174.

## 2012

Morrison, M.J., McAndrew, D., and Cober, E.R. (2012). "Climate and photoperiod influence soybean cultivar adaptation in Manitoba and Ontario.", Plant Canada 2012 (joint meeting of the Canadian Society of Agronomy (CSA), Canadian Society for Horticultural Science (CSHS), Certified Crop Advisors (CCA), North American Fruit Explorers (NAFEX)): Adapting Crops to Change, University of Saskatchewan, Saskatoon, SK, Canada, July 16-19, 2012, D1.1. (Presentation)

Morrison, M.J., Cober, E.R., and Frégeau-Reid, J.A. (2012). "There Are Genotypic Differences for Gamma Aminobutyric Acid (GABA) Concentration in Short-Season Soybean.", 2012 ASA, CSSA, and SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012, Abstract 376-5. (Presentation)

## 2011

Cober, E.R. (2011). "Soybean Production and Research in Canada.", Market and Industry Services Branch, AAFC, Ottawa, ON, Canada, September 2011. (Presentation)

Cober, E.R. (2011). "Expanding soybean production in Canada - The challenge for the future.", Canadian Soybean Council, Guelph, ON, Canada, 2011. (Presentation)

Frégeau-Reid, J.A., Morrison, M.J., and Cober, E.R. (2011). "Genotype and environment influence GABA concentration in short-season soybean.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

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## Research Publications:

2015

Beck, M.A., Goater, C.P., and Colwell, D.D. (2015). "Comparative recruitment, morphology and reproduction of a generalist trematode, *Dicrocoelium dendriticum*, in three species of host.", *Parasitology* (FR). doi : 10.1017/S0031182015000621

Beck, M.A., Colwell, D.D., Goater, C.P., and Kienzle, S.W. (2015). "Where's the risk? Landscape epidemiology of gastrointestinal parasitism in Alberta beef cattle.", *Parasites and Vectors*. doi : 10.1186/s13071-015-1040-x

2014

Abbas, R.Z., Zaman, M.A., Colwell, D.D., Gilleard, J., and Iqbal, Z. (2014). "Acaricide resistance in cattle ticks and approaches to its management: the state of play", *Veterinary Parasitology*, 203(1-2), pp. 6-20. doi : 10.1016/j.vetpar.2014.03.006

Abbas, R.Z., Colwell, D.D., Iqbal, Z., and Khan, A.I. (2014). "Acaricidal drug resistance in poultry red mite (*Dermanyssus gallinae*) and approaches to its management.", *World's Poultry Science Journal*, 70(1), pp. 113-124. doi : 10.1017/S0043933914000105

Colwell, D.D. (2014). "Life history parameters of the cattle long-nosed sucking louse, *Linognathus vituli*.", *Medical and Veterinary Entomology*, 28(4), pp. 432-437. doi : 10.1111/mve.12074

Dantas-Torres, F., Cameron, M., Colwell, D.D., and Otranto, D. (2014). "A Look into the Medical and Veterinary Entomology Crystal Ball.", *Medical and Veterinary Entomology*, 28(SUPPL.1), pp. 6-13. doi : 10.1111/mve.12066

Colwell, D.D., Beck, M.A., Goater, C.P., and Abbas, R.Z. (2014). "Annual variation in serum antibody concentrations against gastrointestinal nematodes in beef calves from semi-arid rangelands of western Canada.", *Veterinary Parasitology*, 205(1-2), pp. 169-174. doi : 10.1016/j.vetpar.2014.06.031

Beck, M.A., Goater, C.P., Colwell, D.D., and van Paridon, B.J. (2014). "Fluke abundance versus host age for an invasive trematode (*Dicrocoelium dendriticum*) of sympatric elk and beef cattle in southeastern Alberta, Canada.", *International Journal for Parasitology*, 3(3), pp. 263-268. doi : 10.1016/j.ijppaw.2014.08.003

Kavaliers, M., Colwell, D.D., Cloutier, C.J., Ossenkopp, K.-P., and Choleris, E. (2014). "Pathogen threat and unfamiliar males rapidly bias the social responses of female mice.", *Animal Behavior*, 97, pp. 105-111. doi : 10.1016/j.anbehav.2014.09.006

2013

Colwell, D.D. (2013). "Out of sight but not gone: sero-surveillance for cattle grubs, *Hypoderma* spp., in western Canada between 2008 – 2010.", *Veterinary Parasitology*, 197(1-2), pp. 297-303. doi : 10.1016/j.vetpar.2013.07.009

2012

Kutz, S.J., Ducrocq, J., Beckmen, K., Colwell, D.D., Hoar, B.M., Hoberg, E., and Verocai, G. (2012). "Parasite assemblages among ungulates of Arctic North America and Greenland: Views on contemporary diversity, ecology and impacts in a world under change.", in Rollinson, D. and Hay, S.I. (eds.) - *Advances in Parasitology* (Volume 79), Elsevier, Chapter 2, pp. 99-252.

Cristobal-Azkarate, J., Colwell, D.D., Kenny, D., Solórzano, B., Shedden, A., Cassaigne, I., and Luna, E.R. (2012). "First Report of Bot Fly (*Cuterebra baeri*) Infestation in Howler Monkeys (*Alouatta palliata*) from Mexico.", *Journal of Wildlife Diseases*, 48(3), pp. 822-825.

Abbas, R.Z., Colwell, D.D., and Gilleard, J. (2012). "Botanicals: an alternative approach for the control of avian coccidiosis.", *World's Poultry Science Journal*, 68(2), pp. 203-215. doi : 10.1017/S0043933912000268

2011

Colwell, D.D. (2011). "Hidden antigens from third instar *Hypoderma lineatum*: Impact of immunization on larval survival in artificial infestations.", *Veterinary Parasitology*, 175(3-4), pp. 313-319. doi : 10.1016/j.vetpar.2010.10.013

Colwell, D.D., Dantas-Torres, F., and Otranto, D. (2011). "Vector-borne parasitic zoonoses: Emerging scenarios and new perspectives.", *Veterinary Parasitology*, 182(1), pp. 14-21. doi : 10.1016/j.vetpar.2011.07.012

Dacal, V., López, C., Colwell, D.D., Vázquez, L., Díaz, P., Morrondo, P., Díez, P., and Panadero, R. (2011). "Immunohistochemical Characterization of Inflammatory Cells in the Skin of Cattle undergoing Repeated Infestations with *Hypoderma lineatum* (Diptera: Oestridae) Larvae.", *Journal of Comparative Pathology*, 145(2-3), pp. 282-288. doi : 10.1016/j.jcpa.2010.12.015



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## Research Publications:

2013

Beres, B.L., Pozniak, C.J., Bressler, D., Gibreel, A., Eudes, F., Graf, R.J., Randhawa, H.S., Salmon, D.F., McLeod, G.J., Dion, Y., Irvine, R.B., Voldeng, H.D., Martin, R.A., Pageau, D., Comeau, A., DePauw, R.M., Phelps, S.M., and Spaner, D.M. (2013). "A Canadian Ethanol Feedstock Study to Benchmark the Relative Performance of Triticale: II. Grain Quality and Ethanol Production.", *Agronomy Journal*, 105, pp. 1707-1720. doi: 10.2134/agronj2013.0193

Beres, B.L., Pozniak, C.J., Eudes, F., Graf, R.J., Randhawa, H.S., Salmon, D.F., McLeod, G.J., Dion, Y., Irvine, R.B., Voldeng, H.D., Martin, R.A., Pageau, D., Comeau, A., DePauw, R.M., Phelps, S.M., and Spaner, D.M. (2013). "A Canadian Ethanol Feedstock Study to Benchmark the Relative Performance of Triticale: I. Agronomics.", *Agronomy Journal*, 105, pp. 1695-1706. doi: 10.2134/agronj2013.0192

2012

Ruan, Y., Comeau, A., Langevin, F., Hucl, P.J., Clarke, J.M., Brûlé-Babel, A.L., and Pozniak, C.J. (2012). "Identification of novel QTL for resistance to Fusarium head blight in a tetraploid wheat population.", *Genome*, 55(12), pp. 853-864. doi: 10.1139/gen-2012-0110

## Other Science Related Publications:

2013

Randhawa, H.S., Eudes, F., Beres, B.L., Graf, R.J., Fedak, G., Comeau, A., Langevin, F., Dion, Y., and Pozniak, C.J. (2013). "Integrated approaches for triticale breeding.", *The 8th International Triticale Symposium, Ghent, Belgium, June 10-14, 2013, (Presentation).*

2012

DePauw, R.M., McCallum, B.D., Voldeng, H.D., Knox, R.E., Edwards, N., Hatcher, D., Fetch Jr., T.G., Lukow, O.M., Fox, S.L., Pozniak, C.J., Hucl, P.J., Comeau, A., and Singh, A.K. (2012). "Canadian Triticologists: The Game Changers!", *Canadian Journal of Plant Science*, 92, pp. 593. (Abstract)

Rioux, S., Langevin, F., Comeau, A., and Duval, B. (2012). "Les maladies présentes chez les céréales au Québec en 2011.", *Canadian Plant Disease Survey*, 92, pp. 79-80.

2011

Comeau, A., Langevin, F., Voldeng, H.D., Haber, S.M., Gilbert, J., Randhawa, H.S., Dion, Y., Rioux, S., McCallum, B.D., Fetch Jr., T.G., Eudes, F., Blackwell, B.A., Martin, R.A., Scheeren, P., Caetano, V., Frégeau-Reid, J.A., and Fedak, G. (2011). "The systemic approach: faster genetic progress for complex goals.", *1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.*

Haber, S.M., Gilbert, J., Seifers, D.L., and Comeau, A. (2011). "Epigenetics serves Genetics: Fusarium Head Blight (FHB) Resistance in Elite Wheat Germplasm.", *The Americas Journal of Plant Science and Biotechnology*, 5(2), pp. 95.

DePauw, R.M., McCallum, B.D., Voldeng, H.D., Knox, R.E., Edwards, N., Fetch Jr., T.G., Lukow, O.M., Fox, S.L., Pozniak, C.J., Hucl, P.J., Singh, A.K., and Comeau, A. (2011). "Canadian Triticologists: the game changers.", *1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.*

Comeau, A., Langevin, F., Randhawa, H.S., Dion, Y., and Voldeng, H.D. (2011). "Development of fusarium head blight-resistant wheat: a systemic approach deserves more attention.", *7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp.93.*

Comeau, A., Langevin, F., Voldeng, H.D., Haber, S.M., Gilbert, J., Randhawa, H.S., Dion, Y., Rioux, S., Eudes, F., Blackwell, B.A., and Martin, R.A. (2011). "One quick solution to FHB problems: the systemic approach.", *7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 72.*

Rioux, S., Langevin, F., Comeau, A., Yelda, R., and Duval, B. (2011). "Maladies observées chez les céréales au Québec en 2010.", Canadian Plant Disease Survey, 91, pp. 75-76.

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## Research Publications:

2015

Alkher, H.A., Islam, M.R., Wijekoon, C.P., Wijekoon, C.P., Kalischuk, M.L., Kawchuk, L.M., Peters, R.D., Al-Mughrabi, K.I., Conn, K.L., Dobinson, K.F., Waterer, D.R., and Daayf, F. (2015). "Characterization of Phytophthora infestans populations in Canada during 2012.", *Canadian Journal of Plant Pathology*, 37(3), pp. 305-314. doi: 10.1080/07060661.2015.1053987

2014

Pandurangan, S., Sandercock, M., Beyaert, R.P., Conn, K.L., Hou, A., and Marsolais, F. (2014). "Differential response to sulfur nutrition of two common bean genotypes differing in storage protein composition.", *Frontiers in Plant Science*, 6(Feb: Article 92), pp. 1-11. doi: 10.3389/fpls.2015.00092

Hossain, M.M., Scott, I.M., McGarvey, B.D., Conn, K.L., Ferrante, L., Berruti, F., and Briens, C. (2014). "Insecticidal and anti-microbial activity of bio-oil derived from fast pyrolysis of lignin, cellulose, and hemicellulose.", *Journal of Pest Science*, 88(1), pp. 171-179. doi: 10.1007/s10340-014-0568-4

Peters, R.D., Al-Mughrabi, K.I., Kalischuk, M.L., Dobinson, K.F., Conn, K.L., Alkher, H.A., Islam, M.R., Daayf, F., Lynn, J., Bizimungu, B., De Koeyer, D.L., Lévesque, C.A., and Kawchuk, L.M. (2014). "Characterization of Phytophthora infestans population diversity in Canada reveals increased migration and genotype recombination.", *Canadian Journal of Plant Pathology*, 36(1), pp. 73-82. doi: 10.1080/07060661.2014.892900

2012

Hossain, M.M., Scott, I.M., McGarvey, B.D., Conn, K.L., Ferrante, L., Berruti, F., and Briens, C. (2012). "Toxicity of lignin, cellulose and hemicellulose-pyrolyzed bio-oil combinations: Estimating pesticide resources.", *Journal of Analytical and Applied Pyrolysis*, 99(January 2013), pp. 211-216. doi: 10.1016/j.jaap.2012.07.008

2011

Bedmutha, R., Booker, C.J., Ferrante, L., Briens, C., Berruti, F., Yeung, K.K.-C., Scott, I.M., and Conn, K.L. (2011). "Insecticidal and bactericidal characteristics of the bio-oil from the fast pyrolysis of coffee grounds.", *Journal of Analytical and Applied Pyrolysis*, 90(2), pp. 224-231. doi: 10.1016/j.jaap.2010.12.011

## Other Science Related Publications:

2014

Islam, M.R., Alkher, H.A., Bezzahou, M., Godee, C., Adam, L.R., Kawchuk, L.M., Dobinson, K.F., Conn, K.L., Peters, R.D., Al-Mughrabi, K.I., Shinnars-Carmelley, T., and Daayf, F. (2014). "Diversity in population structure of the late blight pathogen, *Phytophthora infestans*, in Manitoba.", *Canadian Journal of Plant Pathology*, 36, pp. 267. (Abstract)

Boyetchko, S.M., Audy, P., Foran, N., Desgagnés, R., Sawchyn, K., Choo, H.S., Gravel, V., and Conn, K.L. (2014). "The Search for Bacterial Antagonists to Control Potato Late Blight Disease.", *Joint Saskatchewan-Alberta Plant Pathology Conference*, Saskatoon, SK, Canada, December 2-4, 2014.

Boyetchko, S.M., Audy, P., Choo, H.S., Desgagnés, R., Sawchyn, K., and Conn, K.L. (2014). "Bacterial antagonists as a biological solution for control of potato late blight disease.", *APS-CPS Joint Meeting*, Hilton Minneapolis, Minneapolis, MN, USA, August 9-13, 2014, *Phytopathology* 104 (11S) 17-18.

2013

Islam, M.R., Alkher, H.A., Bezzahou, M., Godee, C., Adam, L.R., Kawchuk, L.M., Dobinson, K.F., Conn, K.L., Peters, R.D., Al-Mughrabi, K.I., Shinnars-Carmelley, T., and Daayf, F. (2013). "Diversity in population structure of late blight pathogen, *P. infestans* in Manitoba.", *84rd Annual Meeting of the Canadian Phytopathological Society (CPS)*, Matrix Hotel, Edmonton, AB, Canada, June 16-19, 2013.

Kawchuk, L.M., Peters, R.D., Al-Mughrabi, K.I., Dobinson, K.F., Conn, K.L., and Daayf, F. (2013). "Population diversity and segregation analysis of genotype specific loci of the Irish Potato Famine pathogen.", 84rd Annual Meeting of the Canadian Phytopathological Society (CPS), Matrix Hotel, Edmonton, AB, Canada, June 16-19, 2013.

## 2012

Trueman, C.L., Conn, K.L., and Traquair, J.A. (2012). "Investigations into which pathogens are responsible for, and management of vine decline in Ontario processing tomatoes, 2011.", Ontario Processing Vegetable Industry Conference, London, ON, Canada, January 24-25, 2012. (Presentation)

Kawchuk, L.M., Peters, R.D., Al-Mughrabi, K.I., Conn, K.L., Dobinson, K.F., and Daayf, F. (2012). "Migration and recombination increase the genetic diversity of *Phytophthora infestans* in Canada.", 96th Annual Meeting of the Potato Association of America (PAA), Crowne Plaza Denver International Airport, Denver, CO, USA, August 12-16, 2012.

Alkher, H.A., Kawchuk, L.M., Adam, L.R., Islam, M.R., Dobinson, K.F., Conn, K.L., Peters, R.D., Al-Mughrabi, K.I., and Daayf, F. (2012). "Pathogenic diversity of Manitoba isolates of *Phytophthora infestans* on potato and tomato.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012.

Dobinson, K.F., Conn, K.L., Kawchuk, L.M., Peters, R.D., Al-Mughrabi, K.I., and Daayf, F. (2012). "Characterization of *Phytophthora infestans* (Mont.) de Bary from tomato in southwestern Ontario.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012.

## 2011

Conn, K.L., Traquair, J.A., Trueman, C.L., and Leboeuf, J. (2011). "The pathogens of vine decline: what have we learned?", 35th Annual Tomato Day, Leamington, ON, Canada, February 17, 2011.

Conn, K.L., Traquair, J.A., Trueman, C.L., and Leboeuf, J. (2011). "Corky root rot and vine decline in Ontario processing tomatoes.", 9th Annual Ontario Pest Management Conference, University of Guelph, Guelph, ON, Canada, November 3, 2011.

Trueman, C.L. and Conn, K.L. (2011). "Effectiveness of Vapam (metam sodium) at reducing root rot symptoms and improving yield in Ontario processing tomatoes.", 26th Annual Tomato Disease Workshop, Ithaca, NY, USA, October 11-13, 2011.

Trueman, C.L., Conn, K.L., and Traquair, J.A. (2011). Investigations into which pathogens are responsible for, and management of vine decline in Ontario processing tomatoes, 2011. Research Report to Ontario Tomato Research Institute, London, ON. (Report)

Traquair, J.A., Leboeuf, J., Conn, K.L., and Wang, K. (2011). "Survey for vine decline in Ontario processing tomato.", Ontario Processing Vegetable Industry Conference, London, ON, Canada, January 25-26, 2011. (Presentation)

Trueman, C.L., Conn, K.L., and Traquair, J.A. (2011). "Investigations into which pathogens are responsible for, and management of vine decline in Ontario processing tomatoes, 2011.", Ontario Field Tomato Committee, University of Guelph, Ridgetown Campus, Ridgetown, ON, Canada, October 31, 2011. (Presentation)

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## Research Publications:

2015

LeClair, E., Conner, R.L., Robinson, D.E., and Gillard, C.L. (2015). "Transmission of anthracnose (*Colletotrichum lindemuthianum*) in dry bean (*Phaseolus vulgaris* L.) with artificial and natural inoculum in a wet and dry canopy.", *Canadian Journal of Plant Science*, 95(5), pp. 913-921. doi: 10.4141/CJPS-2014-413

Ahmed, H.U., Chang, K.F., Hwang, S.F., Fu, H., Zhou, Q.-X., Strelkov, S.E., Conner, R.L., and Gossen, B.D. (2015). "Morphological characterization of fungi associated with the ascochyta blight complex and pathogenic variability of *Mycosphaerella pinodes* on field pea crops in central Alberta.", *The Crop Journal*, 3(1), pp. 10-18. doi: 10.1016/j.cj.2014.08.007

Chang, K.F., Hwang, S.F., Conner, R.L., Ahmed, H.U., Zhou, Q.-X., Turnbull, G.D., Strelkov, S.E., McLaren, D.L., and Gossen, B.D. (2015). "First report of *Fusarium proliferatum* causing root rot in soybean (*Glycine max* L.) in Canada.", *Crop Protection*, 67, pp. 52-58. doi: 10.1016/j.cropro.2014.09.020

Boersma, J.G., Hou, A., Gillard, C.L., McRae, K.B., and Conner, R.L. (2015). "Impact of common bacterial blight on the yield, seed weight and seed discoloration of different market classes of dry beans (*Phaseolus vulgaris* L.)", *Canadian Journal of Plant Science*, 95(4), pp. 703-710. doi: 10.4141/cjps-2014-399

Balasubramanian, P.M., Mündel, H.-H., Chatterton, S., Conner, R.L., and Hou, A. (2015). "AAC Whitehorse great northern dry bean.", *Canadian Journal of Plant Science*, 95(1), pp. 175-177. doi: 10.4141/cjps-2014-247

Balasubramanian, P.M., Mündel, H.-H., Chatterton, S., Conner, R.L., and Hou, A. (2015). "AAC Burdett pinto dry bean.", *Canadian Journal of Plant Science*, 95(1), pp. 179-181. doi: 10.4141/cjps-2014-248

Balasubramanian, P.M., Mündel, H.-H., Conner, R.L., Chatterton, S., and Hou, A. (2015). "AAC Black Diamond 2 dry bean.", *Canadian Journal of Plant Science*, 95(2), pp. 437-440. doi: 10.4141/cjps-2014-249

2014

Conner, R.L., Hou, A., Balasubramanian, P.M., McLaren, D.L., Henriquez, M.A., Chang, K.F., and McRae, K.B. (2014). "Reaction of dry bean cultivars grown in western Canada to root rot inoculation.", *Canadian Journal of Plant Science*, 94(7), pp. 1219-1230. doi: 10.4141/CJPS2013-416

Chang, K.F., Conner, R.L., Hwang, S.F., Ahmed, H.U., McLaren, D.L., Gossen, B.D., and Turnbull, G.D. (2014). "Effects of seed treatments and inoculum density of *Fusarium avenaceum* and *Rhizoctonia solani* on seedling blight and root rot of in faba bean.", *Canadian Journal of Plant Science*, 94(4), pp. 693-700. doi: 10.4141/cjps2013-339

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Navabi, A., Yu, K., and Hou, A. (2014). "Combining resistance to common bacterial blight, anthracnose, and bean common mosaic virus into Manitoba-adapted dry bean (*Phaseolus vulgaris* L.) cultivars.", *Canadian Journal of Plant Science*, 94(2), pp. 405-415. doi: 10.4141/CJPS2013-281

Friesen, A.P., Conner, R.L., Robinson, D.E., Barton, W.R., and Gillard, C.L. (2014). "Effect of microwave radiation on dry bean seed infected with *Xanthomonas axonopodis* pv *phaseoli* with and without the use of chemical seed treatment.", *Crop Protection*, 65, pp. 77-85. doi: 10.1016/j.cropro.2014.07.007

Friesen, A.P., Conner, R.L., Robinson, D.E., Barton, W.R., and Gillard, C.L. (2014). "Effect of microwave radiation on dry bean seed infected with *Colletotrichum lindemuthianum* with and without the use of chemical seed treatment.", *Canadian Journal of Plant Science*, 94(8), pp. 1373-1384. doi: 10.4141/CJPS-2014-035

Henriquez, M.A., McLaren, D.L., Conner, R.L., Balasubramanian, P.M., Chang, K.F., Hwang, S.F., and Strelkov, S.E. (2014). "First report of *Fusarium cuneirostrum* causing root rot disease in dry bean (*Phaseolus vulgaris*) in Canada.", *Plant Disease*, 98(2), pp. 278. doi: 10.1094/PDIS-05-13-0553-PDN

Balasubramanian, P.M., Conner, R.L., McLaren, D.L., Chatterton, S., and Hou, A. (2014). "Partial resistance to white mould in dry bean.", *Canadian Journal of Plant Science*, 94(4), pp. 683-691. doi: 10.4141/cjps2013-312

Liu, W., Frick, M., Huel, R., Nykiforuk, C.L., Wang, X.M., Gaudet, D.A., Eudes, F., Conner, R.L., Kuzyk, A.D., Chen, Q., Kang, Z., and Laroche, A. (2014). "Stripe Rust Resistance Gene Yr10 Encodes an Evolutionary-conserved and Unique CC-NBS-LRR Sequence in Wheat", *Molecular Plant*, 7(12), pp. 1740-1755. doi: 10.1093/mp/ssu112

## 2013

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Yu, K., and Hou, A. (2013). "Marker-assisted dissection of anthracnose resistance in the dry bean cultivar 'Morden003'", *Canadian Journal of Plant Science*, 93(6), pp. 1115-1123. doi : 10.4141/CJPS2013-085

Chang, K.F., Hwang, S.F., Ahmed, H.U., Strelkov, S.E., Conner, R.L., Gossen, B.D., Bing, D.-J., and Turnbull, G.D. (2013). "Yield loss and management of downy mildew on field pea in Alberta, Canada.", *Crop Protection*, 46, pp. 23-28. doi : 10.1016/j.cropro.2012.12.001

Conner, R.L., Chang, K.F., Hwang, S.F., Warkentin, T.D., and McRae, K.B. (2013). "Assessment of tolerance for reducing yield losses in field pea caused by *Aphanomyces* root rot.", *Canadian Journal of Plant Science*, 93(3), pp. 473-482. doi : 10.4141/cjps2012-183

## 2012

Gillard, C.L., Ranatunga, N.K., and Conner, R.L. (2012). "The control of dry bean anthracnose through seed treatment and the correct application timing of foliar fungicides.", *Crop Protection*, 37, pp. 81-90. doi : 10.1016/j.cropro.2012.02.009

Shaikh, R., Diederichsen, A., Harrington, M., Adam, J., Conner, R.L., and Buchwaldt, L. (2012). "New sources of resistance to *Colletotrichum truncatum* race Ct0 and Ct1 in *Lens culinaris* subsp. *culinaris* obtained by single plant selection in germplasm accessions.", *Genetic Resources and Crop Evolution*, 60(1), pp. 193-201. doi : 10.1007/s10722-012-9825-7

Thomas, J.B., Conner, R.L., and Graf, R.J. (2012). "Radiant hard red winter wheat.", *Canadian Journal of Plant Science*, 92(1), pp. 169-175. doi : 10.4141/CJPS2011-082

Hwang, S.F., Chang, K.F., Conner, R.L., Gossen, B.D., and Turnbull, G.D. (2012). "Plant age and timing of epidemic initiation affect *mycosphaerella* blight in field pea.", *Journal of Plant Diseases and Protection*, 119(1), pp. 15-23.

Li, H.J., Cui, L., Li, H.-L., Wang, X.-M., Murray, T.D., Conner, R.L., Wang, L.J., Gao, X., Sun, Y., Sun, S.C., and Tang, W.H. (2012). "Effective Resources in Wheat and Wheat-Tinopyrum Derivatives for Resistance to *Heterodera filipjevi* in China.", *Crop Science*, 52(3), pp. 1209-1217. doi : 10.2135/cropsci2011.11.0591

Li, W.J., Feng, J., Chang, K.F., Conner, R.L., Hwang, S.F., Strelkov, S.E., Gossen, B.D., and McLaren, D.L. (2012). "Microsatellite DNA Markers Indicate Quantitative Trait Loci Controlling Resistance to Pea Root Rot Caused by *Fusarium avenaceum* (Corda ex Fries) Sacc.", *Plant Pathology Journal*, 11(4), pp. 114-119. doi : 10.3923/ppj.2012.114.119

Conner, R.L., Gossen, B.D., Hwang, S.F., Chang, K.F., McRae, K.B., and Penner, W.C. (2012). "Field assessment of partial resistance to *mycosphaerella* blight in *Pisum* subspecies accessions.", *Canadian Journal of Plant Science*, 92(2), pp. 289-296. doi : 10.4141/CJPS2011-152

Balasubramanian, P.M., Mündel, H.-H., Conner, R.L., and Hou, A. (2012). "AAC Tundra great northern dry bean.", *Canadian Journal of Plant Science*, 92(7), pp. 1403-1405. doi : 10.4141/cjps2012-066

Feng, J., Chang, K.F., Hwang, S.F., Strelkov, S.E., Conner, R.L., Gossen, B.D., McLaren, D.L., and Chen, Y.Y. (2012). "Analysis of expressed sequence tags derived from pea leaves infected by *Peronospora viciae* f. sp. *pisii*.", *Annals of Applied Biology*, 161(3), pp. 214-222. doi : 10.1111/j.1744-7348.2012.00566.x

Chen, Y.-Y., Conner, R.L., Gillard, C.L., McLaren, D.L., Boland, G.J., Balasubramanian, P.M., Stasolla, C., Zhou, Q.-X., Hwang, S.F., Chang, K.F., and Babcock, C. (2012). "A quantitative real-time PCR assay for detection of *Colletotrichum lindemuthianum* in navy bean seeds.", *Plant Pathology*. doi : 10.1111/j.1365-3059.2012.02692.x

Gillard, C.L., Ranatunga, N.K., and Conner, R.L. (2012). "The effect of foliar fungicide application timing on the control of dry bean anthracnose.", *Canadian Journal of Plant Science*, 92(1), pp. 109-118. doi : 10.4141/CJPS2010-018

## 2011

Gossen, B.D., Hwang, S.F., Conner, R.L., and Chang, K.F. (2011). "Managing the ascochyta blight complex on field pea in western Canada.", *Prairie Soils and Crops*, 4, pp. 135-141.

Conner, R.L. and Fernandez, M.R. (2011). "Root and Crown Rot of Wheat.", *Prairie Soils and Crops*, 4, pp. 151-157.

Feng, J., Hwang, R., Chang, K.F., Conner, R.L., Hwang, S.F., Strelkov, S.E., Gossen, B.D., McLaren, D.L., and Xue, A.G. (2011). "Identification of microsatellite markers linked to quantitative trait loci controlling resistance to *Fusarium* root rot in field pea.", *Canadian Journal of Plant Science*, 91(1), pp. 199-204. doi : 10.4141/CJPS09176

Fernandez, M.R. and Conner, R.L. (2011). "Black Point and Smudge in Wheat.", *Prairie Soils and Crops*, 4, pp. 158-164.

Fernandez, M.R., Sissons, M.J., Conner, R.L., Wang, H., and Clarke, J.M. (2011). "Influence of biotic and abiotic factors on dark discoloration of durum wheat kernels.", *Crop Science*, 51(3), pp. 1205-1214. doi : 10.2135/cropsci2010.07.0433

Hou, A., Balasubramanian, P.M., Conner, R.L., Park, S.J., Yu, K., Kiehn, F.A., and Navabi, A. (2011). "Portage common bean.", *Canadian Journal of Plant Science*, 91(3), pp. 523-525. doi : 10.4141/cjps2010-015

Balasubramanian, P.M., Hou, A., Conner, R.L., Kiehn, F.A., and Mündel, H.-H. (2011). "Carman Black dry bean.", *Canadian Journal of Plant Science*, 91(3), pp. 519-521. doi : 10.4141/cjps2010-005

## Other Science Related Publications:

### 2015

Henriquez, M.A., McLaren, D.L., Conner, R.L., Balasubramanian, P.M., Chang, K.F., Hwang, S.F., Strelkov, S.E., Gossen, B.D., and Penner, W.C. (2015). "Soybean root rot and phytophthora rot in Manitoba, Canada.", *Canadian Journal of Plant Pathology*, 37, pp. 247. (Abstract)

Halverson, J., Simons, K.J., Conner, R.L., and Pasche, J.S. (2015). "Seed-to-seedling transmission of *Colletotrichum lindemuthianum* in dry edible beans.", *Annual Report of the Bean Improvement Cooperative (BIC)*, 58.

Hou, A., Sandercock, M., and Conner, R.L. (2015). Long Season Wide Row Dry Bean Cooperative Registration Trials Annual Report to PGDC. (Report)

Chang, K.F., Hwang, S.F., Ahmed, H.U., Zhou, Q-X., Strelkov, S.E., Conner, R.L., McLaren, D.L., Gossen, B.D., and Turnbull, G.D. (2015). "Evaluation of soybean cultivars against root rot caused by *Fusarium avenaceum* and *Rhizoctonia solani* under low and high salinity.", *Phytopathology*. (Abstract)

### 2014

Conner, R.L., Hou, A., Balasubramanian, P.M., McLaren, D.L., Henriquez, M.A., Chang, K.F., and McRae, K.B. (2014). "Reactions of dry bean cultivars from western Canada to root rot.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014. (Poster)

Henriquez, M.A., McLaren, D.L., Conner, R.L., Balasubramanian, P.M., Chang, K.F., Hwang, S.F., Strelkov, S.E., and Gossen, B.D. (2014). "Fusarium species from soybean in Manitoba.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014. (Abstract)

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Navabi, A., Yu, K., and Hou, A. (2014). "Combining resistance to common bacterial blight, anthracnose and bean common mosaic virus in dry bean.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014, Presentation. (Poster)

Nyandoro, R., Chang, K.F., Hwang, S.F., Strelkov, S.E., Turnbull, G.D., Howard, R.J., Harding, M.W., McLaren, D.L., and Conner, R.L. (2014). "The occurrence of soybean root rot in southern Alberta, Canada in 2013.", *Canadian Plant Disease Survey*, 94, pp. 198-200.

Henriquez, M.A., McLaren, D.L., Conner, R.L., Hall, B., Penner, W.C., and Kerley, T.J. (2014). "Root diseases of field bean in western Ontario in 2013.", *Canadian Plant Disease Survey*, 94, pp. 156-157.

McLaren, D.L., Henriquez, M.A., Conner, R.L., Mohr, R.M., Balasubramanian, P.M., and Chang, K.F. (2014). "The root of the problem: *Fusarium* and *Phytophthora* in Manitoba soybean fields.", *Canadian Association of Agri-Retailers (CAAR) Crop Management Forum*, Brandon, MB, Canada, November 18, 2014. (Abstract)

Henriquez, M.A., McLaren, D.L., Conner, R.L., Penner, W.C., and Kerley, T.J. (2014). "Diseases of field bean in Manitoba in 2013.", *Canadian Plant Disease Survey*, 94, pp. 154-155.

Chatterton, S., Balasubramanian, P.M., McLaren, D.L., Conner, R.L., and Howard, R.J. (2014). "Race structure of *Pseudomonas syringae* pv. *phaseolicola* from dry bean fields on the Canadian prairies.", *Annual Report of the Bean Improvement Cooperative (BIC)*, 57, pp. 147-148.

McLaren, D.L., Henriquez, M.A., Conner, R.L., Chang, K.F., Henderson, T.L., and Kerley, T.J. (2014). "Soybean root rot in Manitoba in 2012 and 2013.", *Canadian Plant Disease Survey*, 94, pp. 201-202.

McLaren, D.L., Henriquez, M.A., Conner, R.L., Balasubramanian, P.M., Chang, K.F., Hwang, S.F., Strelkov, S.E., and Gossen, B.D. (2014). "Fusarium species isolated from dry bean and field pea in Manitoba: Identification, pathogenicity and prognosis.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014. (Abstract)

Henriquez, M.A., McLaren, D.L., Conner, R.L., Balasubramanian, P.M., Chang, K.F., Hwang, S.F., and Gossen, B.D. (2014). "Soybean root rot and *Phytophthora* rot in Manitoba, Canada.", CPS Regional Meeting, Morden, MB, Canada, December 4, 2014. (Abstract)

Hwang, S.F., Chang, K.F., Ahmed, H.U., Zhou, Q., Strelkov, S.E., Conner, R.L., McLaren, D.L., Gossen, B.D., and Turnbull, G.D. (2014). "First report of *Fusarium proliferatum* causing root rot disease in soybean (*Glycine max*) in Canada.", *The Western Producer*, 104(Supl. 3), pp. S3.53. (Abstract)

Hou, A., Marsolais, F., Pajak, A., and Conner, R.L. (2014). "Genetic improvement of protein quality in edible beans with adaptation to Manitoba.", *Annual Report of the Bean Improvement Cooperative (BIC)*, 57(129).

## 2013

Li, W.J., Feng, J.-W., Chang, K.F., Conner, R.L., Hwang, S.F., Strelkov, S.E., Gossen, B.D., and McLaren, D.L. (2013). "Microsatellite DNA markers indicate quantitative trait loci controlling resistance to pea root rot caused by *Fusarium avenaceum*.", *Canadian Journal of Plant Pathology*, 35, pp. 107. (Abstract)

McLaren, D.L., Henriquez, M.A., Conner, R.L., and Chang, K.F. (2013). "2012 Field pea, dry bean and soybean research at the Brandon Research Centre.", *Pulse Beat*, 68(Spring), pp. 35-36.

Hou, A., Conner, R.L., Balasubramanian, P.M., and Boersma, J.G. (2013). "Blackbean (*Phaseolus vulgaris* L.) germplasm rich in anthracnose resistance.", *Bean Improvement Cooperatives*, Portland, OR, USA, October 28-30, 2013. (Poster)

Hou, A., Marsolais, F., Pajak, A., and Conner, R.L. (2013). "Genetic improvement of protein quality in edible beans with adaptation to Manitoba. Poster presentation.", *Bean Improvement Cooperatives*, Portland, OR, USA, October 28-30, 2013. (Poster)

Feng, J., Chang, K.F., Hwang, S.F., Strelkov, S.E., Conner, R.L., Gossen, B.D., and McLaren, D.L. (2013). "Analysis of expressed sequence tags derived from a compatible pea-*Peronospora viciae* interaction.", *Canadian Journal of Plant Pathology*, 35, pp. 109. (Abstract)

McLaren, D.L., Henriquez, M.A., Conner, R.L., Balasubramanian, P.M., and Chang, K.F. (2013). "Root rot of pulses in Manitoba.", *Manitoba Special Crops 7th Symposium*, Victoria Inn and Convention Centre, Winnipeg, MB, Canada, February 6-7, 2013.

## 2012

Henriquez, M.A., McLaren, D.L., Conner, R.L., Penner, W.C., and Kerley, T.J. (2012). "Diseases of field bean in Manitoba in 2011.", *Canadian Plant Disease Survey*, 92, pp. 120-121.

Chang, K.F., Conner, R.L., Hwang, S.F., Gossen, B.D., McLaren, D.L., and Turnbull, G.D. (2012). "Methods of inoculating pea plants with *Peronospora viciae* f. sp. *pisii*.", *Canadian Phytopathological Society (CPS) 82nd Annual Meeting (with Plant Canada 2011)*, Halifax, NS, Canada, July 17-21, 2011, Published in: *Can. J. Plant Pathol.* (2011), 34(2), pp.328.

Henriquez, M.A., McLaren, D.L., Conner, R.L., Balasubramanian, P.M., and Chang, K.F. (2012). "Root rot pathogens in dry bean and field pea fields in Manitoba.", *Canadian Phytopathological Society (CPS) Manitoba Regional 2012 Meeting*, Brandon, MB, Canada, November 29, 2012, Published in: *Can. J. Plant Pathol.* (2013), 35(2), pp. 270.

Bowness, R.T., Gossen, B.D., Conner, R.L., Wolf, T.M., Chang, K.F., Willenborg, C.J., and Strelkov, S.E. (2012). "Effect of nozzle type and orientation on fungicide efficacy against *mycosphaerella* blight in field pea.", *Canadian Journal of Plant Pathology*, 34, pp. 326-327. (Abstract)

Balasubramanian, P.M., Chatterton, S., Hou, A., Conner, R.L., McLaren, D.L., Navabi, A., Pauls, K.P., and Bett, K.E. (2012). "Dry bean improvement on the prairies for high yield, disease resistance and seed quality.", *Pulse Science Cluster Scientific Meeting 2012*, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 5-6, 2012.

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Navabi, A., Yu, K., and Hou, A. (2012). "Pyramiding resistance to common bacterial blight, anthracnose and bean common mosaic virus in dry bean.", *9th Canadian Pulse Research Workshop*, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, Poster.

Hou, A., Marsolais, F., Pajak, A., and Conner, R.L. (2012). "Genetic improvement of protein quality in edible beans with adaptation to Manitoba.", *9th Canadian Pulse Research Workshop*, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, Poster.

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Yu, K., and Hou, A. (2012). "Molecular marker-assisted dissection of anthracnose resistance in the common dry bean cultivar, 'morden003'.", *9th Canadian Pulse Research Workshop*, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, Poster.

Balasubramanian, P.M., Conner, R.L., McLaren, D.L., Chatterton, S., and Hou, A. (2012). "Development of dry bean cultivars with resistance to white mold. Oral presentation.", *9th Canadian Pulse Research Workshop*, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, Oral presentation.

Henriquez, M.A., McLaren, D.L., Conner, R.L., Balasubramanian, P.M., and Chang, K.F. (2012). "Fusarium species from dry bean and field pea in Manitoba.", *9th Canadian Pulse Research Workshop*, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, pp. 6.



Conner, R.L., Chang, K.F., Hwang, S.F., McLaren, D.L., and Gossen, B.D. (2012). "Impact and control of fusarium root rot in faba bean.", *Pulse Beat*, 65, pp. 26-27.

Feng, J., Chang, K.F., Hwang, S.F., Strelkov, S.E., Conner, R.L., Gossen, B.D., and McLaren, D.L. (2012). "Identification of genes from the pea-downy mildew pathosystem.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, pp. 36.

Conner, R.L., Chang, K.F., Hwang, S.F., Warkentin, T.D., and McRae, K.B. (2012). "Effectiveness of tolerance to *Aphanomyces* root rot for reducing yield losses in field pea.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, P67.

Conner, R.L., Chang, K.F., McLaren, D.L., and Hwang, S.F. (2012). "Partial resistance to *Mycosphaerella* blight in field pea.", *Pulse Beat*, 65, pp. 32.

## 2011

Hou, A., Conner, R.L., and Balasubramanian, P.M. (2011). "Dry bean breeding research.", *Pulse Beat*, 2011(64), pp. 38.

McLaren, D.L., Henriquez, M.A., and Conner, R.L. (2011). "Field pea and dry bean research at the Brandon Research Centre.", *Pulse Beat*, 64(Fall/Winter), pp. 32.

Conner, R.L., McLaren, D.L., Penner, W.C., and Kerley, T.J. (2011). "Diseases of dry bean in Manitoba in 2010.", *Canadian Plant Disease Survey*, 91, pp. 107-108.

Bowness, R.T., Gossen, B.D., Conner, R.L., Wolf, T.M., Chang, K.F., Willenborg, C.J., and Strelkov, S.E. (2011). "Effect of nozzle type and orientation on fungicide efficacy against *mycosphaerella* blight in field pea.", *Canadian Phytopathological Society (CPS) 82nd Annual Meeting (with Plant Canada 2011)*, Halifax, NS, Canada, July 17-21, 2011, Published in: *Can. J. Plant Pathol.* (2012), 34 (2), pp. 326-327.

Balasubramanian, P.M., Hou, A., Conner, R.L., McLaren, D.L., Navabi, A., and Pauls, K.P. (2011). "Improvement of dry bean on the prairies for high yield, disease resistance and seed quality.", *Pulse Science Cluster Scientific Meeting 2011*, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011.

Chang, K.F., Hwang, S.F., Conner, R.L., Gossen, B.D., Strelkov, S.E., McLaren, D.L., and Turnbull, G.D. (2011). "Fungicide seed treatments to manage seedling blight of faba bean in Alberta, Canada, 2010.", *American Phytopathological Society (APS) 2011 Joint Annual Meeting & International Association for the Plant Protection Sciences (IPPC)*, Honolulu, HI, USA, August 6-10, 2011, Published in: *Phytopathology* (2011), 101(6S), pp. S30.

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Gillard, C.L., and Hou, A. (2011). "Evaluation of dry bean lines for resistance to common bacterial blight.", *Plant Canada 2011*, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

Chang, K.F., Conner, R.L., Hwang, S.F., Gossen, B.D., McLaren, D.L., Strelkov, S.E., and Turnbull, G.D. (2011). "Occurrence, impact and management of root rot on faba bean in Alberta.", *Canadian Journal of Plant Pathology*, 33, pp. 272. (Abstract)

Feng, J., Chang, K.F., Hwang, S.F., Gossen, B.D., Conner, R.L., and McLaren, D.L. (2011). "Production of non-specific esterase by conidia of *Peronospora viciae* f.sp. *psi*.", *Canadian Journal of Plant Pathology*, 33, pp. 259. (Abstract)

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## Research Publications:

2013

Jenner, W.H., Jenner, E.J., Kuhlmann, U., Bennett, A.M.R., and Cossentine, J.E. (2013). "Enarmonia formosana Scopoli, Cherry Bark Tortrix (Lepidoptera: Tortricidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, Chapter 22, pp. 156-163.

Cossentine, J.E. (2013). "Laboratory and field evaluations of the susceptibility of immature *Choristoneura rosaceana* (Lepidoptera: Tortricidae) to *Beauveria bassiana* (Hypocreales: Cordycipitaceae).", *Biocontrol Science and Technology*, 23(4), pp. 396-408. doi: 10.1080/09583157.2013.763905

Cossentine, J.E., Aurelian, V.M., and Judd, G.J.R. (2013). "Synanthedon myopaeformis (Borkhausen), apple clearwing moth (Lepidoptera: Sesidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, Wallingford, UK, pp. 285-291.

2011

Cossentine, J.E., Jaronski, S.T., Thistlewood, H.M.A., and Yee, W.L. (2011). "Impact of *Metarhizium brunneum* (Hypocreales: Clavicipitaceae) on pre-imaginal *Rhagoletis indifferens* (Diptera: Tephritidae) within and on the surface of orchard soil.", *Biocontrol Science and Technology*, 21(12), pp. 1501-1505. doi: 10.1080/09583157.2011.625397

Randall, P., Sholberg, P.L., Judd, G.J.R., and Cossentine, J.E. (2011). "Acetic acid fumigation of fruit storage bins to control diapausing codling moth larvae.", *HortScience*, 46(12), pp. 1634-1639.

## Other Science Related Publications:

2014

Cossentine, J.E., Blatt, S.E., Mason, P.G., Franklin, J.L., Brauner, A.M., Robertson, M.C., Appleby, M.E., Grigg-McGuffin, K., Fraser, H.M., Hueppelshouser, T., and Garipey, T.D. (2014). "Adventures in moving. The challenges in introducing a classical biological control agent into other provinces.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014.

Cossentine, J.E., Blatt, S.E., Mason, P.G., Franklin, J.L., Brauner, A.M., Robertson, M.C., Appleby, M.E., Grigg-McGuffin, K., Fraser, H.M., Hueppelshouser, T., and Garipey, T.D. (2014). "Adventures in moving: The challenges in introducing a classical biological control agent into other provinces.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014, Poster Presentation.

Toivonen, P.M.A., O'Gorman, D.T., and Cossentine, J.E. (2014). Progress Report for Project ID number J-000378. P020-BCFGA-Canadian Tree Fruit Products Development - Activity 3: Postharvest characterization of apple and sweet cherry quality. AIP-ASP reporting: Okanagan Plant Improvement Company (PICO)/Scientist Meeting Agenda – March 26, 2014: PARC-Summerland. (Report)

Cossentine, J.E. (2014). "Microbial pathogens for biocontrol of spotted wing *Drosophila* (SWD).", British Columbia Cherry Association Annual Meeting and Research Review, Kelowna, BC, Canada, February 21, 2014. (Presentation)

Cossentine, J.E. and Smirle, M.J. (2014). "Microbial pathogens for biocontrol of spotted wing *Drosophila*.", British Columbia Cherry Association Annual General Meeting, Kelowna, BC, Canada, February 21, 2014. (Presentation)

2013

Johnson, T.S., Lowery, T., Cossentine, J.E., and Cory, J. (2013). "Climbing Cutworms and Cool Climate Pest Control.", British Columbia Wine Grape Conference, Penticton, BC, Canada, July, 2013. (Poster)

Cossentine, J.E., Xu, D., and Côté, J.-C. (2013). "*Drosophila suzukii*: searching for a microbial control.", Annual Conference on Invertebrate Pathology and Microbial Control, Pittsburgh, PA, USA, August 2013. (Abstract)

Cossentine, J.E., Blatt, S.E., Mason, P.G., Franklin, J.L., Brauner, A.M., Appleby, M.E., Grigg-McGuffin, K., Fraser, H., and Gariépy, T.D. (2013). "A difficult directed biological control decision.", Joint Annual Entomological Society of Ontario and Canada meeting, Guelph, ON, Canada, October, 2013. (Poster)

Dhillon, J., Smirle, M.J., and Cossentine, J.E. (2013). "Incidence of ovoviviparity in *Drosophila suzukii*.", Joint Annual Entomological Society of Ontario and Canada meeting, Guelph, ON, Canada, October, 2013. (Poster)

Smirle, M.J., Zurowski, C.L., Derrick, B., and Cossentine, J.E. (2013). "Evaluation of insecticides for control of spotted-wing *Drosophila (Drosophila suzukii)* adults using a dry-film bioassay.", Western Forum on Pest Management, Winnipeg, Canada, October, 2013. (PowerPoint presentation)

Cossentine, J.E., Vincent, C., Smirle, M.J., and Côté, J.-C. (2013). "*Choristoneura rosaceana*, obliquebanded leafroller (Lepidoptera: Tortricidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, Wallingford, UK, pp. 130-134.

Cossentine, J.E. and Vincent, C. (2013). "*Cydia pomonella* (L.), Codling Moth (Lepidoptera: Tortricidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, Wallingford, UK, pp. 139-141.

## 2012

Lowery, D.T., Johnson, T.S., Cossentine, J.E., and Cory, J. (2012). "Cool caterpillars: Low temperature biological control of a climbing cutworm.", Entomological Society of America (ESA) 60th Annual Meeting, Knoxville Convention Centre, Knoxville, TN, USA, November 11-14, 2012, VP34. (Poster)

## 2011

Johnson, S., Lowery, D.T., Cory, J.S., and Cossentine, J.E. (2011). "Mycosis at cool temperatures: the susceptibility of the temperate grape cutworm *Abagrotis orbis* to entomopathogenic fungi.", Entomological Society of British Columbia 2011 Annual General Meeting, Abbotsford, BC, Canada, October 14, 2011.

Johnson, S., Lowery, D.T., Cory, J.S., and Cossentine, J.E. (2011). "Mycosis at cool temperatures: the susceptibility of the temperate grape cutworm *Abagrotis orbis* to entomopathogenic fungi.", 44th Annual Meeting of the Society for Invertebrate Pathology, Halifax, NS, Canada, August 7-11, 2011. (Poster)

Erlanson, M.A., Maghodia, A.B., Cossentine, J.E., Lowery, D.T., and Theilmann, D.A. (2011). "Genome structure of a nucleopolyhedrovirus infecting *Abagrotis reedi*, a cutworm pest of vineyards.", 44th Annual Meeting of the Society for Invertebrate Pathology, Halifax, NS, Canada, August 7-11, 2011. (Poster)

Cossentine, J.E. (2011). "A new orchard pest in the Okanagan - the spotted wing *Drosophila (Drosophila suzukii)*.", Pacific Agri-Food Research Centre Open House, Summerland, BC, Canada, September 24, 2011. (Presentation)

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## Research Publications:

2013

Soufiane, B. and Côté, J.-C. (2013). "Discrimination Between Mesophilic and Psychrotolerant Strains in the *Bacillus cereus* Group Based on the PstI Digestion of the *pycA* Gene.", *Current Microbiology*, 67(2), pp. 148-155. doi : 10.1007/s00284-013-0339-0

Soufiane, B. and Côté, J.-C. (2013). "Bacillus weihenstephanensis characteristics are present in *Bacillus cereus* and *Bacillus mycoides* strains.", *FEMS Microbiology Ecology*, 341(2), pp. 127-137. doi: 10.1111/1574-6968.12106

Soufiane, B., Baizet, M., and Côté, J.-C. (2013). "Multilocus sequence analysis of *Bacillus thuringiensis* serovars *navarrensis*, *bolivia* and *vazensis* and *Bacillus weihenstephanensis* reveals a common phylogeny.", *Antonie Van Leeuwenhoek International Journal of General and Molecular Microbiology*, 103(1), pp. 195-205. doi : 10.1007/s10482-012-9800-5

2011

Wellman-Desbiens, É., Lucas, É., and Côté, J.-C. (2011). "Screening of the nematicidal activity and sub-lethal effects of the bacterium *Bacillus thuringiensis* on the nematode *Caenorhabditis elegans*.", *International Journal of Nematology*, 21(2), pp. 169-180.

Côté, J.-C., Soufiane, B., and Sirois, M. (2011). "Mutually exclusive distribution of the *sap* and *eag* S-layer genes and the *lytB/lytA* cell wall hydrolase genes in *Bacillus thuringiensis*.", *Antonie Van Leeuwenhoek International Journal of General and Molecular Microbiology*, 100(3), pp. 349-364. doi : 10.1007/s10482-011-9590-1

## Other Science Related Publications:

2014

Soufiane, B., Vincent, C., and Côté, J.-C. (2014). "Psychrotolerance as a driver for the development of novel Bt-based insecticides.", *Entomological Society of America 2014 Annual Meeting, Portland, Oregon, USA, November 18, 2014.*

Soufiane, B., Vincent, C., and Côté, J.-C. (2014). "A novel toxin produced by a psychrotolerant *Bacillus thuringiensis* serovar.", *Joint meeting, Entomological Society of Canada / Entomological Society of Saskatchewan, Saskatoon, Sask., Canada, September 30-October 1, 2014.*

2013

Cossentine, J.E., Xu, D., and Côté, J.-C. (2013). "*Drosophila suzukii*: searching for a microbial control.", *Annual Conference on Invertebrate Pathology and Microbial Control, Pittsburgh, PA, USA, August 2013. (Abstract)*

Côté, J.-C., Jung, Y.-C., Mizuki, E., and Akao, T. (2013). "A novel *Bacillus thuringiensis* strain, crystal gene and crystal protein and use thereof.", published in *Canadian Patents Database. Patent number 2,410,153. Issued April 23, 2013. (Patent)*

Cossentine, J.E., Vincent, C., Smirle, M.J., and Côté, J.-C. (2013). "*Choristoneura rosaceana*, oblique banded leafroller (Lepidoptera: Tortricidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Wallingford, UK, pp. 130-134.

2011

Vincent, C., Bostanian, N.J., and Côté, J.-C. (2011). "Issues involved in developing biopesticides with small companies: three case studies from Canada.", *OECD Workshop on Integrated Pest Management (IPM): Technology and Information, Berlin, Germany, October 16-19, 2011. (Poster)*

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## Research Publications:

2016

Liu, H., Gong, J., Chabot, D., Miller, S.S., Miller, S.S., Cui, S.W., Ma, J., Zhong, F., and Wang, Q. (2016). "Incorporation of polysaccharides into sodium caseinate-low melting point fat microparticles improves probiotic bacteria survival during simulated gastrointestinal digestion and storage.", *Food Hydrocolloids*, 54(Part B), pp. 328-337. doi : 10.1016/j.foodhyd.2015.10.016

Razavi, S.M.A., Cui, S.W., and Ding, H. (2016). "Structural and physicochemical characteristics of a novel water-soluble gum from *Lallemantia royleana* seed.", *International Journal of Biological Macromolecules*, 83, pp. 142-151. doi : 10.1016/j.ijbiomac.2015.11.076

Ai, L., Guo, Q., Ding, H., Guo, B., Chen, W., and Cui, S.W. (2016). "Structure characterization of exopolysaccharides from *Lactobacillus casei* LC2W from skim milk", *Food Hydrocolloids*, 56, pp. 134-143. doi : 10.1016/j.foodhyd.2015.10.023

2015

Wang, J., Kan, L., Nie, S-P., Chen, H., Cui, S.W., Phillips, A.O., Phillips, G.O., Li, Y., and Xie, M-Y. (2015). "A comparison of chemical composition, bioactive components and antioxidant activity of natural and cultured *Cordyceps sinensis*.", *Food Science and Technology - LWT*, 63(1), pp. 2-7. doi : 10.1016/j.lwt.2015.03.109

Yang, Y., Cui, S.W., Gong, J., Miller, S.S., Wang, Q., and Hua, Y.F. (2015). "Stability of citral in oil-in-water emulsions protected by a soy protein-polysaccharide Maillard reaction product.", *Food Research International*, 69, pp. 357-363. doi : 10.1016/j.foodres.2015.01.006

Yang, Y., Cui, S.W., Gong, J., Guo, Q., Wang, Q., and Hua, Y. (2015). "A soy protein-polysaccharides Maillard reaction product enhanced the physical stability of oil-in-water emulsions containing citral.", *Food Hydrocolloids*, 48, pp. 155-164. doi : 10.1016/j.foodhyd.2015.02.004

Kang, J., Guo, Q., Wang, Q., Phillips, G.O., and Cui, S.W. (2015). "New studies on gum ghatti (*Anogeissus latifolia*) part VI: Physicochemical characteristics of the protein moiety of gum ghatti.", *Food Hydrocolloids*, 44, pp. 237-243. doi : 10.1016/j.foodhyd.2014.09.013

Guo, Q., Cui, S.W., Kang, J., Ding, H., Wang, Q., and Wang, C. (2015). "Non-starch polysaccharides from American ginseng: Physicochemical investigation and structural characterization.", *Food Hydrocolloids*, 44, pp. 320-327. doi : 10.1016/j.foodhyd.2014.09.031

Kang, J., Guo, Q., Wang, Q., Phillips, G.O., and Cui, S.W. (2015). "New studies on gum ghatti (*Anogeissus latifolia*) part V: The conformational properties of gum ghatti.", *Food Hydrocolloids*, 43, pp. 25-30. doi : 10.1016/j.foodhyd.2014.04.042

Guo, Q., Cui, S.W., and Kang, J. (2015). "Classical Methods for Food Carbohydrate Analysis.", - *Food Oligosaccharides: Production, Analysis and Bioactivity*, pp. 284-299.

Huang, X.-J., Nie, S-P., Cai, H.-L., Zhang, G., Cui, S.W., Xie, M-Y., and Phillips, G.O. (2015). "Study on *Dendrobium officinale* O-acetyl-glucomannan (Dendronan®): Part VI. Protective effects against oxidative stress in immunosuppressed mice.", *Food Research International*, 72, pp. 168-173. doi : 10.1016/j.foodres.2015.01.035

Yin, J.-Y., Nie, S-P., Guo, Q., Wang, Q., Cui, S.W., and Xie, M-Y. (2015). "Effect of calcium on solution and conformational characteristics of polysaccharide from seeds of *Plantago asiatica* L.", *Carbohydrate Polymers*, 124(Article number 9687), pp. 331-336. doi : 10.1016/j.carbpol.2015.02.017

Huang, X.-J., Nie, S-P., Zhang, G., Cui, S.W., Xie, M-Y., and Phillips, G.O. (2015). "Study on *Dendrobium officinale* O-acetyl-glucomannan (Dendronan): Part IV. Immunomodulatory activity in vivo.", *Journal of Functional Foods*, 15, pp. 525-532. doi : 10.1016/j.jff.2015.03.054

Liu, H., Gong, J., Chabot, D., Miller, S.S., Cui, S.W., Ma, J., Zhong, F., and Wang, Q. (2015). "Protection of heat-sensitive probiotic bacteria during spray-drying by sodium caseinate stabilized fat particles.", *Food Hydrocolloids*, 51, pp. 459-467. doi : 10.1016/j.foodhyd.2015.05.015

Huang, C., Miao, M., Jiang, B., Cui, S.W., Jia, X., and Zhang, T. (2015). "Polysaccharides modification through green technology: Role of ultrasonication towards improving physicochemical properties of (1-3)(1-6)- $\alpha$ -D-glucans.", *Food Hydrocolloids*, 50, pp. 166-173. doi : 10.1016/j.foodhyd.2015.04.016

- Roberts, K.T., Allen-Vercoe, E., Williams, S.A., Graham, T., and Cui, S.W. (2015). "Comparative study of the in vitro fermentative characteristics of fenugreek gum, white bread and bread with fenugreek gum using human faecal microbes.", *Bioactive Carbohydrates and Dietary Fibre*, 5(2), pp. 116-124. doi : 10.1016/j.bcdf.2014.09.007
- Miao, M., Huang, C., Jia, X., Cui, S.W., Jiang, B., and Zhang, T. (2015). "Physicochemical characteristics of a high molecular weight bioengineered  $\alpha$ -D-glucan from *Leuconostoc citreum* SK24.002.", *Food Hydrocolloids*, 50, pp. 37-43. doi : 10.1016/j.foodhyd.2015.04.009
- Wu, Y., Eskin, N.A.M., Cui, S.W., and Pokharel, B. (2015). "Emulsifying properties of water soluble yellow mustard mucilage: A comparative study with gum Arabic and citrus pectin.", *Food Hydrocolloids*, 47, pp. 191-196. doi : 10.1016/j.foodhyd.2015.01.020
- Hu, J.-L., Yu, H., Kulkarni, R.R., Sharif, S., Cui, S.W., Xie, M.-Y., Nie, S.-P., and Gong, J. (2015). "Modulation of cytokine gene expression by selected *Lactobacillus* isolates in the ileum, caecal tonsils and spleen of *Salmonella*-challenged broilers.", *Avian Pathology*, 44(6), pp. 463-469. doi : 10.1080/03079457.2015.1086725
- Ding, H., Cui, S.W., Goff, H.D., Chen, J., Wang, Q., and Han, N.F. (2015). "Arabinan-rich rhamnogalacturonan-I from flaxseed kernel cell wall.", *Food Hydrocolloids*, 47, pp. 158-167. doi : 10.1016/j.foodhyd.2015.01.011
- Zhang, H., Wang, J., Nie, S.-P., Wang, Y., Cui, S.W., and Xie, M.-Y. (2015). "Sulfated modification, characterization and property of a water-insoluble polysaccharide from *Ganoderma atrum*.", *International Journal of Biological Macromolecules*, 79, pp. 248-255. doi : 10.1016/j.ijbiomac.2015.04.070
- Ding, H., Cui, S.W., Goff, H.D., and Gong, J. (2015). "Short-chain fatty acid profiles from flaxseed dietary fibres after in vitro fermentation of pig colonic digesta: Structure-function relationship.", *Bioactive Carbohydrates and Dietary Fibre*, 6(2), pp. 62-68. doi : 10.1016/j.bcdf.2015.09.006
- Guo, Q., Kang, J., Wu, Y., Cui, S.W., Hu, X., and Yada, R.Y. (2015). "A molecular modeling approach to understand the structure and conformation relationship of (Glc pA)Xylan.", *Carbohydrate Polymers*, 134 (Article Number 10025), pp. 175-181. doi : 10.1016/j.carbpol.2015.06.036
- Miao, M., Ma, Y., Huang, C., Jiang, B., Cui, S.W., and Zhang, T. (2015). "Physicochemical properties of a water soluble extracellular homopolysaccharide from *Lactobacillus reuteri* SK24.003.", *Carbohydrate Polymers*, 131 (Article number 9970), pp. 377-383. doi : 10.1016/j.carbpol.2015.05.066

2014

- Miao, M., Ma, Y., Jiang, B., Huang, C., Li, X.-H., Cui, S.W., and Zhang, T. (2014). "Structural investigation of a neutral extracellular glucan from *Lactobacillus reuteri* SK24.003.", *Carbohydrate Polymers*, 106(1), pp. 384-392. doi : 10.1016/j.carbpol.2014.01.047
- Cui, S.W. and Chang, Y.H. (2014). "Emulsifying and structural properties of pectin enzymatically extracted from pumpkin.", *Food Science and Technology - LWT*, 58(2), pp. 396-403. doi : 10.1016/j.lwt.2014.04.012
- Li, J.-E., Cui, S.W., Nie, S.-P., and Xie, M.-Y. (2014). "Structure and biological activities of a pectic polysaccharide from *Mosla chinensis* Maxim. Cv. Jiangxiangru.", *Carbohydrate Polymers*, 105(1), pp. 276-284. doi : 10.1016/j.carbpol.2014.01.081
- Miao, M., Jiang, H., Jiang, B., Zhang, T., Cui, S.W., and Jin, Z. (2014). "Phytonutrients for controlling starch digestion: Evaluation of grape skin extract.", *Food Chemistry*, 145, pp. 205-211. doi : 10.1016/j.foodchem.2013.08.056
- Xing, X.-H., Cui, S.W., Nie, S.-P., Phillips, G.O., Goff, H.D., and Wang, Q. (2014). "Study on *Dendrobium officinale* O-acetylglucomannan (Dendronan®): Part I. Extraction, purification, and partial structural characterization.", *Bioactive Carbohydrates and Dietary Fibre*, 4(1), pp. 74-83. doi : 10.1016/j.bcdf.2014.06.004
- Hu, J.-L., Nie, S.-P., Wu, Q.-M., Li, C., Fu, Z.-H., Gong, J., Cui, S.W., and Xie, M.-Y. (2014). "Polysaccharide from seeds of *Plantago asiatica* L. affects lipid metabolism and colon microbiota of mouse.", *Journal of Agricultural and Food Chemistry*, 62(1), pp. 229-234. doi : 10.1021/jf4040942
- Liu, Y.F., Zhang, J.S., Tang, Q.J., Yang, Y., Guo, Q., Wang, Q., Wu, D., and Cui, S.W. (2014). "Physicochemical characterization of a high molecular weight bioactive  $\beta$ -d-glucan from the fruiting bodies of *Ganoderma lucidum*.", *Carbohydrate Polymers*, 101, pp. 968-974. doi : 10.1016/j.carbpol.2013.10.024
- Ding, H., Cui, S.W., Goff, H.D., Wang, Q., Chen, J., and Han, N.F. (2014). "Soluble polysaccharides from flaxseed kernel as a new source of dietary fibres: Extraction and physicochemical characterization.", *Food Research International*, 56, pp. 166-173. doi : 10.1016/j.foodres.2013.12.005
- Zarepoor, L., Lu, J.T., Zhang, C., Wu, W., Lepp, D., Robinson, L.E., Wanasundara, P.K.J.P.D., Cui, S.W., Villeneuve, S., Fofana, B., Tsao, R., Wood, G.A., and Power, K.A. (2014). "Dietary flaxseed intake exacerbates acute colonic mucosal injury and inflammation induced by dextran sodium sulfate.", *American Journal of Physiology: Gastrointestinal and Liver Physiology*, 306(12), pp. G1042-G1055. doi : 10.1152/ajpgi.00253.2013
- Miao, M., Jiang, H., Jiang, B., Li, Y., Cui, S.W., and Zhang, T. (2014). "Structure elucidation of catechins for modulation of starch digestion.", *Food Science and Technology - LWT*, 57(1), pp. 188-193. doi : 10.1016/j.lwt.2014.01.005

Miao, M., Bai, A., Jiang, B., Song, Y., Cui, S.W., and Zhang, T. (2014). "Characterisation of a novel water-soluble polysaccharide from *Leuconostoc citreum* SK24.002.", *Food Hydrocolloids*, 36, pp. 265-272. doi: 10.1016/j.foodhyd.2013.10.014

Razavi, S.M.A., Cui, S.W., Guo, Q., and Ding, H. (2014). "Some physicochemical properties of sage (*Salvia macrosiphon*) seedgum.", *Food Hydrocolloids*, 35, pp. 453-462. doi: 10.1016/j.foodhyd.2013.06.022

Yao, X., Meran, S., Fang, Y., Martin, J., Midgley, A., Pan, M.-M., Liu, B.-C., Cui, S.W., Phillips, G.O., and Phillips, A.O. (2014). "Cordyceps sinensis: Invitro anti-fibrotic bioactivity of natural and cultured preparations.", *Food Hydrocolloids*, 35, pp. 444-452. doi: 10.1016/j.foodhyd.2013.06.023

Miao, M., Xiong, S., Ye, F., Jiang, B., Cui, S.W., and Zhang, T. (2014). "Development of maize starch with a slow digestion property using maltogenic  $\alpha$ -amylase.", *Carbohydrate Polymers*, 103(1), pp. 164-169. doi: 10.1016/j.carbpol.2013.12.041

Miao, M., Li, R., Jiang, B., Cui, S.W., Lu, K., and Zhang, T. (2014). "Structure and digestibility of endosperm water-soluble  $\alpha$ -glucans from different sugary maize mutants.", *Food Chemistry*, 143, pp. 156-162. doi: 10.1016/j.foodchem.2013.07.109

Kang, J., Guo, Q., Phillips, G.O., and Cui, S.W. (2014). "Understanding the structure-emulsification relationship of gum ghatti - A review of recent advances.", *Food Hydrocolloids*, 42(Part 1), pp. 187-195. doi: 10.1016/j.foodhyd.2014.04.010

Miao, M., Li, R., Jiang, B., Cui, S.W., Zhang, T., and Jin, Z. (2014). "Structure and physicochemical properties of octenyl succinic esters of sugary maize soluble starch and waxy maize starch.", *Food Chemistry*, 151, pp. 154-160. doi: 10.1016/j.foodchem.2013.11.043

Zhao, Q., Hu, X., Guo, Q., Cui, S.W., Xian, Y., You, S., Chen, X., Xu, C., and Gao, X. (2014). "Physicochemical properties and regulatory effects on db/db diabetic mice of  $\beta$ -glucans extracted from oat, wheat and barley.", *Food Hydrocolloids*, 37, pp. 60-68. doi: 10.1016/j.foodhyd.2013.10.007

Miao, M., Xiong, S., Jiang, B., Jiang, H., Cui, S.W., and Zhang, T. (2014). "Improved the slow digestion property of maize starch using partially  $\beta$ -amylolysis.", *Food Chemistry*, 152, pp. 128-132. doi: 10.1016/j.foodchem.2013.11.148

Miao, M., Xiong, S., Jiang, B., Jiang, H., Cui, S.W., and Zhang, T. (2014). "Dual-enzymatic modification of maize starch for increasing slow digestion property.", *Food Hydrocolloids*, 38, pp. 180-185. doi: 10.1016/j.foodhyd.2013.12.006

Shen, J., Park, H.-S., Xia, Y.-M., Kim, G.-S., and Cui, S.W. (2014). "The polysaccharides from fermented *Ganoderma lucidum* mycelia induced miRNAs regulation in suppressed HepG2 cells.", *Carbohydrate Polymers*, 103(1), pp. 319-324. doi: 10.1016/j.carbpol.2013.12.044

## 2013

Kasran, M., Cui, S.W., and Goff, H.D. (2013). "Emulsifying properties of soy whey protein isolate-fenugreek gum conjugates in oil-in-water emulsion model system.", *Food Hydrocolloids*, 30(2), pp. 691-697. doi: 10.1016/j.foodhyd.2012.09.002

Nie, S.-P., Wang, C., Cui, S.W., Wang, Q., Xie, M.-Y., and Phillips, G.O. (2013). "A further amendment to the classical core structure of gum arabic (*Acacia senegal*).", *Food Hydrocolloids*, 31(1), pp. 42-48. doi: 10.1016/j.foodhyd.2012.09.014

Kasran, M., Cui, S.W., and Goff, D.H. (2013). "Covalent attachment of fenugreek gum to soy whey protein isolate through natural Maillard reaction for improved emulsion stability.", *Food Hydrocolloids*, 30(2), pp. 552-558. doi: 10.1016/j.foodhyd.2012.08.004

Nie, S.-P., Cui, S.W., Xie, M.-Y., Phillips, A.O., and Phillips, G.O. (2013). "Bioactive polysaccharides from *Cordyceps sinensis*: Isolation, structure features and bioactivities.", *Bioactive Carbohydrates and Dietary Fibre*, 1(1), pp. 38-52. doi: 10.1016/j.bcdf.2012.12.002

Xu, C., Lv, J., Lo, M., Cui, S.W., Hu, X., and Fan, M.-T. (2013). "Effects of oat  $\beta$ -glucan on endurance exercise and its anti-fatigue properties in trained rats.", *Carbohydrate Polymers*, 92(2), pp. 1159-1165. doi: 10.1016/j.carbpol.2012.10.023

Guo, Q., Wang, Q., Cui, S.W., Kang, J., Hu, X., Xing, X.-H., and Yada, R.Y. (2013). "Conformational properties of high molecular weight heteropolysaccharide isolated from seeds of *Artemisia sphaerocephala* Krasch.", *Food Hydrocolloids*, 32(1), pp. 155-161. doi: 10.1016/j.foodhyd.2012.12.014

Nie, S.-P., Wang, C., Cui, S.W., Wang, Q., Xie, M.-Y., and Phillips, G.O. (2013). "The core carbohydrate structure of *Acacia seyal* var. *seyal* (Gum arabic).", *Food Hydrocolloids*, 32(2), pp. 221-227. doi: 10.1016/j.foodhyd.2012.12.027

Wu, Y., Ai, L., Wu, J., and Cui, S.W. (2013). "Structural analysis of a pectic polysaccharide from boat-fruited *sterculia* seeds.", *International Journal of Biological Macromolecules*, 56, pp. 76-82. doi: 10.1016/j.ijbiomac.2013.01.005

- Xing, X.-H., Cui, S.W., Nie, S-P., Phillips, G.O., Goff, H.D., and Wang, Q. (2013). "A review of isolation process, structural characteristics, and bioactivities of water-soluble polysaccharides from *Dendrobium* plants", *Bioactive Carbohydrates and Dietary Fibre*, 1(2), pp. 131-147. doi : 10.1016/j.bcdf.2013.04.001
- Ying, X., Gong, J., Goff, D.H., Yu, H., Wang, Q., and Cui, S.W. (2013). "Effects of pig colonic digesta and dietary fibres on in vitro microbial fermentation profiles.", *Bioactive Carbohydrates and Dietary Fibre*, 1(2), pp. 120-130. doi : 10.1016/j.bcdf.2013.03.002
- Wu, S.F., Ai, L., Chen, J., Kang, J., and Cui, S.W. (2013). "Study of the mechanism of formation of hyaluronan putty at pH 2.5: Part II - Theoretical analysis.", *Carbohydrate Polymers*, 98(2), pp. 1683-1688. doi : 10.1016/j.carbpol.2013.05.087
- Wu, S.F., Ai, L., Chen, J., Kang, J., and Cui, S.W. (2013). "Study of the mechanism of formation of hyaluronan putty at pH 2.5: Part I. Experimental measurements.", *Carbohydrate Polymers*, 98(2), pp. 1677-1682. doi : 10.1016/j.carbpol.2013.05.088
- Miao, M., Jiang, H., Jiang, B., Li, Y., Cui, S.W., and Jin, Z. (2013). "Elucidation of structural difference in the flavins for modulation of starch digestion.", *Journal of Functional Foods*, 5(4), pp. 2024-2029. doi : 10.1016/j.jff.2013.09.021

## 2012

- Miao, M., Jiang, H., Cui, S.W., Jin, Z., and Zhang, T. (2012). "Structure and functional properties of starches from Chinese ginkgo (*Ginkgo biloba* L.) nuts.", *Food Research International*, 49(1), pp. 303-310. doi : 10.1016/j.foodres.2012.07.038
- Wei, L., Cui, S.W., Wang, Q., and Yada, R.Y. (2012). "Study of conformational properties of cereal  $\beta$ -glucans by computer modeling.", *Food Hydrocolloids*, 26(2), pp. 377-382. doi : 10.1016/j.foodhyd.2011.02.019
- Wu, Y., Li, W., Cui, S.W., Eskin, N.A.M., and Goff, H.D. (2012). "A molecular modeling approach to understand conformation-functionality relationships of galactomannans with different mannose/galactose ratios.", *Food Hydrocolloids*, 26(2), pp. 359-364. doi : 10.1016/j.foodhyd.2011.02.029
- Yin, J.-Y., Lin, H., Li, J., Wang, Y., Cui, S.W., Nie, S-P., and Xie, M-Y. (2012). "Structural characterization of a highly branched polysaccharide from the seeds of *Plantago asiatica* L.", *Carbohydrate Polymers*, 87(4), pp. 2416-2424. doi : 10.1016/j.carbpol.2011.11.009
- Miao, M., Jiang, H., Jiang, B., Cui, S.W., Jin, Z., and Zhang, T. (2012). "Functional characteristics of starches from the root of *Cynanchum auriculatum* Royle ex Wight grown in China.", *Carbohydrate Polymers*, 88(2), pp. 568-575. doi : 10.1016/j.carbpol.2011.12.044
- Qian, K.Y., Cui, S.W., Niki foruk, J., and Goff, D.H. (2012). "Structural elucidation of rhamnogalacturonans from flaxseed hulls.", *Carbohydrate Research*, 132(15), pp. 47-55. doi : 10.1016/j.carres.2012.08.005
- Wu, Y., Cui, S.W., Wu, J., Ai, L., Wang, Q., and Tang, J. (2012). "Structure characteristics and rheological properties of acidic polysaccharide from boat-fruited *sterculia* seeds.", *Carbohydrate Polymers*, 88(3), pp. 926-930. doi : 10.1016/j.carbpol.2012.01.035
- Yin, J.-Y., Lin, H., Nie, S-P., Cui, S.W., and Xie, M-Y. (2012). "Methylation and 2D NMR analysis of arabinoxylan from the seeds of *Plantago asiatica* L.", *Carbohydrate Polymers*, 88(4), pp. 1395-1401. doi : 10.1016/j.carbpol.2012.02.025
- Qian, K.Y., Cui, S.W., Wu, Y., and Goff, D.H. (2012). "Flaxseed gum from flaxseed hulls: Extraction, fractionation, and characterization.", *Food Hydrocolloids*, 28(2), pp. 275-283. doi : 10.1016/j.foodhyd.2011.12.019
- Roberts, K.T., Cui, S.W., Chang, Y.H., Ng, P.K.W., and Graham, T. (2012). "The influence of fenugreek gum and extrusion modified fenugreek gum on bread.", *Food Hydrocolloids*, 26(2), pp. 350-358. doi : 10.1016/j.foodhyd.2011.02.030
- Yin, J.-Y., Nie, S-P., Li, J., Chang, L., Cui, S.W., and Xie, M-Y. (2012). "Mechanism of Interactions between Calcium and Viscous Polysaccharide from the Seeds of *Plantago asiatica* L.", *Journal of Agricultural and Food Chemistry*, 60(32), pp. 7981-7987. doi : 10.1021/jf302052t
- Guo, Q., Cui, S.W., Wang, Q., Hu, X., Kang, J., and Yada, R.Y. (2012). "Structural characterization of a low-molecular-weight heteropolysaccharide (glucomannan) isolated from *Artemisia sphaerocephala* Krasch.", *Carbohydrate Research*, 350, pp. 31-39. doi : 10.1016/j.carres.2011.10.020
- Ai, L., Wu, J., Che, N., Wu, Y., and Cui, S.W. (2012). "Extraction, partial characterization and bioactivity of polysaccharides from boat-fruited *sterculia* seeds.", *International Journal of Biological Macromolecules*, 51(5), pp. 815-818. doi : 10.1016/j.ijbiomac.2012.08.006
- Cai, H.-L., Huang, X.-J., Nie, S-P., Fang, T., Xie, M-Y., and Cui, S.W. (2012). "Effects of polysaccharides from *Dendrobium Officinale* on the production of TNF- $\alpha$  by RAW264.7 cells.", *ACS Symposium Series*, 28(11), pp. 1553-1556. doi : 10.3969/j.issn.1001-1978.2012.11.017



Kang, J., Cui, S.W., Guo, Q., Chen, J., Wang, Q., Phillips, G.O., and Nikiforuk, J. (2012). "Structural investigation of a glycoprotein from gum ghatti.", *Carbohydrate Polymers*, 89(3), pp. 749-758. doi : 10.1016/j.carbpol.2012.04.004

2011

Qian, H.F., Cui, S.W., Wang, Q., Wang, C., and Zhou, H.M. (2011). "Fractionation and physicochemical characterization of peach gum polysaccharides.", *Food Hydrocolloids*, 25(5), pp. 1285-1290. doi : 10.1016/j.foodhyd.2010.09.027

Wu, Y., Cui, S.W., Eskin, N.A.M., and Goff, D.H. (2011). "Stress relaxation in synergistically associated polysaccharides: Galactomanans and a non-pectic polysaccharide fraction from yellow mustard mucilage.", *Carbohydrate Polymers*, 84(3), pp. 984-989. doi : 10.1016/j.carbpol.2010.12.053

Nie, S-P., Cui, S.W., Phillips, A.O., Xie, M-Y., Phillips, G.O., Al-Assaf, S., and Zhang, X.L. (2011). "Elucidation of the structure of a bioactive hydrophilic polysaccharide from *Cordyceps sinensis* by methylation analysis and NMR spectroscopy.", *Carbohydrate Polymers*, 84(3), pp. 894-899. doi : 10.1016/j.carbpol.2010.12.033

Chang, Y.H., Cui, S.W., Roberts, K.T., Ng, P.K.W., and Wang, Q. (2011). "Evaluation of extrusion -modified fenugreek gum.", *Food Hydrocolloids*, 25(5), pp. 1296-1301. doi : 10.1016/j.foodhyd.2010.12.003

Kang, J., Cui, S.W., Phillips, G.O., Chen, J., Guo, Q., and Wang, Q. (2011). "New studies on gum ghatti (*Anogeissus latifolia*) Part III: Structure characterization of a globular polysaccharide fraction by 1D, 2D NMR spectroscopy and methylation analysis.", *Food Hydrocolloids*, 25(8), pp. 1999-2007. doi : 10.1016/j.foodhyd.2010.11.020

Wu, Y., Cui, S.W., Eskin, N.A.M., Goff, D.H., and Nikiforuk, J. (2011). "NMR analysis of a methylated non-pectic polysaccharide from water soluble yellow mustard mucilage.", *Carbohydrate Polymers*, 84(1), pp. 69-75. doi : 10.1016/j.carbpol.2010.10.058

Kang, J., Cui, S.W., Chen, J., Phillips, G.O., Wu, Y., and Wang, Q. (2011). "New studies on gum ghatti (*Anogeissus latifolia*) part I. Fractionation, chemical and physical characterization of the gum.", *Food Hydrocolloids*, 25(8), pp. 1984-1990. doi : 10.1016/j.foodhyd.2010.12.011

Zhang, M., Zhu, L., Cui, S.W., Wang, Q., Zhou, T., and Shen, H.S. (2011). "Fractionation, partial characterization and bioactivity of water-soluble polysaccharides and polysaccharide-protein complexes from *Pleurotus geesteranus*.", *International Journal of Biological Macromolecules*, 48(1), pp. 5-12. doi : 10.1016/j.ijbiomac.2010.09.003

Sun, Y.-L., Cui, S.W., Gu, X., and Zhang, J. (2011). "Isolation and structural characterization of water unextractable arabinoxylans from Chinese black-grained wheat bran.", *Carbohydrate Polymers*, 85(3), pp. 615-621. doi : 10.1016/j.carbpol.2011.03.021

Guo, Q., Cui, S.W., Wang, Q., Hu, X., Guo, Q., Kang, J., and Yada, R. Y. (2011). "Extraction, fractionation and physicochemical characterization of water-soluble polysaccharides from *Artemisia sphaerocephala* Krasch seed.", *Carbohydrate Polymers*, 86(2), pp. 831-836. doi : 10.1016/j.carbpol.2011.05.034

Guo, Q., Cui, S.W., Wang, Q., Hu, X., Kang, J., and Yada, R.Y. (2011). "Structure characterization of high molecular weight heteropolysaccharide isolated from *Artemisia sphaerocephala* Krasch seed.", *Carbohydrate Polymers*, 86(2), pp. 742-746. doi : 10.1016/j.carbpol.2011.05.018

Chang, Y.H. and Cui, S.W. (2011). "Steady and dynamic shear rheological properties of extrusion modified fenugreek gum solutions.", *Food Science and Biotechnology*, 20(6), pp. 1663-1668. doi : 10.1007/s10068-011-0229-9

Hu, X.-Z., Xing, X.-H., Zhang, Z.-M., Wu, R.-Q., Guo, Q., Cui, S.W., and Wang, Q. (2011). "Antioxidant effects of *Artemisia sphaerocephala* Krasch. Gum, on streptozotocin-induced type 2 diabetic rats.", *Food Hydrocolloids*, 25(2), pp. 207-213. doi : 10.1016/j.foodhyd.2009.12.006

## Other Science Related Publications:

2015

Wang, Q., Liu, H., Gong, J., Chabot, D., Miller, S.S., Miller, S.S., Cui, S.W., and Zhong, F. (2015). "A novel encapsulation method to protect probiotic bacteria during spray drying", 23th International Conference on Bioencapsulation, Delft, The Netherlands, September 2-4, 2015. (Poster)

2014

Liu, H., Wang, Q., Gong, J., Yu, H., Guo, Q., Cui, S.W., and Miller, S.A. (2014). A novel microencapsulation method for protecting probiotic bacteria during spray drying. (Filed on April 1st, 2014. It is in the process of patent application).

Hu, J.-L., Yu, H., Brisbin, J.T., Sharif, S., Nie, S-P., Cui, S.W., Xie, M-Y., and Gong, J. (2014). "Modulation of chicken immune response by selected *Lactobacillus* isolates with the capacity to attenuate *Salmonella* infection.", XIIIth Avian Immunology Research Group Conference, Guelph, Ontario, Canada, July 16-19, 2014.

Ding, H. et al. (2014). "Flaxseed kernel dietary fibre: Partial structure and physicochemical characterization.", 17th International Gums and Stabilizers for the Food Industry Conference, pp. 90-99.

Gong, J., Wang, Q., Yang, Y., Yu, H., Diarra, M.S., and Cui, S.W. (2014). "Novel preparation of citral encapsulated with special soybean-derived polymers as a feed additive for controlling necrotic enteritis caused by *Clostridium perfringens* in poultry. Filed on March 21, 2014." (Patent)

## 2013

Guo, Q. and Cui, S.W. (2013). "Polysaccharides from *dendrobium officinale*, *cordyceps sinensis* and *ganoderma*: Structures and bioactivities.", 17th International Gums and Stabilizers for the Food Industry Conference, Wales, UK, June 25-28, 2013, Gums and Stabilizers for the Food Industry 17 - The Changing Face of Food Manufacture: The Role of Hydrocolloids, pp. 303-317.

## 2012

Power, K.A., Villeneuve, S., Mondor, M., Fustier, P., Arcand, Y., Lamarche, F., Britten, M., Cui, S.W., Tsao, R., Fofana, B., and Wanasundara, J.P.D. (2012). "Recent progress on the incorporation of flaxseed into cereal based matrices: delivery of bioactives to target sites and a comprehensive assessment of their biological effects.", 64th Flax Institute of the United States, Doblewood Inn, Fargo, ND, USA, March 29-30, 2012. (Presentation)

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## Research Publications:

2015

Zhao, M., Yang, S., Chen, C., Li, C.L., Shan, W., Lu, W., Cui, Y., Liu, X., and Wu, K. (2015). "Arabidopsis BREVIPEDICELLUS Interacts with the SWI2/SNF2 Chromatin Remodeling ATPase BRAHMA to Regulate KNAT2 and KNAT6 Expression in Control of Inflorescence Architecture.", *PLoS Genetics*, 11(3), pp. 21 pages. doi : 10.1371/journal.pgen.1005125

Yang, S., Li, C.L., Zhao, L., Gao, S., Lu, J., Zhao, M., Chen, C., Liu, X., Luo, M., Cui, Y., Yang, C., and Wu, K. (2015). "The Arabidopsis SWI2/SNF2 Chromatin Remodeling ATPase BRAHMA Targets Directly to PINs and Is Required for Root Stem Cell Niche Maintenance.", *Plant Cell*, 27(6), pp. 1670-1680. doi : 10.1105/tpc.15.00091

Li, C.L., Chen, C., Gao, L., Yang, S., Nguyen, V., Shi, X., Siminovitch, K., Kohalmi, S.E., Huang, S.Z., Wu, K., Chen, X., and Cui, Y. (2015). "The Arabidopsis SWI2/SNF2 Chromatin Remodeler BRAHMA Regulates Polycomb Function during Vegetative Development and Directly Activates the Flowering Repressor Gene SVP.", *PLoS Genetics*, 11(1): e1004944. doi : 10.1371/journal.pgen.1004944

2014

Li, X.L., Hou, Y.-L., Zhang, W., Quan, C., Cui, Y., and Bian, S. (2014). "Computational identification of conserved microRNAs and their targets from expression sequence tags of blueberry (*Vaccinium corybosum*).", *Plant Signaling & Behavior*, 9(9): Article number e29462, pp. 1-10. doi : 10.4161/psb.29462

Zou, X., Shi, C., Austin, R.S., Merico, D., Munholland, S., Marsolais, F., Navabi, A., Crosby, W.L., Pauls, K.P., Yu, K., and Cui, Y. (2014). "Genome-wide single nucleotide polymorphism and Insertion-Deletion discovery through next-generation sequencing of reduced representation libraries in common bean.", *Molecular Breeding*, 33(4), pp. 769-778. doi : 10.1007/s11032-013-9997-7

2013

Liu, X., Chen, C., Wang, K., Luo, M., Tai, T., Yuan, L., Zhao, M., Yang, S., Tian, G., Cui, Y., Hsieh, H.-L., and Wu, K. (2013). "PHYTOCHROME INTERACTING FACTOR3 Associates with the Histone Deacetylase HDA15 in Repression of Chlorophyll Biosynthesis and Photosynthesis in Etiolated Arabidopsis Seedlings.", *Plant Cell*, 25(4), pp. 1258-1273. doi : 10.1105/tpc.113.109710

Zhou, Yi, Tan, B., Luo, M., Li, Y., Liu, C., Chen, C., Yu, C.-W., Yang, S., Dong, S., Ruan, J., Yuan, L.-B., Zhang, Z., Zhao, L., Li, C.L., Chen, H.-H., Cui, Y., Wu, K., and Huang, S.Z. (2013). "HISTONE DEACETYLASE 19 Interacts with HSL1 and Participates in the Repression of Seed Maturation Genes in Arabidopsis Seedlings.", *Plant Cell*, 25(1), pp. 134-148. doi : 10.1105/tpc.112.096313

Elhiti, M., Hebelstrup, K.H., Wang, A.M., Li, C.L., Cui, Y., Hill, R.D., and Stasolla, C. (2013). "Function of type-2 Arabidopsis hemoglobin in the auxin-mediated formation of embryogenic cells during morphogenesis.", *Plant Journal*. doi : 10.1111/tpj.12181

Feeney, M., Frigerio, L., Cui, Y., and Menassa, R. (2013). "Following Vegetative to Embryonic Cellular Changes in Leaves of Arabidopsis thaliana Over-Expressing LEAFY COTYLEDON2.", *Plant Physiology*, 162(4), pp. 1881-1896. doi : 10.1104/pp.113.220996

Feeney, M., Frigerio, L., Kohalmi, S.E., Cui, Y., and Menassa, R. (2013). "Reprogramming cells to study vacuolar development.", *Frontiers in Plant Science*, 4(493). doi : 10.3389/fpls.2013.00493

2012

Gao, P., Kolenovsky, A., Cui, Y., Cutler, A., and Tsang, E.W.T. (2012). "Expression, purification and analysis of an Arabidopsis recombinant CBL-interacting protein kinase3 (CIPK3) and its constitutively active form.", *Protein Expression and Purification*, 86(1), pp. 45-52. doi : 10.1016/j.pep.2012.08.013

Liu, X., Yu, C.-W., Duan, J., Luo, M.-C., Wang, K., Tian, G., Cui, Y., and Wu, K. (2012). "HDA6 directly interacts with DNA methyltransferase MET1 and maintains transposable elements silencing in Arabidopsis.", *Plant Physiology*, 158(1), pp. 119-129. doi : 10.1104/pp.111.184275

Tang, X., Lim, M.-H., Pelletier, J., Tang, M., Nguyen, V., Keller, W.A., Tsang, E.W.T., Wang, A.M., Rothstein, S.J., Harada, J.J., and Cui, Y. (2012). "Synergistic repression of the embryonic programme by SET DOMAIN GROUP 8 and EMBRYONIC FLOWER 2 in Arabidopsis seedlings.", *Journal of Experimental Botany*, 63(3), pp. 1391-1404. doi : 10.1093/jxb/err383

Luo, M.-C., Wang, Y.-Y., Liu, X., Yang, S., Lu, Q., Cui, Y., and Wu, K. (2012). "HD2C interacts with HDA6 and is involved in ABA and salt stress response in Arabidopsis.", *Journal of Experimental Botany*, 63(8), pp. 3297-3306. doi : 10.1093/jxb/ers059

Ouyang, B., Fei, Z., Joung, J.-G., Kolenovsky, A., Koh, C., Nowak, J.J., Caplan, A., Keller, W.A., Cui, Y., Cutler, A., and Tsang, E.W.T. (2012). "Transcriptome profiling and methyl homeostasis of an Arabidopsis mutant deficient in S-adenosylhomocysteine hydrolase 1 (SAHH1).", *Plant Molecular Biology*, 79(4-5), pp. 315-331. doi : 10.1007/s11103-012-9914-1

Luo, M., Yu, C.-W., Chen, F.-F., Zhao, L., Tian, G., Liu, X., Cui, Y., Yang, J.-Y., and Wu, K. (2012). "Histone Deacetylase HDA6 Is Functionally Associated with AS1 in Repression of KNOX Genes in Arabidopsis.", *PLoS Genetics*, 8(12), Article No. e1003114. doi : 10.1371/journal.pgen.1003114

Gao, Y., Yang, S., Yuan, L., Cui, Y., and Wu, K. (2012). "Comparative analysis of SWIRM domain-containing proteins in plants.", *Comparative and Functional Genomics*, 2012(Article ID 310402). doi : 10.1155/2012/310402

Tang, X., Bian, S., Tang, M., Lu, Q.S., Li, S., Liu, X., Tian, G., Nguyen, V., Tsang, E.W.T., Wang, A.M., Rothstein, S.J., Chen, X., and Cui, Y. (2012). "MicroRNA-Mediated Repression of the Seed Maturation Program during Vegetative Development in Arabidopsis.", *PLoS Genetics*, 8(11), Article No. e1003091. doi : 10.1371/journal.pgen.1003091

Tian, G. and Cui, Y. (2012). "Identification and characterization of the Arabidopsis homolog of the yeast TREX-2 complex (University of Western Ontario - Electronic Thesis and Dissertation Repository. Paper 581. <http://ir.lib.uwo.ca/etd/581>).", Ph.D. Thesis.

Liu, Y., Ye, W., Li, B., Zhou, X., Cui, Y., Running, M.P., and Liu, K. (2012). "CCS52A2/FZR1, a cell cycle regulator, is an essential factor for shoot apical meristem maintenance in Arabidopsis thaliana.", *BMC Plant Biology*, 12:135. doi : 10.1186/1471-2229-12-135

Tian, G., Lu, Q.S., Kohalmi, S.E., Rothstein, S.J., and Cui, Y. (2012). "Evidence that the Arabidopsis Ubiquitin C-terminal Hydrolases 1 and 2 associate with the 26S proteasome and the TREX-2 complex.", *Plant Signaling & Behavior*, 7(11), pp. 1415-1419. doi : 10.4161/psb.21899

2011

Yu, C.-W., Liu, X., Luo, M.-C., Chen, C., Lin, X., Tian, G., Lu, Q., Cui, Y., and Wu, K. (2011). "HISTONE DEACETYLASE 6 Interacts with FLOWERING LOCUS D and Regulates Flowering in Arabidopsis.", *Plant Physiology*, 156(1), pp. 173-184. doi : 10.1104/pp.111.174417

Tian, G., Yu, Q., Zhang, L., Kohalmi, S.E., and Cui, Y. (2011). "Detection of protein interactions in plant using a gateway compatible bimolecular fluorescence complementation (BIFC) system.", *Journal of Visualized Experiments (JoVE)*, 55(Article No. e3473). doi : 10.3791/3473

Wang, F., Liu, C., Wei, Chen, Cui, Y., Zheng, Q., Zhang, J., Wu, J., and Liu, K. (2011). "AtRabD2b, a Functional Ortholog of the Yeast Ypt1, Controls Various Growth and Developmental Processes in Arabidopsis.", *Plant Molecular Biology Reporter*, 30(2), pp. 275-285. doi : 10.1007/s11105-011-0336-z

Luo, M.-C., Liu, X., Singh, P., Cui, Y., Zimmerli, L., and Wu, K. (2011). "Chromatin modifications and remodeling in plant abiotic stress responses.", *Biochimica et Biophysica Acta (BBA) - Biomembranes*, 1819(2), pp. 129-136. doi : 10.1016/j.bbagr.2011.06.008

## Other Science Related Publications:

2015

Hossain, M.J. and Cui, Y. (2015). Genetic Analysis of a Non-Germinating Mutant of Arabidopsis Thaliana (MSc thesis).

2014

Li, C.L. and Cui, Y. (2014). Arabidopsis Chromatin Remodeler Brahma: Its Functional Interplay with Polycomb Proteins and The REF6 Histone Demethylase. University of Western Ontario - Electronic Thesis and Dissertation Repository. Paper 2540. <http://ir.lib.uwo.ca/etd/2540>; Degree: Doctor of Philosophy; Program: Biology; Supervisor: Dr. Yuhai Cui. (Report)

2012

Zou, X., Shi, C., Austin, R.S., Navabi, A., Yu, K., and Cui, Y. (2012). "Genome Wide SNP discovery and transcriptional profiling of CBB resistance in common bean.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Poster)

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## Research Publications:

2015

Rafael, J.A. and Cumming, J.M. (2015). "Revision of the genus *Macrostomus* Wiedemann (Diptera, Empididae, Empidinae). IV. The amazonensis species-group.", *Zootaxa*, 3947(1), pp. 109-121. doi: 10.11646/zootaxa.3947.1.7

2014

Cumming, J.M. and Sinclair, B.J. (2014). "The status of *crossopalpus obscuripes* (adams), a new junior synonym of *crossopalpus aenescens* (wiedemann) (diptera: Hybotidae: Tachydromiinae).", *Zootaxa*, 3872(4), pp. 398-400. doi : 10.11646/zootaxa.3872.4.8

Cumming, J.M., Brooks, S.E., and Saigusa, T. (2014). "Revision of the *Hesperempis* genus group (Diptera: Empidoidea: Empididae).", *The Canadian Entomologist*, 146(2), pp. 170-210. doi: 10.4039/tce.2013.66

2013

Sinclair, B.J., Cumming, J.M., and Brooks, S.E. (2013). "Male terminalia of Diptera (Insecta): a review of evolutionary trends, homology and phylogenetic implications.", *Insect Systematics & Evolution*, 44(3-4), pp. 373-415. doi : 10.1163/1876312X-04401001

Sinclair, B.J., Brooks, S.E., and Cumming, J.M. (2013). "Revision of the *Empis* subgenus *Enoplempis* Bigot, east of the Rocky Mountains (Diptera: Empididae).", *Zootaxa*, 3736(5), pp. 401-456. doi : 10.11646/zootaxa.3736.5.1

Sinclair, B.J. and Cumming, J.M. (2013). "Hybotidae of the Galápagos Islands (Diptera: Empidoidea: Tachydromiinae).", *Tijdschrift voor Entomologie*, 156(2-3), pp. 127-139. doi : 10.1163/22119434-00002026

2012

Sinclair, B.J., Cumming, J.M., Brooks, S.E., O'Hara, J.E., and Skevington, J.H. (Eds.) (2012). "Ottawa Dipterology (1937-1989): Festschrift commemorating the coordinators of the Manual of Nearctic Diptera and their contributions to building the Canadian National Collection of Insects. Part 2.", *Canadian Entomologist*, 144(1), pp. i+1-195.

Rafael, J.A. and Cumming, J.M. (2012). "Revision of the genus *Macrostomus* Wiedemann (Diptera: Empididae: Empidinae). III. The *limbipennis* species-group.", *Zootaxa*, 3361, pp. 45-55.

Brooks, S.E. and Cumming, J.M. (2012). "The *Microphorella chillcotti* species group: a distinctive lineage of parathalassine flies from western North America (Diptera: Empidoidea: Dolichopodidae s.l.).", *Canadian Entomologist*, 144(1), pp. 108-121. doi : 10.4039/tce.2012.11

2011

Cumming, J.M., Sinclair, B.J., Brooks, S.E., O'Hara, J.E., and Skevington, J.H. (2011). "The history of dipterology at the Canadian National Collection of Insects, with special reference to the Manual of Nearctic Diptera.", *The Canadian Entomologist*, 143(6), pp. 539-577. doi: 10.4039/n11-029

Sinclair, B.J., Brooks, S.E., Cumming, J.M., and Covert, G.A. (2011). "Revision of the Nearctic species of *Heleodromia* (Diptera: Empidoidea: Brachystomatidae).", *Canadian Entomologist*, 143(6), pp. 629-651. doi: 10.4039/n11-036

Grimaldi, D.A., Arillo, A., Cumming, J.M., and Hauser, M. (2011). "Brachyceran Diptera (Insecta) in Cretaceous ambers, Part IV, Significant New Orthorrhaphous Taxa.", *ZooKeys*, 148, pp. 293-332. doi: 10.3897/zookeys.148.1809

Cumming, J.M. and Cumming, H.J. (2011). "The flat-footed fly genus *Seri Kessel & Kessel* (Diptera: Platypezidae).", *Zootaxa*, 3136, pp. 61-68.

Brooks, S.E. and Cumming, J.M. (2011). "The New World genera of Parathalassinae (Diptera: Empidoidea: Dolichopodidae s.l.), with new species of *Thalassophorus* and *Eothalassius*.", *Canadian Entomologist*, 143(5), pp. 423-446. doi : 10.4039/n11-027

Sinclair, B.J., Cumming, J.M., Brooks, S.E., O'Hara, J.E., and Skevington, J.H. (Eds.) (2011). "Ottawa Dipterology (1937-1989): Festschrift commemorating the coordinators of the Manual of Nearctic Diptera and their contributions to building the Canadian National Collection of Insects. Part 1.", *Canadian Entomologist*, 143(6), pp. ii + 539-740.

## **Other Science Related Publications:**

2015

Brooks, S.E., Sinclair, B.J., Cumming, J.M., O'Hara, J.E., Skevington, J.H., Lonsdale, O., and Cooper, B.E. (2015). *Diptera types in the Canadian National Collection of Insects. Supplement. Edition 4.0.* 95 pp., [Published on the Internet]. URL: <http://www.nadsdiptera.org/Catalogs/CNCtypes/Suppl.htm>. (Book)

2013

Skevington, J.H. and Cumming, J.M. (2013). "Richard (Dick) Vockeroth 2 May 1928 to 16 November 2012.", *Fly Times*, 50, pp. 29-30.

Skevington, J.H. and Cumming, J.M. (2013). "In Memory: Richard (Dick) Vockeroth 2 May 1928 to 16 November 2012.", *Bulletin of the Entomological Society of Canada*, 45(1), pp. 32-33.

Skevington, J.H. and Cumming, J.M. (2013). "Richard (Dick) Vockeroth 2 May 1928 to 16 November 2012.", *Fly Times*, 50, pp. 29-30.

Skevington, J.H. and Cumming, J.M. (2013). "In Memory: Richard (Dick) Vockeroth 2 May 1928 to 16 November 2012.", *Bulletin of the Entomological Society of Canada*, 45(1), pp. 32-33.

2012

Sinclair, B.J., Cumming, J.M., Brooks, S.E., O'Hara, J.E., and Skevington, J.H. (2012). "Ottawa Dipterology (1937-1989): Festschrift commemorating the coordinators of the Manual of Nearctic Diptera and their contributions to building the Canadian National Collection of Insects. Part 3 (Foreword).", *Canadian Entomologist*, 144(2), pp. I.

Sinclair, B.J., Cumming, J.M., Brooks, S.E., O'Hara, J.E., and Skevington, J.H. (2012). "Ottawa Dipterology (1937-1989): Festschrift commemorating the coordinators of the Manual of Nearctic Diptera and their contributions to building the Canadian National Collection of Insects. Part 2. (Foreword).", *Canadian Entomologist*, 144(1), pp. ii.

2011

Sinclair, B.J., Cumming, J.M., Brooks, S.E., O'Hara, J.E., and Skevington, J.H. (2011). "Ottawa Dipterology (1937-1989): Festschrift commemorating the coordinators of the Manual of Nearctic Diptera and their contributions to building the Canadian National Collection of Insects. Part 1. (Foreword).", *Canadian Entomologist*, 143(6), pp. i-ii.

O'Hara, J.E. and Cumming, J.M. (2011). *Directory of North American Dipterists.*, North American Dipterists Society.

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## Research Publications:

2015

Gan, Y.T., Hamel, C., O'Donovan, J.T., Cutforth, H.W., Zentner, R.P., Campbell, C.A., Niu, Y., and Poppy, L.B. (2015). "Diversifying crop rotations with pulses enhances system productivity.", *Scientific Reports*, 5(Article number: 14625), pp. 1-14. doi : 10.1038/srep14625

Cardillo, M.J., Bullock, P.R., Gulden, R.H., Glenn, A.J., and Cutforth, H.W. (2015). "Stubble management effects on canola performance across different climatic regions of western Canada.", *Canadian Journal of Plant Science*, 95(1), pp. 149-159. doi : 10.4141/CJPS-2014-172

Hu, W., Schoenau, J.J., Cutforth, H.W., and Si, B.C. (2015). "Effects of row-spacing and stubble height on soil water content and water use by canola and wheat in the dry prairie region of Canada.", *Agricultural Water Management*, 153, pp. 77-85. doi : 10.1016/j.agwat.2015.02.008

2013

Cutforth, H.W. (2013). "Yield of spring wheat and field pea seeded into standing and cultivated canola stubble on the semi-arid Canadian prairie.", *Canadian Journal of Plant Science*, 93(2), pp. 287-289. doi : 10.4141/cjps2012-049

Cutforth, H.W. (2013). "Agricultural meteorology and crop production on the Canadian Prairie: solar radiation, temperature and water.", *Prairie Soils and Crops*, 6, pp. 78-86.

Fouli, Y., Cade-Menun, B.J., and Cutforth, H.W. (2013). "Freeze thaw cycles and soil water content effects on infiltration rate and bulk density of three Saskatchewan soils.", *Canadian Journal of Soil Science*, 93(4), pp. 485-496. doi : 10.4141/cjss2012-060

Cutforth, H.W., Angadi, S.V., McConkey, B.G., Miller, P.R., Ulrich, D.J., Gulden, R.H., Volkmar, K.M., Entz, M.H., and Brandt, S.A. (2013). "Comparing rooting characteristics and soil water withdrawal patterns of wheat with alternative oilseed and pulse crops grown in the semi-arid Canadian prairie.", *Canadian Journal of Soil Science*, 93(2), pp. 147-160. doi : 10.4141/cjss2012-081

2012

Wang, H., He, Y., Qian, B., McConkey, B.G., Cutforth, H.W., McCaig, T.N., McLeod, G.J., Zentner, R.P., DePauw, R.M., Lemke, R.L., Brandt, K., Liu, T.T., Qin, X., White, J., Hunt, T., and Hoogenboom, G. (2012). "Climate change and biofuel wheat: A case study of southern Saskatchewan.", *Canadian Journal of Plant Science*, 92(3), pp. 421-425. doi : 10.4141/CJPS2011-192

Cutforth, H.W. and Judiesch, D. (2012). "Temperature trends in southwestern Saskatchewan revisited.", *Canadian Journal of Soil Science*, 92(5), pp. 803-806. doi : 10.4141/CJSS2012-015

He, Y., Wang, H., Qian, B., McConkey, B.G., Cutforth, H.W., Lemke, R.L., DePauw, R.M., Brandt, K., Hu, K.L., and Hoogenboom, G. (2012). "Effects of climate change on killing frost in the Canadian prairies.", *Climate Research*, 54(3), pp. 221-231. doi : 10.3354/cr01114

2011

Gan, Y.T., Liang, C., Hamel, C., Cutforth, H.W., and Wang, H. (2011). "Strategies for reducing the carbon footprint of field crops for semi-arid areas. A review.", *Agronomy for Sustainable Development*, 31(4), pp. 643-656. doi : 10.1007/s13593-011-0011-7

Cutforth, H.W., McConkey, B.G., Angadi, S.V., and Judiesch, D. (2011). "Extra-tall stubble can increase crop yield in the semi-arid Canadian prairie.", *Canadian Journal of Plant Science*, 91(4), pp. 783-785. doi : 10.4141/cjps10168

Gan, Y.T., Liu, L., Cutforth, H.W., Wang, X-Y., and Ford, G. (2011). "Vertical distribution profiles and temporal growth patterns of roots in selected oilseeds, pulses and spring wheat.", *Crop & Pasture Science*, 62(6), pp. 457-466. doi : 10.1071/CP10406

## Other Science Related Publications:



2012

DePauw, R.M., He, Y., Wang, H., Cutforth, H.W., Cuthbert, R.D., Singh, A.K., and Knox, R.E. (2012). "Pressures On Wheat To Produce Safe, Nutritious And Affordable Quantities At Sustainable Prices For Producers – Adapting to Change. Adapting Crops to Change — Technology Transfer in the 21st Century.", CSA-CSHS-CCA-AIC Conference, University of Saskatchewan, Saskatoon, Saskatchewan, Canada, July 16-19, 2012.

Fouli, Y., Cade-Menun, B.J., and Cutforth, H.W. (2012). "Freeze-thaw cycles and water content effects on infiltration rate and bulk density of three Saskatchewan soils.", 2012 Soils and Crops Workshop, University of Saskatchewan, Saskatoon, SK, Canada, March 13-14, 2012. (Presentation)

2011

Wang, H., He, Y., Qian, B., McConkey, B.G., Cutforth, H.W., McCaig, T.N., McLeod, G.J., Zentner, R.P., Campbell, C.A., DePauw, R.M., Lemke, R.L., Brandt, K., Liu, T.T., Qin, X., Hoogenboom, G., White, J., and Hunt, T. (2011). "Impact of Climate Change on Dual-Purpose Wheat Production in Western Canada.", World Renewable Energy Congress, Linköping, Sweden, May 8-13, 2011.

DePauw, R.M., Malhi, S.S., Bullock, P.R., Gan, Y.T., McKenzie, R.H., Lamey, F.J., Janzen, H.H., Cutforth, H.W., and Wang, H. (2011). "Wheat Production in Northern High Latitudes – Canadian example.", in Bonjean, A., Angus, W., and Van Ginkel, M. (eds.) - The World Wheat Book A History of Wheat Breeding. Vol. 2, Lavoisier Tech et Doc, Paris, France, pp. 607-651.

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## Research Publications:

2016

Singh, A.K., Knox, R.E., Clarke, J.M., Clarke, F.R., Singh, A., DePauw, R.M., and Cuthbert, R.D. (2016). "Genetics of pre-harvest sprouting resistance in a cross of Canadian adapted durum wheat genotypes.", *Molecular Breeding*, 33(4), pp. 919-929. doi : 10.1007/s11032-013-0006-y

2015

Singh, A.K., Clarke, J.M., Knox, R.E., DePauw, R.M., Wise, I.L., Thomas, J.B., McCaig, T.N., Cuthbert, R.D., Clarke, F.R., and Fernandez, M.R. (2015). "AAC Marchwell durum wheat.", *Canadian Journal of Plant Science*, 95(1), pp. 189-195. doi : 10.4141/cjps-2014-223

Singh, A.K., Clarke, J.M., DePauw, R.M., Knox, R.E., McCaig, T.N., and Cuthbert, R.D. (2015). "AAC Current Durum Wheat.", *Canadian Journal of Plant Science*, 95(3), pp. 589-594. doi : 10.4141/CJPS-2014-326

Kumar, S., Knox, R.E., Clarke, F.R., Pozniak, C.J., DePauw, R.M., Cuthbert, R.D., and Fox, S.L. (2015). "Maximizing the identification of QTL for pre-harvest sprouting resistance using seed dormancy measures in a white-grained hexaploid wheat population.", *Euphytica*, 205(1), pp. 287-309. doi : 10.1007/s10681-015-1460-x

2014

DePauw, R.M., Knox, R.E., Cuthbert, R.D., Singh, A.K., and McCaig, T.N. (2014). "AAC Bailey hard red spring wheat.", *Canadian Journal of Plant Science*, 94(1), pp. 175-181. doi : 10.4141/cjps2013-252

Singh, A.K., Clarke, J.M., Knox, R.E., DePauw, R.M., McCaig, T.N., Cuthbert, R.D., Clarke, F.R., and Fernandez, M.R. (2014). "AAC Raymore durum wheat.", *Canadian Journal of Plant Science*, 94(7), pp. 1289-1296. doi : 10.4141/CJPS-2014-048

Singh, A., Knox, R.E., DePauw, R.M., Singh, A.K., Cuthbert, R.D., Campbell, H.L., Shorter, S., and Bhavani, S. (2014). "Stripe rust and leaf rust resistance QTL mapping, epistatic interactions, and co-localization with stem rust resistance loci in spring wheat evaluated over three continents.", *Theoretical and Applied Genetics (TAG)*, 127(11), pp. 2465-2477. doi : 10.1007/s00122-014-2390-z

Knox, R.E., Campbell, H.L., Clarke, F.R., Menzies, J.G., Popovic, Z., Procnier, J.D., Clarke, J.M., DePauw, R.M., Cuthbert, R.D., and Somers, D.J. (2014). "Quantitative trait loci for resistance in wheat (*Triticum aestivum*) to *Ustilago tritici*.", *Canadian Journal of Plant Pathology*, 36(2), pp. 187-201. doi : 10.1080/07060661.2014.905497

2013

He, Y., Wei, Y., DePauw, R.M., Qian, B., Lemke, R.L., Singh, A.K., Cuthbert, R.D., McConkey, B.G., and Wang, H. (2013). "Yield production of spring wheat in the semiarid prairie: effect of timing of precipitation and soil texture over 30 years.", *Field Crops Research*, 149, pp. 329-337. doi : 10.1016/j.fcr.2013.05.013

Randhawa, H.S., Asif, M., Pozniak, C.J., Clarke, J.M., Graf, R.J., Fox, S.L., Humphreys, D.G., Knox, R.E., DePauw, R.M., Singh, A.K., Cuthbert, R.D., Hucl, P.J., and Spaner, D.M. (2013). "Application of Molecular Markers for Wheat Breeding in Canada.", *Plant Breeding*, 132(5), pp. 458-471. doi : 10.1111/pbr.12057

Singh, A., Pandey, M.P., Singh, A.K., Knox, R.E., Ammar, K., Clarke, J.M., Clarke, F.R., Singh, R.P., Pozniak, C.J., DePauw, R.M., McCallum, B.D., Cuthbert, R.D., Randhawa, H.S., and Fetch Jr., T.G. (2013). "Identification and mapping of leaf, stem and stripe rust resistance quantitative trait loci and their interactions in durum wheat.", *Molecular Breeding*, 31(2), pp. 405-418. doi : 10.1007/s11032-012-9798-4

Singh, A., Knox, R.E., DePauw, R.M., Singh, A.K., Cuthbert, R.D., Campbell, H.L., Singh, D., Bhavani, S., Fetch Jr., T.G., and Clarke, F.R. (2013). "Identification and mapping in spring wheat of genetic factors controlling stem rust resistance and the study of their epistatic interactions across multiple environments.", *Theoretical and Applied Genetics (TAG)*, 126(8), pp. 1951-1964. doi : 10.1007/s00122-013-2109-6

2011

Cuthbert, R.D. (2011). Molecular mapping of septoria tritici blotch resistance in hexaploid wheat (*Triticum Aestivum* L.). Ph.D. Thesis, University of Manitoba, Winnipeg, MB, Canada.

Cuthbert, R.D., Crow, G.H., and McVetty, P.B.E. (2011). "Assessment of seed quality performance and heterosis for seed quality traits in hybrid high erucic acid rapeseed (HEAR).", *Canadian Journal of Plant Science*, 91 (5), pp. 837-846. doi : 10.4141/cjps10205

## Other Science Related Publications:

2015

Bokore, F.E., Cuthbert, R.D., Knox, R.E., Henriquez, M.A., Ruan, Y., DePauw, R.M., Pozniak, C.J., N'Daiye, A., Sharpe, A.G., Clarke, F.R., and Berraies, S. (2015). "Quantitative Trait Loci Associated with Resistance to Fusarium Head Blight in a Carberry x Vesper Derived Wheat Population.", 2015 National Fusarium Head Blight Forum, St. Louis, MO, USA, December 6-8, 2015. (Poster)

Berraies, S., Ruan, Y., Knox, R.E., Clarke, F.R., Fernandez, M.R., DePauw, R.M., and Cuthbert, R.D. (2015). "Characterization of FHB resistance to Fusarium species and associated DON accumulation in spring wheat", From Seed to Pasta and Beyond: a Sustainable Durum Wheat Chain for Food Security and Healthy Lives, Bologna, Italy, May 31 - June 2, 2015. (Poster)

Feurtado, J.A., Huang, D.C., Koh, C., Smith, M., Flatman, L., Ehman, L., He, Y., Knox, R.E., Cuthbert, R.D., DePauw, R.M., Ruan, Y., and Cutler, A. (2015). "Improving productivity under water stress: the path from germplasm to genes and back again.", 2nd Annual Science Meeting of the Canadian Wheat Association, Saskatoon, Canada, July 14-16, 2015. (Poster)

Berraies, S., Knox, R.E., Cuthbert, R.D., Henriquez, M.A., Ruan, Y., DePauw, R.M., Singh, A., Pozniak, C.J., Meyer, B., Clarke, F.R., and Bokore, F.E. (2015). "Molecular Mapping of QTL for Fusarium Head Blight Resistance in Spring Wheat.", 2015 National Fusarium Head Blight Forum, St. Louis, MO, USA, December 6-8, 2015. (Poster)

2014

Kumar, S., Knox, R.E., Clarke, F.R., Pozniak, C.J., DePauw, R.M., Cuthbert, R.D., and Fox, S.L. (2014). "Fine mapping of pre-harvest sprouting resistance associated QTL in white-grained wheat.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Brûlé-Babel, A.L., DePauw, R.M., Cuthbert, R.D., Pozniak, C.J., Hucl, P.J., Spaner, D.M., Randhawa, H.S., Graf, R.J., Kirigw, F., Humphreys, D.G., and Tamburic-Ilicic, L. (2014). "Breeding for FHB resistance: Progress and challenges.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Kumar, S., Knox, R.E., Clarke, F.R., Cuthbert, R.D., Pozniak, C.J., DePauw, R.M., and He, Y. (2014). "High-Density SNP Mapping and Quantitative Trait Locus Analysis of Glaucousness and Leaf Colour in Common Wheat.", XXII International Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2014.

Cuthbert, R.D., Kumar, S., Knox, R.E., Clarke, F.R., Pozniak, C.J., Hucl, P.J., DePauw, R.M., and He, Y. (2014). "High-Density SNP Mapping and Quantitative Trait Locus Analysis of Agronomic Traits in Common Wheat.", XXII International Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2014.

Kumar, S., Knox, R.E., Clarke, F.R., Clarke, J.M., Pozniak, C.J., Isidro, J., Singh, A.K., Cuthbert, R.D., DePauw, R.M., Campbell, H.L., and Somers, D.J. (2014). "QTL mapping for resistance to loose smut in a durum wheat doubled haploid population.", CSA/CSHS Conference, Lethbridge, Alberta, Canada, July 10-14, 2014.

Feurtado, J.A., Huang, D., Koh, C.S., He, Y., Knox, R.E., Cuthbert, R.D., DePauw, R.M., and Cutler, A. (2014). "Height differences in durum wheat as a test case for marker and gene identification by sequencing-based bulk segregant analysis.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Bokore, F.E., Knox, R.E., DePauw, R.M., Cuthbert, R.D., Clarke, F.R., and Campbell, H.L. (2014). "Validation of DNA markers for Fusarium head blight resistance in Canada Western Red Spring (CWRS) wheat doubled haploid populations.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

DePauw, R.M., Cuthbert, R.D., Knox, R.E., Kumar, S., Singh, A., Singh, A.K., Campbell, H.L., Bhavani, S., Singh, D., Clarke, F.R., and Fetch Jr., T.G. (2014). "Evidence for Recombination of Sr2 and Fhb1.", Borlaug Global Rust Initiative (BGRI) Technical Workshop 2014, CIMMYT, México, March 2014.

Bokore, F.E., Knox, R.E., DePauw, R.M., Cuthbert, R.D., Clarke, F.R., and Campbell, H.L. (2014). "Assessment of Canada Western Red Spring (CWRS) Wheat Doubled Haploid Populations with Fusarium Head Blight Resistance Genetic Markers.", Canadian Wheat Alliance Annual Science Meeting 2014, Saskatoon, Canada, April 2014.

Knox, R.E., Kumar, S., Fetch Jr., T.G., Singh, A.K., Clarke, J.M., DePauw, R.M., Cuthbert, R.D., Campbell, H.L., Singh, D., Bhavani, S., Pozniak, C.J., and Clarke, F.R. (2014). "Identification of Quantitative Trait Loci for Stem Rust Resistance in Durum Wheat.", Canadian Wheat Alliance Annual Science Meeting 2014, Saskatoon, Canada, April 2014.

Knox, R.E., DePauw, R.M., and Cuthbert, R.D. (2014). Update to the durum and hexaploid rust genetic work at SPARC. Growing Forward Ug99 Rust Project. Feb. Winnipeg MB. (Report)

Pozniak, C.J., Hucl, P.J., MacLauchlan, R.P., Clarke, J.M., N'Daiye, A., Ruan, Y., Knox, R.E., Cuthbert, R.D., McCartney, C., Choulet, F., Feuillet, C., Sharpe, A.G., and Paux, E. (2014). "Utilization of Wheat Sequence Resources: Application to Wheat Improvement.", XXII International Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2014.

Knox, R.E., Singh, A., Kumar, S., DePauw, R.M., Clarke, F.R., Cuthbert, R.D., Singh, A.K., Pozniak, C.J., and Campbell, H.L. (2014). "Epistasis and Preliminary Fine Mapping of Quantitative Trait Loci for Common Bunt Resistance.", XXII International Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2014.

Pozniak, C.J., Hucl, P.J., Graf, R.J., Knox, R.E., Cuthbert, R.D., and McCartney, C.A. (2014). "Deployment of Genomic Tools: Breeding, Targets, and Progress to Enhance Development of Field Ready Wheat Cultivars.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014, Invited presentation.

Biswas, D.K., Ashe, P., Shaterian, H., Sudarshan, G.P., He, Y., Knox, R.E., DePauw, R.M., Wang, H., Cuthbert, R.D., Singh, A.K., and Selvaraj, G. (2014). "Phenotypic, physiological and molecular responses of a selected collection of common wheat (*Triticum aestivum* L.) and durum wheat [*Triticum turgidum* L. ssp. *Durum* (Desf.) Husn.] lines to drought stress under laboratory conditions.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Wang, H., Zou, J.W., DePauw, R.M., Knox, R.E., Cuthbert, R.D., Ruan, Y., Qian, B., Gopalan, Y.S., Cutler, A., He, Y., and Qin, X. (2014). "Heat stress in wheat: Beat it or avoid it?", Heat and Drought Wheat Improvement Consortium -HeDWIC, Frankfurt, Germany, December 2014. (Poster)

## 2013

Singh, A., DePauw, R.M., Knox, R.E., Cuthbert, R.D., Singh, A.K., Singh, D., Bhavani, S., Fetch Jr., T.G., and Campbell, H.L. (2013). "Identification and mapping of genetic factors controlling stem rust resistance in spring wheat and the study of their epistatic interactions across multiple environments.", 5th BGRI Workshop, New Delhi, India, August 19-22, 2013.

Singh, A., Knox, R.E., DePauw, R.M., Cuthbert, R.D., Singh, A.K., Shorter, S., Campbell, H., and Bhavani, S. (2013). "Identification and mapping of genetic factors controlling stripe and leaf rust resistance in spring wheat.", 5th BGRI Workshop, New Delhi, India, August 19-22, 2013.

Kumar, S., Knox, R.E., Clarke, F.R., Pozniak, C.J., Singh, A., DePauw, R.M., Cuthbert, R.D., Hucl, P.J., Randhawa, H.S., Fox, S.L., Fetch Jr., T.G., McCartney, C., and He, Y. (2013). "High-resolution Mapping of Agronomic and Disease Related Traits Featuring Pre-harvest Sprouting and Common Bunt Resistance.", Canadian Triticum Advancement through Genomics (CTAG) annual meeting 2014, Saskatoon, SK, Canada.

## 2012

Singh, A., Pandey, M.P., Singh, A.K., Clarke, J.M., Knox, R.E., Ammar, K., Singh, R.P., Pozniak, C.J., DePauw, R.M., Clarke, F.R., McCallum, B.D., Cuthbert, R.D., and Randhawa, H.S. (2012). "Molecular mapping of leaf rust and stripe rust resistance QTL in durum wheat.", *Canadian Journal of Plant Science*, 92, pp. 593. (Abstract)

Humphreys, D.G., DePauw, R.M., Knox, R.E., Singh, A.K., Cuthbert, R.D., Fox, S.L., and Randhawa, H.S. (2012). "Weathering and pre-harvest sprouting resistance.", *Canadian Journal of Plant Science*, 92, pp. 593. (Abstract)

Knox, R.E., Hucl, P.J., Cuthbert, R.D., Singh, A.K., Clarke, F.R., DePauw, R.M., Pozniak, C.J., Fox, S.L., Humphreys, D.G., Clarke, J.M., Randhawa, H.S., Spaner, D.M., McCartney, C., Gaudet, D.A., Menzies, J.G., Gilbert, J.R., Fetch Jr., T.G., McCallum, B.D., and Brûlé-Babel, A.L. (2012). "Phenomics.", Canadian Triticum Advancement through Genomics (CTAG) annual meeting 2014, Saskatoon, SK, Canada.

Singh, A., DePauw, R.M., Knox, R.E., Cuthbert, R.D., Singh, A.K., Singh, D., Bhavani, S., Fetch Jr., T.G., and Campbell, H.L. (2012). "Mapping of stem rust resistance QTL and study of their epistatic interactions in hexaploid wheat (*Triticum aestivum* L.).", Borlaug Global Rust Initiative (BGRI) Technical Workshop, Beijing, China, September 1-4, 2012.

DePauw, R.M., He, Y., Wang, H., Cutforth, H.W., Cuthbert, R.D., Singh, A.K., and Knox, R.E. (2012). "Pressures On Wheat To Produce Safe, Nutritious And Affordable Quantities At Sustainable Prices For Producers—Adapting to Change. Adapting Crops to Change—Technology Transfer in the 21st Century.", CSA-CSHS-CCA-AIC Conference, University of Saskatchewan, Saskatoon, Saskatchewan, Canada, July 16-19, 2012.

## 2011

Humphreys, D.G., DePauw, R.M., Knox, R.E., Singh, A.K., Cuthbert, R.D., Fox, S.L., and Randhawa, H.S. (2011). "Weathering and pre-harvest sprouting resistance.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Isidro, J., Singh, A.K., Wang, H., DePauw, R.M., Pozniak, C.J., Knox, R.E., Cuthbert, R.D., Beres, B.L., and Johnson, E.N. (2011). "Effects of plant density on durum crop production.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Singh, A.K., Knox, R.E., DePauw, R.M., Clarke, F.R., Martin, R.A., Xue, A.G., Gilbert, J., Brûlé-Babel, A.L., Campbell, H., and Cuthbert, R.D. (2011). "Validation of molecular markers linked to Sumai 3 resistance to DON and FDK in Canadian spring wheat populations.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB)/ Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 106.

DePauw, R.M., Somers, D.J., Cuthbert, R.D., McCallum, B.D., Knox, R.E., Voldeng, H.D., Humphreys, D.G., Fox, S.L., Singh, A.K., McCartney, C.A., and Fedak, G. (2011). "Are QTLs for fusarium head blight response additive?", 7th Canadian Workshop on Fusarium Head Blight (CWFHB)/ Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 70.

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## Research Publications:

2015

Bencherif, K., Boutekrabt, A., Fontaine, J., Laruelle, F., Dalpe, Y., and Anissa, L.H.S. (2015). "Impact of soil salinity on arbuscular mycorrhizal fungi biodiversity and microflora biomass associated with *Tamarix articulata* Vahl rhizosphere in arid and semi-arid Algerian areas.", *Science of the Total Environment*, 533, pp. 488-494. doi: 10.1016/j.scitotenv.2015.07.007

Firmin, S., Labidi, S., Fontaine, J., Laruelle, F., Tisserant, B., Nsanganwimana, F., Pourrut, B., Dalpe, Y., Grandmougin, A., Douay, F., Shirali, P., Verdin, A., and Lounès-Hadj Sharaoui, A. (2015). "Arbuscular mycorrhizal fungal inoculation protects *Miscanthus x giganteus* against trace element toxicity in a highly metal-contaminated site.", *Science of the Total Environment*, 527-528, pp. 91-99. doi: 10.1016/j.scitotenv.2015.04.116

Labidi, S., Fontaine, J., Laruelle, F., Tisserant, B., Dalpe, Y., Grandmougin-Ferjani, A., Douay, F., and Sahraoui, A.L.H. (2015). "Fly ash-aided phytostabilisation of highly trace element polluted topsoils improves the telluric fungal biomass: A long-term field experiment.", *Applied Soil Ecology*, 85, pp. 69-75. doi: 10.1016/j.apsoil.2014.09.006

2014

Labidi, S., Ben Jeddi, F., Tisserant, B., Yousfi, M., Sanaa, M., Dalpe, Y., and Lounès-Hadj Sharaoui, A. (2014). "Field application of mycorrhizal bio-inoculants affects the mineral uptake of a forage legume (*Hedysarum coronarium* L.) on a highly calcareous soil.", *Mycorrhiza*. doi: 10.1007/s00572-014-0609-0

Bouamri, R., Dalpe, Y., and Serhini, M.N. (2014). "Effect of seasonal variation on arbuscular mycorrhizal fungi associated with date palm.", *Emirates Journal of Food and Agriculture*, 26(11), pp. 977-986. doi: 10.9755/ejfa.v26i11.18985

Sinclair, G., Charest, C., Dalpe, Y., and Khanizadeh, S. (2014). "Influence of colonization by arbuscular mycorrhizal fungi on three strawberry cultivars under salty conditions.", *Agricultural and Food Science*, 23(2), pp. 146-158.

Rodríguez, Y., Dalpe, Y., and Séguin, S.M. (2014). "Taxonomic classification of the arbuscular mycorrhizal fungal strain INCAM-2 as *Funnelliformis mosseae*, syn. *Glomus mosseae*.", *Tijdschrift voor Entomologie*, 35(2), pp. 27-33.

Riley, R., Charron, P., Idnum, A., Farinelli, L., Dalpe, Y., Martin, F., and Corradi, N. (2014). "Extreme diversification of the mating type-high-mobility group (MATA-HMG) gene family in a plant-associated arbuscular mycorrhizal fungus", *New Phytologist*, 201(1), pp. 254-268. doi: 10.1111/nph.12462

2013

Sinclair, G., Charest, C., Dalpe, Y., and Khanizadeh, S. (2013). "Influence of arbuscular mycorrhizal fungi and a root endophyte on the biomass and root morphology of selected strawberry cultivars under salt conditions.", *Canadian Journal of Plant Science*, 93(6), pp. 997-999. doi: 10.4141/CJPS2012-279

Dalpe, Y. and Séguin, S.M. (2013). "Microwave-assisted technology for the clearing and staining of arbuscular mycorrhizal fungi in roots.", *Mycorrhiza*, 23(4), pp. 333-340. doi: 10.1007/s00572-012-0472-9

Faye, A., Dalpe, Y., Ndung'u-Magiroy, K., Jefwa, J., Ndoye, I., Diouf, M., and Lesueur, D. (2013). "Evaluation of commercial arbuscular mycorrhizal inoculants.", *Canadian Journal of Plant Science*, 93(6), pp. 1201-1208. doi: 10.4141/cjps2013-326

2012

Fan, L., Fang, C.Q., Dubé, C., Deschênes, M., Dalpe, Y., Tao, S., and Khanizadeh, S. (2012). "Arbuscular Mycorrhiza Alleviate Salinity Stress of Strawberry Cultivars under Salinity Condition.", *Acta Horticulturae (ISHS)*, 926, pp. 491-496.

2011

Fan, L., Dalpe, Y., Fang, C.Q., Dubé, C., and Khanizadeh, S. (2011). "Influence of arbuscular mycorrhizae on biomass and root morphology of selected strawberry cultivars under salt stress.", *Botany*, 89(6), pp. 397-403. doi: 10.1139/b11-028

Rodríguez, Y., Dalpé, Y., Séguin, S.M., Fernández, K., Fernández, F., and Rivera, R.A. (2011). "Glomuscubense sp. nov., an arbuscular mycorrhizal fungus from Cuba.", *Mycotaxon*, 118, pp. 337-347. doi: 10.5248/118.337

Sokolski, S., Dalpé, Y., and Piché, Y. (2011). "Phosphate transporter genes as reliable gene markers for the identification and discrimination of arbuscular mycorrhizal fungi in the genus *Glomus*.", *Applied and Environmental Microbiology*, 77(5), pp. 1888-1891. doi: 10.1128/AEM.00919-10

Dalpé, Y., Marleau, J., St-Amaud, M., and Hijri, M. (2011). "Spore development and nuclear inheritance in arbuscular mycorrhizal fungi.", *BMC Evolutionary Biology*, 11:51. doi: 10.1186/1471-2148-11-51

## Other Science Related Publications:

2015

Labidi, S., Fontaine, J., Laruelle, F., Tisserant, B., Dalpé, Y., Grandmougin-Ferjani, A., Douay, F., and Lounès-Hadj Sharaoui, A. (2015). "Corrigendum to Fly ash-aided phytostabilisation of highly trace element polluted topsoils improves the telluric fungal biomass: A long-term field experiment [Appl. Soil Ecol., 85, (2015), 69-75].", *Applied Soil Ecology*, 92, pp. 72. doi: 10.1016/j.apsoil.2015.03.009

2011

Fan, L., Fang, C.Q., Dalpé, Y., Dubé, C., and Khanizadeh, S. (2011). "Nutrient uptake of Selected Strawberry Cultivars in Response to Arbuscular mycorrhizal fungi under Salinity.", *Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011. (Poster)*

Fan, L., Fang, C.Q., Dubé, C., Deschênes, M., Dalpé, Y., and Khanizadeh, S. (2011). "Arbuscular Mycorrhiza improves the performance of selected strawberry cultivars under salt stress.", *Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011. (Poster)*

Fan, L., Fang, C.Q., Dubé, C., Deschênes, M., Dalpé, Y., and Khanizadeh, S. (2011). "Arbuscular Mycorrhiza improves the performance of selected strawberry cultivars under salt stress.", *7th North American Strawberry Symposium (NASS) & North American Strawberry Growers Association (NASGA) 2011 Berry Conference, Doubletree Hotel Tampa Westshore Airport, Tampa, FL, USA, February 8-11, 2011. (Poster)*

Fan, L., Fang, C.Q., Dalpé, Y., Dubé, C., and Khanizadeh, S. (2011). "Nutrient uptake of Selected Strawberry Cultivars in Response to Arbuscular mycorrhizal fungi under Salinity.", *7th North American Strawberry Symposium (NASS) & North American Strawberry Growers Association (NASGA) 2011 Berry Conference, Doubletree Hotel Tampa Westshore Airport, Tampa, FL, USA, February 8-11, 2011. (Poster)*

Sokolski, S., Dalpé, Y., and Piché, Y. (2011). "Phosphate transporter genes as reliable gene markers for the identification and discrimination of arbuscular mycorrhizal fungi in the genus *Glomus* [Applied and Environmental Microbiology, 77(5), pp. 1888-1891] (Erratum).", *Applied and Environmental Microbiology*, 77(9), pp. 3167.

Marleau, J., Dalpé, Y., St-Amaud, M., and Hijri, M. (2011). "Spore development and nuclear inheritance in arbuscular mycorrhizal fungi (Correction).", *BMC Evolutionary Biology*, 11:97.

# Danielescu, Serban, Ph.D.

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## Research Publications:

2015

Zebarth, B.J., Danielescu, S., Nyiraneza, J., Ryan, M.C., Jiang, Y., Grimmett, M.G., and Burton, D.L. (2015). "Control on nitrate loading and implications for BMPs under intensive potato production systems in Prince Edward Island, Canada.", *Ground Water Monitoring and Remediation*, 35(1), pp.30-42. doi : 10.1111/gwrm.12088

2014

Li, Q., Qi, J., Xing, Z.S., Li, S., Jiang, Y., Danielescu, S., Zhu, H., Wei, X.H., and Meng, F. (2014). "An approach for assessing impact of land use and biophysical conditions across landscape on recharge rate and nitrogen loading of groundwater.", *Agriculture, Ecosystems and Environment*, 196, pp. 114-124. doi : 10.1016/j.agee.2014.06.028

Li, Q., Xing, Z.S., Danielescu, S., Li, S., Jiang, Y., and Meng, F. (2014). "Data requirements for using combined conductivity mass balance and recursive digital filter method to estimate groundwater recharge in a small watershed New Brunswick, Canada.", *Journal of Hydrology*, 511, pp. 658-664. doi: 10.1016/j.jhydrol.2014.01.073

DesRoches, A., Danielescu, S., and Butler, K. (2014). "Structural controls on groundwater flow in a fractured bedrock aquifer underlying an agricultural region of northwestern New Brunswick, Canada.", *Hydrogeology Journal*, 22(5), pp. 1067-1086. doi : 10.1007/s10040-014-1134-0

Roy, J.W. and Danielescu, S. (2014). "Comment on 'Assessing invertebrate assemblages in the subsurface zone of stream sediments (0-15 cm deep) using a hyporheic sampler' by Dole-Olivier et al.", *Water Resources Research*, 50(11), pp. 9120-9123. doi : 10.1002/2014WR015571

2013

Danielescu, S. and MacQuarrie, K.T.B. (2013). "Nitrogen and oxygen isotopes in nitrate in the groundwater and surface water discharge from two rural catchments: implications for nitrogen loading to coastal waters.", *Biogeochemistry*. doi : 10.1007/s10533-012-9823-z

2012

Zhang, R., Li, Q., Chow, T.L., Li, S., and Danielescu, S. (2012). "Baseflow separation in a small watershed in New Brunswick, Canada, using a recursive digital filter calibrated with the conductivity mass balance method.", *Hydrological Processes*. doi : 10.1002/hyp.9417

2011

Danielescu, S. and MacQuarrie, K.T.B. (2011). "Nitrogen loadings to two small estuaries, Prince Edward Island, Canada: A 2-year investigation of precipitation, surface water and groundwater contributions.", *Hydrological Processes*, 25(6), pp. 945-957. doi : 10.1002/hyp.7881

## Other Science Related Publications:

2015

Grimmett, M.G., Nyiraneza, J., Rodd, A.V., Zebarth, B.J., and Danielescu, S. (2015). "Seasonal soil nitrate patterns under potato production in Prince Edward Island.", 14th International Symposium for Soil and Plant Analysis, Kona Beach, Hawaii, USA, January 26-30, 2015.

Danielescu, S., Butler, K., Wang, S., Grimmett, M.G., MacQuarrie, K.T.B., and Zebarth, B.J. (2015). "Water and contaminant travel time through the unsaturated zone under an agricultural field in Prince Edward Island, Canada.", American Geophysical Union Annual Meeting, Montreal, QC, Canada, May 3-7, 2015.



## 2014

Danielescu, S., Grimmett, M.G., Rodd, A.V., Nyiraneza, J., and Zebarth, B.J. (2014). "Groundwater recharge and nitrate loading from a field under a conventional potato production system in PEI.", Canada Water Resources Association (CWRA) 2014 Congress, Hamilton, ON, Canada, June 2-4, 2014, Presentation.

Danielescu, S. (2014). "Groundwater quality in rural areas of the Maritimes: A joint research program of AAFC and EC.", 3rd Atlantic Canada W.A.T.E.R. Symposium and Forum, Truro, Nova Scotia, Canada.

Danielescu, S., Grimmett, M.G., Rodd, A.V., Lamb, K., MacQuarrie, K.T.B., Zebarth, B.J., and Butler, K. (2014). "Evidence of transient perched water table conditions and possible implications for groundwater recharge and nitrate loading in Prince Edward Island.", Canadian Geophysical Union Joint Annual Meeting with Canadian Society of Soil Science, Banff, Alberta, Canada, May 4-7, 2014. (Poster)

## 2013

Malenica, A., Parker, B., Chapman, S., Cherry, J., Ryan, M.C., Jiang, Y., Grimmett, M.G., and Danielescu, S. (2013). "Detailed Field Investigations of Nitrate Origin, Fate and Transport in the Sedimentary Bedrock Aquifer in Prince Edward Island.", Connecting Water Resources (CWR): Changing the Water Paradigm, Ottawa, ON, Canada, March 18-21, 2013.

Grimmett, M.G., Rodd, A.V., Nyiraneza, J., Zebarth, B.J., and Danielescu, S. (2013). "Nutrient analysis of groundwater and soil water from potato production systems.", 127th Association of Official Agricultural Chemists (AOAC) Annual Meeting, Palmer House Hilton, Chicago, IL, USA, August 25-28, 2013.

## 2012

Li, Q., Qi, J., Hesch, W., Meng, F., Danielescu, S., and Li, S. (2012). "Assessment of Impact of Potato Production on Groundwater Quality.", 39th IAH Congress, Niagara Falls, ON, Canada, September 16-21, 2012.

Danielescu, S., Chow, T.L., and Li, S. (2012). "Comparison of digital filtering methods for hydrograph separation in a small stream in Atlantic Canada.", CWRA-CGU National Conference: Earth, Wind and Water – Elements of Life, Banff Centre, Banff, AB, Canada, June 5-8, 2012.

# Daniels-Lake, Barbara J., M.Sc.

Biologist/Research Scientist

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## Research Publications:

2014

Daniels-Lake, B.J., Prange, R.K., Walsh, J., Hiltz, K., Bishop, S.D., and Munro-Pennell, K. (2014). "Effects of simulated harvest injury and relative humidity during the first week post-harvest on potato (*Solanum tuberosum* L.) tuber weight loss during subsequent storage.", *Journal of Horticultural Science and Biotechnology*, 89(2), pp. 167-172.

2013

Daniels-Lake, B.J. (2013). "The Combined Effect of CO<sub>2</sub> and Ethylene Sprout Inhibitor on the Fry Colour of Stored Potatoes (*Solanum tuberosum* L.)", *Potato Research*, 56(2), pp. 115-126. doi: 10.1007/s11540-013-9234-0

2012

Daniels-Lake, B.J. (2012). "Effects of Elevated CO<sub>2</sub> and Trace Ethylene Present Throughout the Storage Season on the Processing Colour of Stored Potatoes.", *Potato Research*, 55(2), pp. 157-173. doi: 10.1007/s11540-012-9216-7

2011

Daniels-Lake, B.J., Pruski, K., and Prange, R.K. (2011). "Using Ethylene Gas and Chlorpropham Potato Sprout Inhibitors Together.", *Potato Research*, 54(3), pp. 223-236. doi: 10.1007/s11540-011-9188-z

## Other Science Related Publications:

2012

Daniels-Lake, B.J. (2012). "External Influences on Potato Processing Colour.", 8th International Potato Processing and Storage Convention, Riga, Latvia, June 26-28, 2012. (Presentation)

Daniels-Lake, B.J. (2012). "Long-term Potato Storage and Sprout Control.", Newfoundland and Labrador Horticulture Producers Council Annual Conference. Horticulture: Producing Quality - Farming Safely, Gander, NL, Canada, March 7-8, 2012. (Presentation)

2011

Daniels-Lake, B.J. and Prange, R.K. (2011). "Effect of cultivar on processing colour response to CO<sub>2</sub> and trace ethylene singly and in combination.", 95th Annual Meeting of the Potato Association of America (PAA), Wilmington, NC, USA, August 14-18, 2011, Published in: *American Journal of Potato Research* 89: 33. (Abstract)

Daniels-Lake, B.J. (2011). "Potato Research Centre Potato Breeding Program Accelerated Release.", Open House, AAFC Potato Research Centre, Fredericton, NB, Canada, February 15, 2011.

# Darbyshire, Stephen J.,

Biologist/Research Scientist

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## Research Publications:

2015

Simard, M.-J., Nurse, R.E., and Darbyshire, S.J. (2015). "Emergence pattern and seed production of a Canadian woolly cupgrass (*Eriochloa villosa*) population in legume forage.", *Canadian Journal of Plant Science*, 95(3), pp. 539-548. doi : 10.4141/CJPS-2014-317

2014

Darbyshire, S.J. and Simard, M.-J. (2014). "Pastinaca sativa - contribution to the CABI Invasive Species Compendium – a web-based database (<http://www.cabi.org/isc/>)."

DiTommaso, A., Darbyshire, S.J., Marschner, C.A., and Averill, K.M. (2014). "North-East, North-Central, Mid-Atlantic United States and Southern Canada: Japanese Hedgeparsley (*Torilis japonica*) – A New Invasive Species in the United States?", *Invasive Plant Science and Management*, 7(4), pp. 553-560. doi : 10.1614/IPSM-D-14-00028.1

Darbyshire, S.J., Francis, A., Mulligan, G.A., and Graham, G.L. (2014). "The Biology of Canadian Weeds. 153. *Stachys palustris* L.", *Canadian Journal of Plant Science*, 94(4), pp. 709-722. doi : 10.4141/CJPS2013-300

Darbyshire, S.J. and Francis, A. (2014). "Artemisia biennis - contribution to the CABI Invasive Species Compendium – a web-based database (<http://www.cabi.org/isc/>)."

2013

Simard, M.-J., Darbyshire, S.J., and Nurse, R.E. (2013). "Comparative seed predation of woolly cupgrass (*Eriochloa villosa*) and yellow foxtail (*Setaria pumila*) along a field border in Canada.", *Weed Biology and Management*. doi : 10.1111/wbm.12018

Lindgren, C.J., Castro, K.L., Coiner, H.A., Nurse, R.E., and Darbyshire, S.J. (2013). "The biology of invasive alien plants in Canada. 12. *Pueraria montana* var. *lobata* (Willd.) Sanjappa & Predeep.", *Canadian Journal of Plant Science*, 93(1), pp. 71-95. doi : 10.4141/cjps2012-128

Cavers, P.B., Darbyshire, S.J., and Mulligan, G.A. (2013). "History of the series on the Biology of Canadian Weeds.", *Canadian Journal of Plant Science*, 93(3), pp. 351-361. doi : 10.4141/cjps2013-500

Kegode, G.O. and Darbyshire, S.J. (2013). "The Biology of Canadian Weeds. 152. *Artemisia biennis* Willd.", *Canadian Journal of Plant Science*, 93(4), pp. 648-653. doi : 10.4141/CJPS2012-328

Darbyshire, S.J., Simard, M.-J., and Nurse, R.E. (2013). "The Spikelet Callus of *Eriochloa villosa* (Poaceae).", *Journal of the Botanical Research Institute of Texas (BRIT)*, 7(2), pp. 697-702.

2012

Darbyshire, S.J., Francis, A., DiTommaso, A., and Clements, D.R. (2012). "The Biology of Canadian weeds. 150. *Erechtites hieracifolius* (L.) Raf. Ex DC.", *Canadian Journal of Plant Science*, 92(4), pp. 729-746. doi : 10.4141/CJPS2012-003

Francis, A., Darbyshire, S.J., Légère, A., and Simard, M.-J. (2012). "The Biology of Canadian Weeds. 151. *Erodium cicutarium* (L.) L'Hér. Ex Aiton.", *Canadian Journal of Plant Science*, 92(7), pp. 1359-1380. doi : 10.4141/CJPS2012-076

2011

Darbyshire, S.J., Francis, A., Crompton, C.W., and Swanton, C.J. (2011). "The Biology of Canadian Weeds. 145. *Muhlenbergia frondosa* (Poir.) Fernald.", *Canadian Journal of Plant Science*, 91(1), pp. 205-219. doi : 10.4141/CJPS10118

Small, E. and Darbyshire, S.J. (2011). "Blossoming treasures of biodiversity: 35. Mosquito Ferns (*Azolla* species) - tiny 'super plants'.", *Biodiversity*, 12(2), pp. 119-128.

Francis, A., Darbyshire, S.J., Clements, D.R., and DiTommaso, A. (2011). "The Biology of Canadian Weeds. 146. *Lapsana communis* L.", *Canadian Journal of Plant Science*, 91(3), pp. 553-569. doi : 10.4141/cjps10169

## Other Science Related Publications:

2014

Darbyshire, S.J., Bromfield, E.S.P., Cloutier, S., and Robidas, C. (2014). "Symbiotic association with *Neorhizobium galegae* limits the dispersal of *Galega officinalis* (Goat's Rue) in Canada.", 68th Annual Meeting of the Canadian Weed Science Society - Société canadienne de malherbologie, Montreal, QC, Canada, November 17-20, 2014, pp. 31. (Poster)

2012

Simard, M.-J., Darbyshire, S.J., and Nurse, R.E. (2012). "Emergence pattern and fitness of a Canadian woolly cupgrass (*Eriochloa villosa*) population.", Weed Science Society of America Meeting, Waikoloa, Hawaii, USA, February 7-10, 2012. (Abstract)

2011

Bon, M.-C., Guermache, F., Rodier-Goud, M., Bakry, F., Bourge, M., Dolgovskaya, M., Volkovitsh, M., Sforza, R., Darbyshire, S.J., and Milbrath, L.R. (2011). "Ploidy level and genome size of *Vincetoxicum nigrum* (L.) Moench and *V. rossicum* (Kleopow) Barbarich (Apocynaceae), two invasive vines in North America.", 13th International Symposium on Biological Control of Weeds, Kona, HI, USA, September 11-16, 2011.

# De Clerck-Floate, Rosemarie A., Ph.D.

Research Scientist

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## Research Publications:

2015

Catton, H.A., Lalonde, R.G., and De Clerck-Floate, R.A. (2015). "Nontarget herbivory by a weed biocontrol insect is limited to spillover, reducing the chance of population-level impacts.", *Ecological Applications*, 25(2), pp. 517-530. doi : 10.1890/14-0250.1

Moffat, C.E., Ensing, D.J., De Clerck-Floate, R.A., Gaskin, J.F., and Pither, J. (2015). "Morphology delimits more species than molecular genetic clusters of invasive *Pilosella* (Asteraceae).", *American Journal of Botany*, 102(7), pp. 1145-1159. doi : 10.3732/ajb.1400466

2014

Catton, H.A., Lalonde, R.G., and De Clerck-Floate, R.A. (2014). "Differential host-finding abilities by a weed biocontrol insect create within-patch spatial refuges for nontarget plants.", *Environmental Entomology*, 43(5), pp. 1333-1344. doi : 10.1603/EN14041

Gassmann, A., De Clerck-Floate, R.A., Sing, S.E., Töševski, I., Mitrović, M., and Krstić, O. (2014). "Biology and host specificity of *Rhinusa pilosa*, a recommended biological control agent of *Linaria vulgaris*.", *BioControl*, 59(4), pp. 473-483. doi : 10.1007/s10526-014-9578-7

Winston, R., Randall, C.B., De Clerck-Floate, R.A., McClay, A., Andreas, J.E., and Schwarzländer, M. (2014). *Field Guide for the Biological Control of Weeds in the Northwest*, USDA. (Book)

2013

Corrigan, J., Gillespie, D.R., De Clerck-Floate, R.A., and Mason, P.G. (2013). "*Lythrum salicaria* L., Purple Loosestrife (Lythraceae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 54, pp. 363-366.

Corrigan, J., Gillespie, D.R., De Clerck-Floate, R.A., and Mason, P.G. (2013). "*Lythrum salicaria* L., Purple Loosestrife (Lythraceae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 54, pp. 363-366.

Moffat, C.E., Lalonde, R.G., Ensing, D.J., De Clerck-Floate, R.A., Grosskopf-Lachat, G., and Pither, J. (2013). "Frequency-dependent host species use by a candidate biological control insect within its native European range.", *Biological Control*, 67(3), pp. 498-508. doi : 10.1016/j.biocontrol.2013.10.007

De Clerck-Floate, R.A. (2013). "*Cynoglossum officinale* (L.), Houndstongue (Boraginaceae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Wallingford, UK, Chapter 46, pp. 309-315.

De Clerck-Floate, R.A. and McClay, A.S. (2013). "*Linaria vulgaris* Mill., Yellow Toadflax (Plantaginaceae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Wallingford, UK, Chapter 53, pp. 354-362.

McClay, A.S. and De Clerck-Floate, R.A. (2013). "*Convolvulus arvensis* L., Field Bindweed (Convolvulaceae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Wallingford, UK, Chapter 45, pp. 307-309.

2012

Julien, M.H., De Clerck-Floate, R.A., Bourne, A., Gellender, M., and Xu, C.-Y. (2012). "Determining the growth responses of *Phyla canescens* to shoot and root damage as a platform to better-informed weed management decisions.", *Australian Journal of Botany*, 60(4), pp. 310-318. doi : 10.1071/BT11205

De Clerck-Floate, R.A., Saunders, P., and Floate, K.D. (2012). "Release and recapture of three insect species test the efficacy of trap method and air flow in insect containment.", *Canadian Entomologist*, 144(4), pp. 609-616. doi : 10.4039/tce.2012.45

Barnewall, E.C. and De Clerck-Floate, R.A. (2012). "A preliminary histological investigation of gall induction in an unconventional galling system.", *Arthropod-Plant Interactions*, 6(3), pp. 449-459. doi : 10.1007/s11829-012-9193-4

2011

Gaskin, J.F., Bon, M.-C., Cock, M.J.W., Cristofaro, M., De Biase, A., De Clerck-Floate, R.A., Ellison, C.A., Hinz, H.L., Hufbauer, R.A., Julien, M.H., and Sforza, R. (2011). "Applying molecular-based approaches to classical biological control of weeds (Review).", *Biological Control*, 58(1), pp. 1-21. doi: 10.1016/j.biocontrol.2011.03.015

De Clerck-Floate, R.A. and Cárcamo, H.A. (2011). "Biocontrol arthropods: new denizens of Canada's grassland agroecosystems.", in Floate, K.D. (ed.) - *Arthropods of Canadian Grasslands. Vol. 2: Inhabitants of a Changing Landscape*, Biological Survey of Canada (BSC), Chapter 12, pp. 291-321.

## Other Science Related Publications:

2014

De Clerck-Floate, R.A. (2014). "Understanding plant morphology in the successful application of weed biocontrol.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014.

De Clerck-Floate, R.A. (2014). Interim Report to BC Ministry of Forests Lands and Natural Resource Operations: Research and Development on a New Biocontrol Agent for Invasive Hawkweeds. (Report)

Gassmann, A., De Clerck-Floate, R.A., Sing, S.E., Töševski, I., Mitrović, M., and Krstić, O. (2014). "Erratum to: Biology and host specificity of *Rhinusa pilosa*, a recommended biological control agent of *Linaria vulgaris*.", *BioControl*, 59(4), pp. 485. doi: 10.1007/s10526-014-9580-0

Littlefield, J., De Clerck-Floate, R.A., Grosskopf-Lachat, G., and Hinz, H.L. (2014). A petition for the field release of the hoverfly *Cheilosia urbana* (Diptera: Syrphidae) for biological control of alien invasive hawkweeds in North America. (Report)

De Clerck-Floate, R.A. (2014). "A phytocentric focus in weed biological control: Does plant morphology affect insect and plant responses during interaction?", Entomological Society of America Annual Meeting 2014.

De Clerck-Floate, R.A. (2014). "Update on Canada's recent research on hawkweeds.", International Hawkweeds Biological Control Consortium Meeting, Northern Rockies Invasive Plant Council Meeting, Spokane, Washington, USA, February 10-13, 2014.

De Clerck-Floate, R.A. and McClay, A. (2014). "Update on Canadian toadflax studies.", International Toadflax Biological Control Consortium Meeting, Northern Rockies Invasive Plant Council Meeting, Spokane, Washington, USA, February 10-13, 2014.

Catton, H.A., Lalonde, R.G., and De Clerck-Floate, R.A. (2014). "Patterns and impact of herbivory by *Mogulones crucifer* on its target weed, *Cynoglossum officinale* and the nontarget plant *Hackelia micrantha*.", Northern Rockies Invasive Plant Council Meeting, Spokane, Washington, USA, February 10-13, 2014.

McClay, A. and De Clerck-Floate, R.A. (2014). "Biological control of yellow toadflax, *Linaria vulgaris*: First report of apparent impact of the stem-mining weevil, *Mecinus janthinus*, in Canada.", Northern Rockies Invasive Plant Council Meeting, Spokane, Washington, USA, February 10-13, 2014.

De Clerck-Floate, R.A. and Laird, R.A. (2014). "Investigating the role of plant morphology in weed biocontrol.", 62nd Annual Meeting of the Entomological Society of Alberta, Lethbridge, AB, Canada, October 16-18, 2014.

2013

Mason, P.G., De Clerck-Floate, R.A., Erlandson, M.A., and Bailey, K.L. (2013). AAFC National Containment, Biosafety and Biosecurity Committee (NCBB) update for AAFC Biological Control Working Group, 18 October 2013, Guelph, Ontario, 1 pp. (Report)

Catton, H.A., Lalonde, R.G., and De Clerck-Floate, R.A. (2013). "Spatial utilization patterns by the weed biocontrol weevil, *Mogulones crucifer*, differ between target and non-target plants.", Canadian Society of Ecology and Evolution Annual Meeting, Kelowna, BC, Canada, May 12-15, 2013.

Catton, H.A., Lalonde, R.G., and De Clerck-Floate, R.A. (2013). "Spatial utilization patterns by the weed biocontrol weevil, *Mogulones crucifer*, differ between target and non-target plants.", 98th Ecological Society of America Annual Meeting, Minneapolis, Minnesota, USA, August 4-9, 2013.

De Clerck-Floate, R.A. (2013). "Welcoming our new immigrants, insects used in weed biocontrol.", Joint meetings of the Entomological Societies of Canada and Ontario, Guelph, ON, Canada, October 20-23, 2013, invited symposium presentation.

2012

De Clerck-Floate, R.A., Gassmann, A., Sing, S., and Tõsevski, I. (2012). Petition for field release of *Rhinusa pilosa* (Gyllenhal, 1838) (Coleoptera: Curculionidae) against yellow toadflax (*Linaria vulgaris* Mill.: Plantaginaceae) in Canada and the U.S.A. March 19, 2012, 93 pp. (Report)

De Clerck-Floate, R.A. and Dyck, J. (2012). "Developing a biological control strategy for hawkweeds in Canada.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012. (Poster)

Catton, H.A., De Clerck-Floate, R.A., and Lalonde, R.G. (2012). "Houndstongue, biocontrol and nontarget attack", South Okanagan-Similkameen Invasive Plant Society (SOSIPS) Annual General Meeting, Penticton, BC, Canada, April 10, 2012. (Abstract)

De Clerck-Floate, R.A. and Bouchier, R.S. (2012). "Classical weed biocontrol in Canada: How do new agents against emerging invasive plants happen?", Terrestrial Invasive Plant Species Conference: Understanding Plant Invasions in a Changing World, Sault Ste. Marie, ON, Canada, August 20-22, 2012, pp. 40. (Abstract)

Catton, H.A., Lalonde, R.G., and De Clerck-Floate, R.A. (2012). "Patch-level nontarget attack by the biocontrol weevil *Mogulones crucifer*: A temporary spillover effect requiring host plant presence?", Ecological Society of America (ESA 2012) 97th Annual Meeting, Portland, OR, USA, August 5-10, 2012. (Abstract)

De Clerck-Floate, R.A. (2012). Unveiling the patterns and processes of weed biological control. AAFC Research Highlights 2011-Lethbridge Research Centre. 31 July 2012. (Report)

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## Research Publications:

2015

Kitazumi, A., Kawahara, Y., Onda, T.S., De Koeyer, D.L., and de los Reyes, B.G. (2015). "Implications of miR166 and miR159 induction to the basal response mechanisms of an andigena potato (*Solanum tuberosum* subsp. *andigena*) to salinity stress, predicted from network models in *Arabidopsis*.", *Genome*, 58(1), pp. 13-24. doi: 10.1139/gen-2015-0011

Nie, X., De Koeyer, D.L., Liang, Z., Dickison, V.L., Singh, M., and Hawkins, G. (2015). "Identification and first report of a potato tuber necrosis inducing isolate of Alfalfa mosaic virus in Canada.", *Plant Disease*. doi: 10.1094/PDIS-04-15-0423-PDN

2014

Xiang, H., Zhang, R., De Koeyer, D.L., Pan, G., Li, T., Liu, T., and Zhou, Z. (2014). "New evidence on the relationship between Microsporidia and Fungi: A genome-wide analysis by DarkHorse software.", *Canadian Journal of Microbiology*, 60(9), pp. 557-568. doi: 10.1139/cjm-2014-0209

Peters, R.D., Al-Mughrabi, K.I., Kalischuk, M.L., Dobinson, K.F., Conn, K.L., Alkher, H.A., Islam, M.R., Daayf, F., Lynn, J., Bizimungu, B., De Koeyer, D.L., Lévesque, C.A., and Kawchuk, L.M. (2014). "Characterization of *Phytophthora infestans* population diversity in Canada reveals increased migration and genotype recombination.", *Canadian Journal of Plant Pathology*, 36(1), pp. 73-82. doi: 10.1080/07060661.2014.892900

Tai, H.H., Worrall, K., Pelletier, Y., De Koeyer, D.L., and Calhoun, L.A. (2014). "Comparative metabolite profiling of *Solanum tuberosum* against six wild *Solanum* species with Colorado potato beetle resistance.", *Journal of Agricultural and Food Chemistry*, 62(36), pp. 9043-9055. doi: 10.1021/jf502508y

Lindqvist-Kreuze, H., Gastelo, M., Pérez, W., Forbes, G., De Koeyer, D.L., and Bonierbale, M. (2014). "Phenotypic stability and genome wide association study of late blight resistance in potato genotypes adapted to the tropical highlands.", *Phytopathology*, 104(6), pp. 624-633. doi: 10.1094/PHYTO-10-13-0270-R

2013

Tai, H.H., Goyer, C., Platt, H.W., De Koeyer, D.L., Murphy, A.M., Uribe, P., and Halterman, D. (2013). "Decreased defense gene expression in tolerance versus resistance to *Verticillium dahliae* in potato.", *Functional and Integrative Genomics*, 13(3), pp. 367-378. doi: 10.1007/s10142-013-0329-0

2012

Wang-Pruski, G., Babin, S., Murphy, P., Kong, F., Wu, Y., Douglass, K., Murphy, A.M., De Koeyer, D.L., and Pinto, D.M. (2012). "Identification of Genes and Gene Markers by Genomics, Genome Mapping and Comparative Proteomics and Their Relationship to Potato Tuber Qualities.", *Acta Horticulturae (ISHS)*, 929, pp. 237-244.

Zebarth, B.J., Tai, H.H., Luo, S., Millard, P., De Koeyer, D.L., Li, X.-Q., and Xiong, X. (2012). "Effect of Nitrogen Form on Gene Expression in Leaf Tissue of Greenhouse Grown Potatoes During Three Stages of Growth.", *American Journal of Potato Research*, 89(4), pp. 315-327. doi: 10.1007/s12230-012-9255-2

Ji, X.-H., Rivers, L., Zielinski, Z., Xu, M., MacDougall, E., Stephen, J., Zhang, S.C., Wang, Y., Chapman, R.G., Keddy, P., Robertson, G.S., Kirby, C.W., Embleton, J., Worrall, K., Murphy, A.M., De Koeyer, D.L., Tai, H.H., Yu, L., Charter, E., and Zhang, J.-Z. (2012). "Quantitative analysis of phenolic components and glycoalkaloids from 20 potato clones and in vitro evaluation of antioxidant, cholesterol uptake, and neuroprotective activities.", *Food Chemistry*, 133(4), pp. 1177-1187. doi: 10.1016/j.foodchem.2011.08.065

2011

Luo, S., Tai, H.H., Zebarth, B.J., Li, X.-Q., Millard, P., De Koeyer, D.L., and Xiong, X. (2011). "Sample Collection Protocol Effects on Quantification of Gene Expression in Potato Leaf Tissue.", *Plant Molecular Biology Reporter*, 29(2), pp. 369-378. doi: 10.1007/s11105-010-0239-4

Lu, Z.-H., Yada, R.Y., Liu, Q., Bizimungu, B., Murphy, A.M., De Koeyer, D.L., and Li, X.-Q., Pinhero, R.G. (2011). "Correlation of physicochemical and nutritional properties of dry matter and starch in potatoes grown in different locations food chemistry.", *Food Chemistry*, 126(3), pp. 1246-1253. doi: 10.1016/j.foodchem.2010.12.037



Zebarth, B.J., Tai, H.H., Luo, S., Millard, P., De Koeyer, D.L., Li, X.-Q., and Xiong, X. (2011). "Differential gene expression as an indicator of nitrogen sufficiency in field-grown potato plants.", *Plant and Soil*, 345(1), pp. 387-400. doi: 10.1007/s11104-011-0793-z

## Other Science Related Publications:

2014

Tai, H.H., De Koeyer, D.L., Goyer, C., Nolan, L., Davidson, C., Lague, M., Murphy, A.M., Sonderkaer, M., Hedegaard, S., Halterman, D., and Lehman Neilsen, K. (2014). "Expression QTL analysis of genetic variation in potato responses to *Verticillium wilt*.", 11th Solanaceae Conference, Porto Seguro, Brazil, November 2-6, 2014. (Abstract)

Tai, H.H., De Koeyer, D.L., Goyer, C., Nolan, L., Davidson, C.G., Sønderkær, M., Hedegaard, S., Lehman Neilsen, K., Lague, M., Murphy, A.M., Uribe, P., and Halterman, D. (2014). "Genetic analysis of tolerance and resistance to *Verticillium dahliae*.", 98th Annual Meeting of the Potato Association of America (PAA), The Davenport Hotel, Spokane, WA, USA, July 27-31, 2014. (Abstract)

Zebarth, B.J., Tai, H.H., Luo, S., De Koeyer, D.L., and Li, X.-Q. (2014). "Gene expression-based diagnostics: A new way to optimize crop fertilizer nitrogen management?", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014. (Abstract)

De Koeyer, D.L., Douglass, K., Lague, M., Bizimungu, B., Murphy, A.M., Bonierbale, M., and Mosquera, T. (2014). "Next-generation SNP genotyping platforms for characterizing potato germplasm.", in S. Dias, E. Dooloo, N. Maxted, S. Kell, E. Thörn, L. Smith, J. Preston, S. Hutchinson (eds.) - International Conference on ENHANCED GENEPOOL UTILIZATION - Capturing wild relative and landrace diversity for crop improvement, Cambridge University Press, UK, pp. 17.

Ai Kitazumi, A., Kawahara, A.Y., De Koeyer, D.L., and de los Reyes, B.G. (2014). "Integration of stress and growth-related responses by microRNAs in the Andean potato.", XXII Plant & Animal Genome Conference, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014. (Poster)

2013

Li, X.-Q., Xu, C., Liu, X., Haroon, M., Liu, J., Xie, C.Y., Meng, F., De Koeyer, D.L., Leclerc, Y., Donnelly, D.J., and Murphy, A.M. (2013). "Identification of the major enzyme and genes controlling cold sweetening in potato tubers during storage.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013, Oral presentation.

Goyer, C., Tai, H.H., Gustafson, V., De Koeyer, D.L., and Rothwell, C. (2013). "Analysis of gene expression of two potato cultivars during common scab infection using microarrays.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013.

Tai, H.H., Worrall, K., Pelletier, Y., De Koeyer, D.L., and Calhoun, L.A. (2013). "Metabolites from CPB-resistant wild *Solanum* species.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013.

Caraza, M., De Koeyer, D.L., Mihovilovich, E., Bonierbale, M., and Wang-Pruski, G. (2013). "Identification of candidate genes associated with photoperiod for improving adaptation of potatoes to diverse environments.", 9th Canadian Plant Genomics Workshop, Halifax, NS, Canada, August 12-15, 2013.

Tai, H.H., Goyer, C., Platt, H.W., De Koeyer, D.L., Murphy, A.M., Uribe, P., and Halterman, D. (2013). "Decreased defense gene expression in a potato clone with tolerance to *Verticillium dahliae*.", 9th Canadian Plant Genomics Workshop, Halifax, NS, Canada, August 12-15, 2013.

Tai, H.H., De Koeyer, D.L., Goyer, C., Sønderkær, M., Hedegaard, S., Nolan, L., Lague, M., Murphy, A.M., and Nielsen, K.L. (2013). "Analysis of genetic variation in gene expression associated with *Verticillium dahliae* infection in potato.", 10th Solanaceae Conference, Beijing, China, October 13-17, 2013.

Mihovilovich, E., De Koeyer, D.L., and Bonierbale, M. (2013). "Response of short day-length adapted potato breeding lines to long photoperiod.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013.

2012

Tai, H.H., Worrall, K., De Koeyer, D.L., Pelletier, Y., and Calhoun, L.A. (2012). "Metabolomics and transcriptomics of Colorado Potato Beetle resistance in wild *Solanum* species.", 9th Solanaceae Conference (SOL 2012), University of Neuchâtel, Neuchâtel, Switzerland, August 25-30, 2012, P65, pp. 207. (Poster)

Tai, H.H., Worrall, K., De Koeyer, D.L., Pelletier, Y., and Calhoun, L.A. (2012). "Comparative gene expression profiling of diploid potato parents with variation in susceptibility to *verticillium wilt* and eqtl mapping of the progeny.", 9th Solanaceae Conference (SOL 2012), University of Neuchâtel, Neuchâtel, Switzerland, August 25-30, 2012, Oral presentation, pp. 91.

Tai, H.H., Goyer, C., De Koeyer, D.L., Murphy, A.M., De Jong, H., and Platt, H.W. (2012). "Comparative Transcriptome Profiling of Foliage from Two Diploid Potato Clones with Variation in Responses to Verticillium Infection.", 96th Annual Meeting of the Potato Association of America (PAA), Crowne Plaza Denver International Airport, Denver, CO, USA, August 12-16, 2012, Oral presentation, Abst. 90.

Tai, H.H., Zebarth, B.J., Luo, S., Li, X.-Q., Millard, P., De Koeyer, D.L., and Xiong, X. (2012). "Development of gene expression indicators for nitrogen sufficiency in potato plants.", Potato Association of America Annual meetings, Denver, Colorado, USA.

De Koeyer, D.L., Nie, X., Douglass, K., Laguë, M., Gustafson, V., Albert, L., and Singh, M. (2012). "Next Generation Sequencing for Detection of Viruses Infecting Potato.", 96th Annual Meeting of the Potato Association of America (PAA), Crowne Plaza Denver International Airport, Denver, CO, USA, August 12-16, 2012, Amer. J. Potato Res. (2013) 90:129-130.

## 2011

Tai, H.H., Pelletier, Y., Worrall, K., Calhoun, L.A., and De Koeyer, D.L. (2011). "Metabolomics of Colorado Potato Beetle resistance in potato.", Palmerston North Plant Biology Meeting, Palmerston North, New Zealand, June 23, 2011.

Worrall, K., Tai, H.H., Pelletier, Y., Calhoun, L.A., and De Koeyer, D.L. (2011). "Comparative metabolic profiling of *S. Tuberosum* and CPB-resistant *Solanum* species.", 19th Annual Northeast Potato Technology Forum, Crowne Plaza Fredericton Lord Beaverbrook Hotel, Fredericton, NB, Canada, March 16-17, 2011, pp. 21. (Abstract)

De Koeyer, D.L., Chen, H., and Gustafson, V. (2011). "Molecular breeding.", in Bradeen, J.M and Kole, C. (eds.) - Genetics, Genomics and Breeding of Potato. Series: Genetics, Genomics and Breeding of Crop Plants, Science Publishers and CRC Press, Chapter 3.

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## Research Publications:

2015

Vasseur, E., Gibbons, J., Rushen, J.P., Pellerin, D., Pajor, E., Lefebvre, D.M., and de Passillé, A.M.B. (2015). "An assessment tool to help producers improve cow comfort on their farms.", *Journal of Dairy Science (JDS)*, 98(1), pp. 698-708. doi : 10.3168/jds.2014-8224

2014

Gibbons, J., Haley, D., Higginson Cutler, J., Nash, C., Zaffino Heyerhoff, J., Pellerin, D., Adam, S., Fournier, A., de Passillé, A.M.B., Rushen, J.P., and Vasseur, E. (2014). "Technical note: A comparison of 2 methods of assessing lameness prevalence in tiestall herds.", *Journal of Dairy Science (JDS)*, 97(1), pp. 350-353. doi : 10.3168/jds.2013-6783

Charlton, G.L., Haley, D.B., Rushen, J.P., and de Passillé, A.M.B. (2014). "Stocking density, milking duration, and lying times of lactating cows on Canadian freestall dairy farms.", *Journal of Dairy Science (JDS)*, 97(5), pp. 2694-2700. doi : 10.3168/jds.2013-6923

Rushen, J.P. and de Passillé, A.M.B. (2014). "Locomotor play of veal calves in an arena: Are effects of feed level and spatial restriction mediated by responses to novelty?", *Applied Animal Behaviour Science*, 155, pp. 34-41. doi : 10.1016/j.applanim.2014.03.009

Vaughan, A., de Passillé, A.M.B., Stookey, J.M., and Rushen, J.P. (2014). "Urination and defecation by group-housed dairy calves.", *Journal of Dairy Science (JDS)*, 97(7), pp. 4405-4411. doi : 10.3168/jds.2013-7558

Vasseur, E., Rushen, J.P., and de Passillé, A.M.B. (2014). "Short communication: Calf body temperature following chemical disbudding with sedation: Effects of milk allowance and supplemental heat.", *Journal of Dairy Science (JDS)*, 97(8), pp. 5185-5190. doi : 10.3168/jds.2013-7519

Vaughan, A., de Passillé, A.M.B., Stookey, J.M., and Rushen, J.P. (2014). "Operant conditioning of urination by calves.", *Applied Animal Behaviour Science*, 158, pp. 8-15. doi : 10.1016/j.applanim.2014.06.009

Zaffino Heyerhoff, J., LeBlanc, S.J., DeVries, T.J., Nash, C., Gibbons, J., Orsel, K., Barke ma, H.W., Solano, L., Rushen, J.P., de Passillé, A.M.B., and Haley, D.B. (2014). "Prevalence of and factors associated with hock, knee, and neck injuries on dairy cows in freestall housing in Canada.", *Journal of Dairy Science (JDS)*, 97(1), pp. 173-184. doi : 10.3168/jds.2012-6367

2013

Vasseur, E., Gibbons, J., Rushen, J.P., and de Passillé, A.M.B. (2013). "Development and implementation of a training program to ensure high repeatability of body condition scoring of dairy cows.", *Journal of Dairy Science (JDS)*. doi : 10.3168/jds.2012-6359

Villettaz Robichaud, M., de Passillé, A.M.B., and Rushen, J.P. (2013). "Does water or blowing air stimulate cows to defecate?", *Applied Animal Behaviour Science*, 144(3-4), pp. 98-101. doi : 10.1016/j.applanim.2013.01.002

2012

Vasseur, E., Rushen, J.P., Haley, D.B., and de Passillé, A.M.B. (2012). "Sampling cows to assess lying time for on-farm animal welfare assessment.", *Journal of Dairy Science (JDS)*, 95(9), pp. 4968-4977. doi : 10.3168/jds.2011-5176

Carbonneau, E., de Passillé, A.M.B., Rushen, J.P., Talbot, B.G., and Lacasse, P. (2012). "The effect of incomplete milking or nursing on milk production, blood metabolites, and immune functions of dairy cows.", *Journal of Dairy Science (JDS)*, 95(11), pp. 6503-6512. doi : 10.3168/jds.2012-5643

Vasseur, E., Pellerin, D., de Passillé, A.M.B., Winckler, C., Lensink, B.J., Knierim, U., and Rushen, J.P. (2012). "Assessing the welfare of dairy calves: outcome-based measures of calf health versus input-based measures of the use of risky management practices.", *Animal Welfare*, 21(1), pp. 77-86.

Gibbons, J., Medrano-Galarza, C., de Passillé, A.M.B., and Rushen, J.P. (2012). "Lying laterality and the effect of IceTag data loggers on lying behaviour of dairy cows.", *Applied Animal Behaviour Science*, 136(2-4), pp. 104-107. doi : 10.1016/j.applanim.2011.12.005

De Paula Vieira, A. de Passillé, A.M.B., and Weary, D.M. (2012). "Effects of the early social environment on behavioral responses of dairy calves to novel events.", *Journal of Dairy Science (JDS)*, 95(9), pp. 5149-5155. doi: 10.3168/jds.2011-5073

Rushen, J.P. and de Passillé, A.M.B. (2012). "Automated measurement of acceleration can detect effects of age, dehorning and weaning on locomotor play of calves.", *Applied Animal Behaviour Science*, 139(3-4), pp. 169-174. doi: 10.1016/j.applanim.2012.04.011

Mintline, E.M., Wood, S.L., de Passillé, A.M.B., Rushen, J.P., and Tucker, C.B. (2012). "Assessing calf play behavior in an arena test.", *Applied Animal Behaviour Science*, 141(3-4), pp. 101-107. doi: 10.1016/j.applanim.2012.08.006

Rushen, J.P., Chapinal, N., and de Passillé, A.M.B. (2012). "Automated monitoring of behavioural-based animal welfare indicators.", *Animal Welfare*, 21(3), pp. 339-350. doi: 10.7120/09627286.21.3.339

Cue, R.I., Pietersma, D., Lefebvre, D.M., Lacroix, R., Wade, K.M., Pellerin, D., de Passillé, A.M.B., and Rushen, J.P. (2012). "Growth modeling of dairy heifers in Québec based on random regression.", *Canadian Journal of Animal Science*, 92(1), pp. 33-47. doi: 10.4141/cjas2011-083

de Passillé, A.M.B. and Rushen, J.P. (2012). "Adjusting the weaning age of calves fed by automated feeders according to individual intakes of solid feed.", *Journal of Dairy Science (JDS)*, 95(9), pp. 5292-5298. doi: 10.3168/jds.2012-5521

Medrano-Galarza, C., Gibbons, J., Wagner, S.A., de Passillé, A.M.B., and Rushen, J.P. (2012). "Behavioral changes in dairy cows with mastitis.", *Journal of Dairy Science (JDS)*, 95(12), pp. 6994-7002. doi: 10.3168/jds.2011-5247

Gibbons, J., Vasseur, E., Rushen, J.P., and de Passillé, A.M.B. (2012). "A training programme to ensure high repeatability of injury scoring of dairy cows.", *Animal Welfare*, 21(3), pp. 379-388. doi: 10.7120/09627286.21.3.379

## 2011

Chapinal, N., Weary, D.M., Rushen, J.P., de Passillé, A.M.B., and von Keyserlingk, M.A.G. (2011). "Effects of temporal restriction in availability of the total mixed ration on feeding and competitive behavior in lactating dairy cows.", *Livestock Science*, 137(1-3), pp. 282-286. doi: 10.1016/j.livsci.2010.11.006

Villetaz Robichaud, M., de Passillé, A.M.B., Pellerin, D., and Rushen, J.P. (2011). "When and where do dairy cows defecate and urinate?", *Journal of Dairy Science (JDS)*, 94(10), pp. 4889-4896. doi: 10.3168/jds.2010-4028

de Passillé, A.M.B., Borderas, T.F., and Rushen, J.P. (2011). "Cross-sucking by dairy calves may become a habit or reflect characteristics of individual calves more than milk allowance or weaning.", *Applied Animal Behaviour Science*, 133(3-4), pp. 137-143. doi: 10.1016/j.applanim.2011.04.020

Chapinal, N., de Passillé, A.M.B., Pastell, M., Hänninen, L., Munksgaard, L., and Rushen, J.P. (2011). "Measurement of acceleration while walking as an automated method for gait assessment in dairy cattle.", *Journal of Dairy Science (JDS)*, 94(6), pp. 2895-2901. doi: 10.3168/jds.2010-3882

Munksgaard, L., Rushen, J.P., de Passillé, A.M.B., and Krohn, C.C. (2011). "Forced versus free traffic in an automated milking system.", *Livestock Science*, 138(1-3), pp. 244-250. doi: 10.1016/j.livsci.2010.12.023

de Passillé, A.M.B., Borderas, T.F., and Rushen, J.P. (2011). "Weaning age of calves fed a high milk allowance by automated feeders: Effects on feed, water, and energy intake, behavioral signs of hunger, and weight gains.", *Journal of Dairy Science (JDS)*, 94(3), pp. 1401-1408. doi: 10.3168/jds.2010-3441

Chapinal, N., de Passillé, A.M.B., Rushen, J.P., and Tucker, C.B. (2011). "Measures of weight distribution and frequency of steps as indicators of restless behavior.", *Journal of Dairy Science (JDS)*, 94(2), pp. 800-803. doi: 10.3168/jds.2010-3531

Tanida, H., Koba, Y., Rushen, J.P., and de Passillé, A.M.B. (2011). "Use of three-dimensional acceleration sensing to assess dairy cow gait and the effects of hoof trimming.", *Animal Science Journal*, 82(6), pp. 792-800. doi: 10.1111/j.1740-0929.2011.00903.x

## Other Science Related Publications:

### 2012

Rushen, J.P. and de Passillé, A.M.B. (2012). "Issues in the assessment of dairy cow welfare.", 3rd Meeting of the European Food Safety Authority (EFSA) Scientific Network for Risk Assessment of GMOs, Parma, Italy, May 3-4, 2012.

Gibbons, J., Vasseur, E., Pellerin, D., Haley, D., Kelton, D.F., Orsel, K., Barkema, H.W., Pajor, E., Lefebvre, D.M., Weary, D.M., von Keyserlingk, M.A.G., Rushen, J.P., and de Passillé, A.M.B. (2012). "Improving cow comfort to increase longevity in Canadian dairy herds.", 30th Western Canadian Dairy Seminar (WCDS), Capri Centre, Red Deer, AB, Canada, March 6-9, 2012, Vol. 24, pp. 410.

Bécotte, F., Vasseur, E., Gibbons, J., Lefebvre, D.M., de Passillé, A.M.B., Rushen, J.P., and Pellerin, D. (2012). "Comfort and longevity in Quebec dairy operation.", 30th Western Canadian Dairy Seminar (WCDS), Capri Centre, Red Deer, AB, Canada, March 6-9, 2012, Vol. 24, pp. 391.

Solano, L., Barkema, H.W., Pajor, E., Mason, S., de Passillé, A.M.B., Rushen, J.P., Gibbons, J., Vasseur, E., Krom, M., and Orsel, K. (2012). "Lameness in dairy cows: using gait score as a predictor for claw lesions.", 30th Western Canadian Dairy Seminar (WCDS), Capri Centre, Red Deer, AB, Canada, March 6-9, 2012.

Zaffino, J., Nash, C., DeVries, T.J., Kelton, D.F., LeBlanc, S.J., Gibbons, J., Rushen, J.P., de Passillé, A.M.B., Solano, L., Barkema, H.W., Orsel, K., and Haley, D. (2012). "Stall dimensions and prevalence of cow injuries on Canadian free-stall dairy farms.", 30th Western Canadian Dairy Seminar (WCDS), Capri Centre, Red Deer, AB, Canada, March 6-9, 2012.

## 2011

Chapinal, N., Miglior, F., Sewalem, A., de Passillé, A.M.B., Rushen, J.P., von Keyserlingk, M.A.G., and Weary, D.M. (2011). "Estimation of genetic parameters for gait in Canadian Holstein cows.", 2011 Joint Annual Meeting of the ADSA-ASAS, New Orleans, LA, USA, July 10-14, 2011. (Presentation)

Vasseur, E., de Passillé, A.M.B., and Rushen, J.P. (2011). "Automated monitoring of lying time in dairy cows: on-farm sampling of animals based on individual differences.", 5th International Conference on the Assessment of Animal Welfare at Farm and Group Level, University of Guelph, Guelph, ON, Canada, August 8-11, 2011. (Poster)

Chapinal, N., de Passillé, A.M.B., Pastell, M., Hänninen, L., Munksgaard, L., and Rushen, J.P. (2011). "Automated assessment of lameness with accelerometers in dairy cows.", 5th International Conference on the Assessment of Animal Welfare at Farm and Group Level, University of Guelph, Guelph, ON, Canada, August 8-11, 2011. (Poster)

Rushen, J.P. and de Passillé, A.M.B. (2011). "How Can Animal Welfare Research Help? Bringing science into practice.", The Animal Care Assessment Model Workshop: 'What we heard' report, Rozanski Hall, University of Guelph, Guelph, ON, Canada, August 11-12, 2011.

Gibbons, J., Vasseur, E., Pellerin, D., Haley, D., Kelton, D.F., Orsel, K., Barkema, H.W., Pajor, E., Lefebvre, D.M., Weary, D.M., von Keyserlingk, M.A.G., Rushen, J.P., and de Passillé, A.M.B. (2011). "Improving cow comfort to increase longevity in tie stalls and free stalls in Canadian dairy herds.", Dairy Research Cluster: Communications and Consultation Workshop - Shaping a dairy research agenda for 2013 - 2018, Queen Elizabeth Hotel, Montréal, QC, Canada, November 16-17, 2011.

Vasseur, E., de Passillé, A.M.B., Haley, D.B., and Rushen, J.P. (2011). "Sampling cows to assess lying time in tie-stall and free-stall dairy herds.", 29th Western Canadian Dairy Seminar (WCDS), Capri Centre, Red Deer, AB, Canada, March 8-11, 2011.

Gibbons, J., Vasseur, E., Rushen, J.P., and de Passillé, A.M.B. (2011). "A training program: Injury and body condition score of dairy cattle.", 28th Annual Conference of the Dairy Farmers of Canada (DFC), Montréal, QC, Canada, August 3-6, 2011.

Vasseur, E., de Passillé, A.M.B., Haley, D., and Rushen, J.P. (2011). "Sampling cows to assess lying time in tie-stalls and free-stall dairy herds.", 28th Annual Conference of the Dairy Farmers of Canada (DFC), Montréal, QC, Canada, August 3-6, 2011.

Gibbons, J., Vasseur, E., Rushen, J.P., and de Passillé, A.M.B. (2011). "A training program to ensure high repeatability of injury and body condition scores of dairy cows.", 5th International Conference on the Assessment of Animal Welfare at Farm and Group Level, University of Guelph, Guelph, ON, Canada, August 8-11, 2011.

Rushen, J.P., Chapinal, N., and de Passillé, A.M.B. (2011). "Automated monitoring of animal welfare indicators.", 5th International Conference on the Assessment of Animal Welfare at Farm and Group Level, University of Guelph, Guelph, ON, Canada, August 8-11, 2011.

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## Research Publications:

2015

Goyali, J.C., Igamberdiev, A.U., and Debnath, S.C. (2015). "Micropropagation affects not only the fruit morphology of lowbush blueberry (*Vaccinium angustifolium* Ait.) but also its medicinal properties.", *Acta Horticulturae (ISHS)*, 1098, pp. 137-142. doi : 10.17660/ActaHortic.2015.1098.14

Debnath, S.C. (2015). "Germplasm characterization, propagation and maintenance of health-promoting wild berries and medicinal plant rose root (*Rhodiola rosea* L.)", *Acta Horticulturae (ISHS)*, 1098, pp. 61-70. doi : 10.17660/ActaHortic.2015.1098.5

Vyas, P., Curran, N., Igamberdiev, A.U., and Debnath, S.C. (2015). "Antioxidant properties of lingonberry (*Vaccinium vitis-idaea* L.) leaves within a set of wild clones and cultivars.", *Canadian Journal of Plant Science*, 95(4), pp. 663-669. doi : 10.4141/cjps-2014-400

Isaak, C.K., Petkau, J.C., Karmin, O.K., Debnath, S.C., and Siow, Y.L. (2015). "Manitoba Lingonberry (*Vaccinium vitis-idaea*) Bioactivities in Ischemia-Reperfusion Injury.", *Journal of Agricultural and Food Chemistry*, 63(23), pp. 5660-5669. doi : 10.1021/acs.jafc.5b00797

Goyali, J.C., Igamberdiev, A.U., and Debnath, S.C. (2015). "Propagation methods affect fruit morphology and antioxidant properties but maintain clonal fidelity in lowbush blueberry.", *HortScience*, 50(6), pp. 888-896.

Debnath, S.C., Percival, D.C., and Siow, Y.L. (2015). "Biodiversity and conservation of wild small fruit species for a sustainable environment.", *Acta Horticulturae (ISHS)*, 1101, pp. 9-14. doi : 10.17660/ActaHortic.2015.1101.2

An, D., Bykova, N.V., and Debnath, S.C. (2015). "EST-PCR, EST-SSR and ISSR markers to identify a set of wild cranberries and evaluating their relationships.", *Canadian Journal of Plant Science*, 95(6), pp. 1155-1165. doi : 10.4141/CJPS-2015-158

2014

Amalia, F., Debnath, S.C., and Yeoung, Y.R. (2014). "Effects of calcium gluconate and ascorbic acid on controlling shoot necrosis during micropropagation of primocane-fruiting raspberry (*Rubus idaeus* L.) cultivars.", *African Journal of Biotechnology*, 13, pp. 4361-4368. doi : 10.5897/AJB2014.14201

Debnath, S.C. (2014). "Structured diversity using EST-PCR and EST-SSR markers in a set of wild blueberry clones and cultivars.", *Biochemical Systematics and Ecology*, 54, pp. 337-347. doi : 10.1016/j.bse.2014.03.018

Debnath, S.C. (2014). "Bioreactor-induced adventitious shoot regeneration affects genotype-dependent morphology but maintains clonal fidelity in red raspberry.", *In Vitro Cellular & Developmental Biology - Plant*, 50(6), pp. 777-788. doi : 10.1007/s11627-014-9632-2

Debnath, S.C. (2014). "Strawberry micropropagation and somaclonal variation.", in Malone, N. (ed.) - *Strawberries: cultivation, antioxidant properties and health benefits*, Nova Science Publishers Inc, pp. 93-108.

Debnath, S.C. (2014). "Molecular markers and antioxidant activity in strawberry diversity analysis.", *Acta Horticulturae (ISHS)*, 1049, pp. 311-316.

Debnath, S.C. (2014). "Molecular markers in biodiversity of *Vaccinium* and *Rubus* wild germplasm.", *Acta Horticulturae (ISHS)*, 1017, pp. 85-92.

Debnath, S.C. (2014). "Strategies and approaches to propagate strawberry nuclear stocks using a bioreactor.", *Acta Horticulturae (ISHS)*, 1049, pp. 145-150.

Debnath, S.C. (2014). "Strategies to propagate *Vaccinium* nuclear stock and use of molecular markers for clonal fidelity.", *Acta Horticulturae (ISHS)*, 1017, pp. 93-99.

2013

Debnath, S.C. (2013). "Propagation strategies and genetic fidelity in strawberries.", *International Journal of Fruit Science*, 13(1-2), pp. 3-18. doi : 10.1080/15538362.2012.696520

Goyali, J.C., Igamberdiev, A.U., and Debnath, S.C. (2013). "Morphology, phenolic content and antioxidant capacity of lowbush blueberry (*Vaccinium angustifolium* Ait.) plants as affected by in vitro and ex vitro propagation methods.", *Canadian Journal of Plant Science*, 93(6), pp. 1001-1008. doi: 10.4141/CJPS2012-307

Vyas, P., Debnath, S.C., and Igamberdiev, A.U. (2013). "Metabolism of glutathione and ascorbate in lingonberry cultivars during in vitro and ex vitro propagation.", *Biologia Plantarum*, 57(4), pp. 603-612. doi: 10.1007/s10535-013-0339-8

## 2012

Debnath, S.C. (2012). "Molecular markers for genetic fidelity during in vitro propagation of horticultural crops.", *Acta Horticulturae (ISHS)*, 929, pp. 459-466.

Debnath, S.C. and Barney, D.L. (2012). "Shoot regeneration and plantlet formation by cascade huckleberry, mountain huckleberry and oval-leaf bilberry on a zeatin-containing nutrient medium.", *HortTechnology*, 22(1), pp. 106-113.

Debnath, S.C., Vyas, P., and Igamberdiev, A.U. (2012). "Characteristics of lingonberry plants propagated by in vitro and ex vitro propagation methods.", *Acta Horticulturae (ISHS)*, 926, pp. 259-264.

Debnath, S.C., Siow, Y.L., Petkau, J.C., An, D., and Bykova, N.V. (2012). "Molecular markers and anti-oxidant activity in berry crops genetic diversity analysis.", *Canadian Journal of Plant Science*, 92(6), pp. 1121-1133. doi: 10.4141/cjps2011-240

Debnath, S.C., Vyas, P., Goyali, J.C., and Igamberdiev, A.U. (2012). "Morphological and molecular analyses in micropropagated berry plants acclimatized under ex vitro condition.", *Canadian Journal of Plant Science*, 92(6), pp. 1065-1073. doi: 10.4141/CJPS2011-194

Murthy, R.K., Debnath, S.C., and Yeoung, Y.R. (2012). "Effect of high concentration of thidiazuron (TDZ) combined with 1H-indole-3-butanoic acid (IBA) on Albion strawberry (*Fragaria x ananassa*) cultivar plantlets induction.", *African Journal of Biotechnology*, 11(81), pp. 14696-14702. doi: 10.5897/AJB12.1047

Burlakoti, R.R., Lynch, D.H., Halde, C., Beach, T., Dahal, S., and Debnath, S.C. (2012). "Organic agriculture project in Nepal: An international twinning partnership program initiative.", *Canadian Journal of Plant Science*, 92(6), pp. 997-1003. doi: 10.4141/CJPS2011-198

## 2011

Debnath, S.C. (2011). "Adventitious shoot regeneration in a bioreactor system and EST-PCR based clonal fidelity in lowbush blueberry (*Vaccinium angustifolium* Ait.).", *Scientia Horticulturae*, 128(2), pp. 124-130. doi: 10.1016/j.scienta.2011.01.012

Paul, K.K., Bari, M.A., and Debnath, S.C. (2011). "Correlation and path coefficient studies for plant characters in a qu aroids, *Colocasia esculenta* L. Schott.", *Journal of Scientific Research*, 3(1), pp. 169-176. doi: 10.3329/jsr.v3i1.6078

Debnath, S.C. (2011). "In vitro propagation of roseroot (*Rhodiola rosea* L.)", in Awaad, A.S., Kaushik, G. and Govil, J.N. (eds.) - *Recent Progress in Medicinal Plants. Vol. 31: Mechanism and Action of Phytoconstituents*, Vol. 31: Mechanism and Action of Phytoconstituents, Studium Press LLC, Houston, USA, Chapter 23, pp. 361-373.

Zdepksi, A., Debnath, S.C., Howell, A.B., Polashock, J., Oudemans, P.V., Vorsa, N., and Michael, T.P. (2011). "Cranberry.", in Kole, C. (ed.) - *Genetics, Genomics and Breeding of Berries*, Science Publishers, Enfield, NH, USA, Chapter 2, pp. 41-63.

Debnath, S.C. (2011). "Bioreactors and molecular analysis in berry crop micropropagation - A review.", *Canadian Journal of Plant Science*, 91(1), pp. 147-157. doi: 10.4141/CJPS10131

Debnath, S.C., Bishop, G.A., and Sion, M. (2011). "Lingonberry germplasm characterization for berry characters, anthocyanin content and antioxidant activity.", *Acta Horticulturae (ISHS)*, 918, pp. 647-654.

Paul, K.K., Bari, M.A., and Debnath, S.C. (2011). "Genetic variability of *Colocasia esculenta* (L.) Schott.", *Bangladesh Journal of Botany*, 40(2), pp. 185-188. doi: 10.3329/bjb.v40i2.9775

## Other Science Related Publications:

### 2015

Goyali, J.C., Ghosh, A.K., Igamberdiev, A.U., and Debnath, S.C. (2015). "The DNA methylation status in lowbush blueberry propagated by conventional softwood cutting and micropropagation.", *Botany 2015 Joint Conference: Science and plants for people*, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015, Horticulture, Oral Presentation. (Abstract)

Debnath, S.C. (2015). "Erratum to Bioreactors and molecular analysis in berry crop micropropagation - A review [Can. J. Plant Sci., 91,(1)(147-157), doi: 10.4141/cjps10131].", Canadian Journal of Plant Science, 95(4), pp. 811. doi: 10.4141/cjps-2015-504

Debnath, S.C. (2015). "Biodiversity and antioxidant properties in berry crops.", Botany 2015, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015, Plant Secondary Chemistry: from Biochemistry to Applications, Oral Presentation. (Abstract)

Ghosh, A.K., Igamberdiev, A.U., and Debnath, S.C. (2015). "Influence of growth hormones and culture manipulations on globular embryogenic structure formation in blueberries (*Vaccinium* spp.).", Botany 2015 Joint Conference: Science and plants for people, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015, Horticulture, Poster Presentation. (Abstract)

Alam, M.Z., Morales Grosskopf, H., Debnath, S.C., Pena-Castillo, L., and Roncal, J. (2015). "Influence of environmental conditions on the biochemistry of wild partridgeberry populations in Newfoundland and Labrador.", Botany 2015 Joint Conference: Science and plants for people, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015, Horticulture, Poster Presentation. (Abstract)

Abeywickrama, G., Debnath, S.C., and Fereidoon, S. (2015). "Phenolic compounds of cranberry genotypes and their antioxidant capacity and bioactivities.", Botany 2015 Joint Conference: Science and plants for people, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015, Horticulture, Poster Presentation. (Abstract)

Siow, Y.L., Debnath, S.C., Brown, D.C.W., Blewett, H.J., and Rossebath, R. (2015). Lure of the lingonberry: win-win for northern agriculture and heart health., Agriculture and Agri-Food Canada.

Debnath, S.C. (2015). Blueberry development program: evaluation and selection under field condition. RBP I No. 2886; Research Project Annual Report 2014-2015., AAFC Science and Technology Branch. (Report)

Debnath, S.C., Anderson, S., Bishop, G.A., Dixon, P.L., McKenzie, D.-L., Mills, A.A.S., and Siow, Y.L. (2015). Developing innovative technologies to accelerate industry transition from 'wild' to cultivated cool climate berry crop production systems. Project ID: 13-1155; Research Project Annual Report 2014-2015., AAFC Science and Technology Branch. (Report)

Siow, Y.L., Brown, D.C.W., Blewett, H.J., Debnath, S.C., and Ross, K.A. (2015). Lingonberry: characterization and preserving an emerging bioresource for Canada. Project ID: 13-1129; Research Project Annual Report 2014-2015., AAFC Science and Technology Branch. (Report)

Siow, Y.L., Debnath, S.C., Brown, D.C.W., Blewett, H.J., and Rossebath, R. (2015). "Lingonberries the next super fruit.", Farm Focus, April 1, 2015.

Ghosh, A.K., Goyali, J.C., Igamberdiev, A.U., and Debnath, S.C. (2015). "Detection of DNA methylation pattern in in vitro-derived blueberry (*Vaccinium* spp.) callus using methylation-sensitive amplification polymorphism (MSAP).", Botany 2015 Joint Conference: Science and plants for people, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015, Horticulture, Oral Presentation. (Abstract)

## 2014

Debnath, S.C. (2014). "Biodiversity and conservation of wild small fruit species for a sustainable environment.", 29th International Horticultural Congress, Brisbane, Queensland, Australia, August 17 -24, 2014, (<https://paperless-events.zendesk.com/attachments/token/H0MZOO875jH9SLaE2vDaQS4jq/?name=IHC2014ABSTRACT01287.pdf>). (Abstract)

Debnath, S.C. (2014). "Marqueurs Moléculaires et Diversité Génétique pour l'Amélioration de la Culture des Baies.", 56th Annual Farm Field Day, St. John's, NL, Canada, August 9, 2014. (Poster)

Arigundam, U., Marshall, H.D., and Debnath, S.C. (2014). "Gene expression as affected by in vitro and ex vitro propagation methods in lingonberry (*Vaccinium vitis-idaea* L.)", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014, pp. 17. (Abstract)

Bhatt, D., Arigundam, U., Roncal, J., and Debnath, S.C. (2014). "Study of genetic diversity using molecular and biochemical markers among blueberry (*Vaccinium* spp.) wild clones, cultivars and hybrids.", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014, pp. 26. (Abstract)

Debnath, S.C. (2014). "The exciting potential of berry crops and medicinal plants.", 56th Annual Farm Field Day, St. John's, NL, Canada, August 9, 2014. (Poster)

Debnath, S.C. (2014). "Berry biodiversity and improvement using in vitro and molecular techniques combined with conventional methods.", All Staff Meeting in the AAFC, St. John's Research Centre, April 23, 2014. (Presentation)

Debnath, S.C. (2014). "Propagation of small fruits through tissue culture.", 56th Annual Farm Field Day, St. John's, NL, Canada, August 9, 2014. (Poster)

Debnath, S.C., McKenzie, D.B., Bishop, G.A., Dixon, P.L., Siow, Y.L., and Mills, A.A.S. (2014). "Blueberries: transitioning from wild to cultivated production.", STB Weekly Science Story, January 21, 2014. (Newsletter)



Debnath, S.C. (2014). "Berry improvement program using in vitro and molecular techniques combined with conventional methods.", AAFC - Grenfell (Memorial University of Newfoundland) Science Collaboration Discussion meeting, Atlantic Cool Climate Crop Research Centre, Agriculture and Agri-Food Canada, St. John's, NL, Canada, June 23, 2014. (Presentation)

Debnath, S.C., Dixon, P.L., and Bishop, G.A. (2014). "Recherches sur la canneberge menées au Centre de recherches de l'Atlantique sur les cultures de climat frais.", Atlantic Cranberry Management Conference - "Out of the Red", St. John's, Canada, March 20-21, 2014. (Poster)

Debnath, S.C., Dixon, P.L., and Bishop, G.A. (2014). "Cranberry Research at the Atlantic Cool Climate Crop Research Centre.", Atlantic Cranberry Management Conference - "Out of the Red", St. John's, Canada, March 20-21, 2014. (Poster)

Vyas, P., Curran, N., Igamberdiev, A.U., and Debnath, S.C. (2014). "Antioxidant properties in a set of wild clones and cultivars of lingonberry (*Vaccinium vitis-idaea* L.) leaves.", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014, pp. 31. (Abstract)

Debnath, S.C. (2014). "Le formidable potentiel des petits fruits et des plantes médicinales.", 56th Annual Farm Field Day, St. John's, NL, Canada, August 9, 2014. (Poster)

Debnath, S.C. (2014). "Strategies approaches to propagate berry crop nuclear stocks using a bioreactor.", 29th International Horticultural Congress, Brisbane, Queensland, Australia, August 17-24, 2014, <https://paperless.events.zendesk.com/attachments/token/TtKnMwYByrM3mcRHGPFikySD/?name=IHC2014ABSTRACT01300.pdf>. (Abstract)

Debnath, S.C. (2014). "Molecular markers and genetic diversity in berry crop improvement.", 56th Annual Farm Field Day, St. John's, NL, Canada, August 9, 2014. (Poster)

Taylor, S., Bykova, N.V., and Debnath, S.C. (2014). "Genetic diversity in blueberry (*Vaccinium* spp. L.) using molecular markers.", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014, pp. 33. (Abstract)

Siow, Y.L. and Debnath, S.C. (2014). "Lingonberries from the north and health impacts - Weekly Science Story, Nov. 05, 2014; circulated by Dr. Siddika Mithani, Assistant Deputy Minister, STB and Dr. Gilles Saindon, Associate Assistant Deputy Minister, STB, Agriculture and Agri-Food Canada."

Siow, Y.L., Brown, D.C.W., Blewett, H.J., Debnath, S.C., and Ross, K.A. (2014). Lingonberry: characterization and preserving an emerging bioresource for Canada. Project ID: 13-1129; Research Project Annual Report 2013-2014, AAFC Science and Technology Branch. (Report)

Goyali, J.C., Ghosh, A.K., Igamberdiev, A.U., and Debnath, S.C. (2014). "Phenotypic and molecular studies for genetic stability assessment of micropropagated lowbush blueberry (*Vaccinium angustifolium* Ait.)", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014, pp. 16-17. (Abstract)

Ghosh, A.K., Goyali, J.C., Igamberdiev, A.U., and Debnath, S.C. (2014). "Effect of epigenetic variations in in vitro-derived blueberries (*Vaccinium* spp.)", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014, pp. 18. (Abstract)

Debnath, S.C., Anderson, S., Bishop, G.A., Dixon, P.L., McKenzie, D.B., Mills, A.A.S., and Siow, Y.L. (2014). Developing innovative technologies to accelerate industry transition from 'wild' to cultivated cool climate berry crop production systems. Project ID: 13-1155; Research Project Annual Report 2013-2014, AAFC Science and Technology Branch. (Report)

Debnath, S.C. (2014). Blueberry development program: evaluation and selection under field condition - RBPI No. 2886; Research Project Annual Report 2013-2014., AAFC Science and Technology Branch. (Report)

Debnath, S.C. (2014). "In vitro and molecular techniques to propagate berry crops.", 2nd International Conference on Agricultural and Horticultural Sciences, Hyderabad, India, February 3-5, 2014.

Debnath, S.C. (2014). "In vitro and molecular techniques in cool climate berry crop improvement.", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014, pp. 16. (Abstract)

## 2013

Debnath, S.C. (2013). "Propagation strategies and biotechnological advances in health promoting berry crops.", Biology Graduate Student Association Symposium, Memorial University of Newfoundland, St. John's, NL, Canada, February 15, 2013, Invited Speaker.

Debnath, S.C. (2013). "Berry and medicinal plant improvement using in vitro and molecular techniques combined with conventional techniques.", Newfoundland and Labrador Federation of Agriculture (NLFA) 2013 Annual General Meeting and Workshop, Hotel Gander, Gander, NL, Canada, January 23-24, 2013. (Poster)

- Debnath, S.C. (2013). "Propagation strategies and biotechnological advances in health promoting berry crops.", Biology Graduate Student Association Symposium, Memorial University of Newfoundland, St. John's, NL, Canada, March 15, 2013.
- Debnath, S.C. (2013). "Lingonberry: characterization and preserving an emerging bioresource for Canada.", Knowledge and Technology Transfer presentation, St. John's, NL, Canada, August 01, 2013. (Presentation)
- Debnath, S.C. (2013). "Propagation of small fruits through tissue culture.", Entomological Society of Canada 2012 Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 3-7, 2012. (Poster)
- Debnath, S.C. (2013). "Propagation of small fruits through tissue culture.", 55th Annual Farm Field Day, St. John's, NL, Canada, August 10, 2013. (Poster)
- Debnath, S.C. (2013). "Le formidable potentiel des petits fruits et des plantes médicinales.", 55th Annual Farm Field Day, St. John's, NL, Canada, August 10, 2013. (Poster)
- Debnath, S.C. (2013). "Germplasm characterization, propagation and maintenance of health-promoting wild berries and medicinal plant roseroot (*Rhodiola rosea* L.).", Keystone Symposia: The Gut Microbiome: The Effector/Regulatory Immune Network (B3), Taos, New Mexico, USA, February 10-15, 2013, Invited presentation. (Abstract)
- Debnath, S.C. (2013). "Germplasm characterization, propagation and maintenance of health-promoting wild berries and medicinal plant roseroot (*Rhodiola rosea* L.).", International Symposium on Medicinal Plants and Natural Products, Montreal Botanical Garden, Montreal, Canada, June 17-19, 2013, Invited presentation. (Abstract)
- Debnath, S.C. (2013). "The exciting potential of berry crops and medicinal plants.", 55th Annual Farm Field Day, St. John's, NL, Canada, August 10, 2013. (Poster)
- Debnath, S.C. (2013). Blueberry development program: evaluation and selection under field condition - Research Project (RBPI No. 2886) Annual Report 2012-2013, AAFC Science and Technology Branch. (Report)
- Debnath, S.C. (2013). "Le formidable potentiel des petits fruits et des plantes médicinales.", Entomological Society of Canada 2012 Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 3-7, 2012. (Poster)
- Debnath, S.C. (2013). "Berry and medicinal plant improvement using in vitro and molecular techniques combined with conventional techniques.", Biosyst EU 2013. 2nd meeting of the Federation of European Biological Systematic Societies, University of Vienna, Vienna, Austria, February 18-22, 2013. (Poster)
- Debnath, S.C. (2013). Crop production and protection in developing a cool climate berry crop production system - Research Project (RBPI No. 1252) Final Report 2009-2013., AAFC Science and Technology Branch. (Report)
- Debnath, S.C. (2013). "Developing innovative technologies to accelerate industry transition from "wild" to cultivated cool climate berry crop production systems.", Knowledge and Technology Transfer presentation, St. John's, NL, Canada, August 01, 2013. (Presentation)
- Goyali, J.C., Igamberdiev, A.U., and Debnath, S.C. (2013). "Changes in fruit morphology and its phytochemical properties of lowbush blueberry (*Vaccinium angustifolium* Ait.) during in vitro propagation.", 15th Annual Aldrich Interdisciplinary Conference, Memorial University of Newfoundland, St. John's, NL, Canada, April 26-28, 2013. (Abstract)
- Goyali, J.C., Igamberdiev, A.U., and Debnath, S.C. (2013). "Does in vitro propagation influence antioxidant properties of lowbush blueberry (*Vaccinium angustifolium* Ait.)?", 6th Annual Biology Graduate Students Symposium, Memorial University of Newfoundland, St. John's, NL, Canada, April 18, 2013, Oral presentation.
- Debnath, S.C. (2013). Raspberry development project: field evaluation under organic farming condition - Research Project (RBPI No. 1629) Final Report 2006-2013., AAFC Science and Technology Branch. (Report)
- Debnath, S.C. (2013). "Making blueberry plant that packs a healthy punch.", E3S Web of Conferences, August(12), pp. A3. (Newsletter)

## 2012

- Debnath, S.C. (2012). Raspberry development project: field evaluation under organic farming condition. RBPI Number 1629; Research Project Annual Report 2011-2012, AAFC Research Branch, Ottawa, ON. (Report)
- Debnath, S.C. (2012). "Strategic approaches to propagate strawberry nuclear stocks using a bioreactor.", 7th International Strawberry Symposium, Beijing, China, February 18-22, 2012, Oral presentation.
- Debnath, S.C. (2012). "Molecular markers and antioxidant activity in strawberry diversity analysis.", 7th International Strawberry Symposium, Beijing, China, February 18-22, 2012, Oral presentation.
- Debnath, S.C. (2012). Crop production and protection in developing a cool climate berry crop production system. RBPI No. 1252; Research Project Annual Report 2011-2012, AAFC Research Branch, Ottawa, ON. (Report)

Debnath, S.C., Kempler, C., Jamieson, A.R., and Khanizadeh, S. (2012). "Growth and development of raspberry as affected by in vitro and ex vitro propagation methods.", Plant Canada 2012 (joint meeting of the Canadian Society of Agronomy (CSA), Canadian Society for Horticultural Science (CSHS), Certified Crop Advisors (CCA), North American Fruit Explorers (NAFEX)): Adapting Crops to Change, University of Saskatchewan, Saskatoon, SK, Canada, July 16-19, 2012, E2.4 Abstract Id 3832, pp. 43. (Abstract)

Debnath, S.C., McKenzie, D.B., Dixon, P.L., and Bishop, G.A. (2012). "Cool climate berry crop production and protection in Newfoundland and Labrador.", Newfoundland and Labrador Symposium: Our Food, Our Future, Growing the Agriculture Industry in Newfoundland and Labrador, Corner Brook, NL, Canada, November 23, 2012, pp. 11-12.

Debnath, S.C. (2012). "Berry and medicinal plant improvement using in vitro and molecular techniques combined with conventional breeding.", Newfoundland and Labrador Symposium: Our Food, Our Future, Growing the Agriculture Industry in Newfoundland and Labrador, Corner Brook, NL, Canada, November 23, 2012, pp. 11-12.

Debnath, S.C. (2012). "Propagation of small fruits through tissue culture.", 54th Annual Farm Field Day, AAFC, St. John's, NL, Canada, August 11, 2012. (Poster)

An, D., Bykova, N.V., and Debnath, S.C. (2012). "Identifying wild and cultivated cranberries and evaluating their relationships using morphology, and EST-PCR and ISSR markers.", Plant Canada 2012 (joint meeting of the Canadian Society of Agronomy (CSA), Canadian Society for Horticultural Science (CSHS), Certified Crop Advisors (CCA), North American Fruit Explorers (NAFEX)): Adapting Crops to Change, University of Saskatchewan, Saskatoon, SK, Canada, July 16-19, 2012, P1 Abstract Id 3764, pp. p.44.

Debnath, S.C. (2012). "Development of small fruits suitable for cultivation in cool climates.", 54th Annual Farm Field Day, AAFC, St. John's, NL, Canada, August 11, 2012. (Poster)

Vyas, P., Debnath, S.C., and Igamberdiev, A.U. (2012). "Metabolism of glutathione and ascorbate and its relation to antioxidant and morphological properties of lingonberry cultivars propagated in vitro and ex vitro.", 5th Annual Biology Graduate Students Symposium, Memorial University of Newfoundland, St. John's, NL, Canada, April 19, 2012.

Goyali, J.C., Igamberdiev, A.U., and Debnath, S.C. (2012). "Morphology, phenolic content and antioxidant capacity of lowbush blueberry (*Vaccinium angustifolium* Ait.) plants as affected by in vitro and ex vitro propagation methods.", Plant Canada 2012 (joint meeting of the Canadian Society of Agronomy (CSA), Canadian Society for Horticultural Science (CSHS), Certified Crop Advisors (CCA), North American Fruit Explorers (NAFEX)): Adapting Crops to Change, University of Saskatchewan, Saskatoon, SK, Canada, July 16-19, 2012, C1.2, ID.3760, pp. 26. (Abstract)

Debnath, S.C. (2012). "Molecular markers for genetic fidelity during in vitro propagation of berry crops.", Plant Canada 2012 (joint meeting of the Canadian Society of Agronomy (CSA), Canadian Society for Horticultural Science (CSHS), Certified Crop Advisors (CCA), North American Fruit Explorers (NAFEX)): Adapting Crops to Change, University of Saskatchewan, Saskatoon, SK, Canada, July 16-19, 2012, E2.2, ID.3822, pp. 42. (Abstract)

Debnath, S.C. (2012). "Strategies to propagate *Vaccinium* nuclear stock and use of molecular markers for clonal fidelity.", 10th International Symposium on *Vaccinium* and Other Superfruits, Maastricht, Limburg, The Netherlands, June 17-22, 2012, Oral presentation. (Poster)

Debnath, S.C. (2012). "Molecular markers in biodiversity of *Vaccinium* and *Rubus* wild germplasm.", 10th International Symposium on *Vaccinium* and Other Superfruits, Maastricht, Limburg, The Netherlands, June 17-22, 2012, Oral presentation. (Poster)

Debnath, S.C. (2012). "Genetic diversity and molecular analysis in berry crop improvement.", 54th Annual Farm Field Day, AAFC, St. John's, NL, Canada, August 11, 2012. (Poster)

## 2011

Debnath, S.C. (2011). "Development of small fruits suitable for cultivation in cool climates.", 53rd Annual Farm Field Day, AAFC, St. John's, NL, Canada, August 13, 2011.

Debnath, S.C. (2011). "Berry crop improvement program at Atlantic Cool Climate Crop Research Centre.", Newfoundland and Labrador Federation of Agriculture (NLFA) Annual General Meeting, Gander, NL, Canada, March 17-18, 2011. (Presentation)

Debnath, S.C. (2011). "Conventional Methods Combined with Biotechnology in Blueberry Improvement.", published by Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC), 2 pages. (Factsheet)

Vyas, P., Chandrasekara, N., Debnath, S.C., and Igamberdiev, A.U. (2011). "Antioxidant properties of in vitro and ex vitro propagated lingonberry cultivars.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011, CSPP-S27, pp. 236.

Burlakoti, R.R., Lynch, D., Halde, C., Beach, T., Dahal, S., and Debnath, S.C. (2011). "Organic Agriculture project in Nepal: an international twinning partnership program.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011, Oral presentation.

Debnath, S.C. (2011). "Who is on the research farm?", *Agriview*, 5(2), pp. 1-2.

Debnath, S.C. (2011). "Berry improvement program at the Atlantic Cool Climate Crop Research Centre.", Annual General Meeting of the Newfoundland and Labrador Horticulture Producer Council, St. John's, NL, Canada, March 16-17, 2011. (Presentation)

Debnath, S.C. (2011). "Molecular characterization of antioxidant-rich Canadian berry germplasm.", 2011 Federal Food Safety and Nutrition Research (FFSNR) Web-based Seminar Series, Canada, November 29-December 15, 2011.

Isaak, C.K., Petkau, J.C., Debnath, S.C., and Siow, Y.L. (2011). "Effects of cool climate berries on apoptosis.", Therapeutic Applications for Functional Foods Conference, St. Boniface Hospital Research Centre, Winnipeg, MB, Canada, May 31 -June 1, 2011, AbsP-13.

Chandrasekara, N., Goyali, J.C., Vyas, P., Shah, J.K., Igamberdiev, A.U., and Debnath, S.C. (2011). "Phenolic contents and antioxidant properties of blueberry tea and fruit.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011, CSHS-S1, pp. 206.

Debnath, S.C. (2011). "Berry and medicinal plant improvement using in vitro and molecular techniques combined with conventional breeding.", Newfoundland and Labrador Federation of Agriculture (NLFA) 2011 Annual General Meeting, Gander, NL, Canada, March 17-18, 2011. (Poster)

Debnath, S.C. (2011). "Genetic diversity and molecular analysis in berry crop improvement.", 53rd Annual Farm Field Day, AAFC, St. John's, NL, Canada, August 13, 2011.

Vyas, P., Debnath, S.C., and Igamberdiev, A.U. (2011). "Enhanced levels of phenolic compounds and antioxidant capacity in in vitro derived lingonberry plants. acclimatized under ex vitro condition.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011, Session 2, pp. 82.

Debnath, S.C., Vyas, P., Goyali, J.C., and Igamberdiev, A.U. (2011). "Molecular analysis and antioxidant activity in micropropagated berry plants acclimatized under ex vitro condition.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011, Session 1, pp. 79.

Debnath, S.C., Siow, Y.L., Petkau, J.C., An, D., and Bykova, N.V. (2011). "Molecular markers and antioxidant activity in berry crop diversity analysis.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011, 78, Session 1. (Presentation)

Goyali, J.C., Chandrasekara, N., Igamberdiev, A.U., and Debnath, S.C. (2011). "Evaluation of phenolic compounds and antioxidant activity of market blueberry in Newfoundland.", 4th Annual Biology Graduate Students Symposium, Memorial University of Newfoundland, St. John's, NL, Canada, April 28, 2011.

Debnath, S.C., Vyas, P., and Igamberdiev, A.U. (2011). "Enhanced levels of antioxidant enzymes and metabolites in tissue culture propagated lingonberry plant.", 4th Annual Biology Graduate Students Symposium, Memorial University of Newfoundland, St. John's, NL, Canada, April 28, 2011.

Debnath, S.C. (2011). "Propagation of small fruits through tissue culture.", 53rd Annual Farm Field Day, AAFC, St. John's, NL, Canada, August 13, 2011.

Isaak, C.K., Petkau, J.C., Debnath, S.C., and Siow, Y.L. (2011). "Effects of cool climate berries on apoptosis.", LifeScience Alley Tenth Annual Conference and Expo, Minneapolis, MN, USA, December 7, 2011.

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## Research Publications:

2015

Toivonen, P.M.A., Lu, C., Bach, S.J., and Delaquis, P.J. (2015). "Hypoxic atmospheres can induce subsequent increases in cutting-induced hydrogen peroxide production by fresh-cut Romaine lettuce.", *Acta Horticulturae (ISHS)*, 1071, pp. 519-526.

Delaquis, P.J. (2015). "From advancing food safety to rediscovering history (Review).", *Food Protection Trends (FPT)*, 35(1), pp. 62-63.

LeBlanc, D.I., Villeneuve, S., Hashemi Beni, L., Otten, A., Fazil, A.M., McKellar, R., and Delaquis, P.J. (2015). "A national produce supply chain database for food safety risk analysis.", *Journal of Food Engineering*, 147(C), pp. 24-38. doi : 10.1016/j.jfoodeng.2014.09.026

Delaquis, P.J., Brassard, J., and Gajadhar, A. (2015). "Pathogenic Viruses and Protozoa Transmitted by Soil.", in Yates, M., Nakatsu, C., Miller, R. and Pillai, S. (eds.) - *Manual of Environmental Microbiology 4th edition*, ASMscience Press, Washington, DC., Chapter 3.3.1, pp. 3.3.1.1-3.3.1.14.

Wood, J.L., Chen, J.C., Friesen, E., Delaquis, P.J., and Allen, K.J. (2015). "Microbiological survey of locally-grown lettuce in Vancouver, BC farmers' markets.", *Journal of Food Protection*, 78(1), pp. 203-208. doi : 10.4315/0362-028X.JFP-14-199

Bovo, F., de Cesare, A., Manfreda, G., Bach, S.J., and Delaquis, P.J. (2015). "Fate of *Salmonella enterica* spp. In mixed ingredient salads containing lettuce, chicken meat and cheese.", *Journal of Food Protection*, 78(3), pp. 491-497. doi : 10.4315/0362-028X.JFP-14-187

2014

Diarra, M.S., Delaquis, P.J., Rempel, H., Bach, S.J., Harlton, C.E., Aslam, M.N., Pritchard, J., and Topp, E. (2014). "Antibiotic resistance and diversity of *Salmonella enterica* serovars associated with broiler chickens.", *Journal of Food Protection*, 77(1), pp. 40-49. doi : 10.4315/0362-028X.JFP-13-251

Simmons, K., Rempel, H., Block, G.S., Forgetta, V., Vaillancourt Jr., R., Malouin, F., Topp, E., Delaquis, P.J., and Diarra, M.S. (2014). "Duplex PCR methods for the molecular detection of *Escherichia fergusonii* from broiler chickens.", *Applied and Environmental Microbiology*, 80(6), pp. 1941-1948. doi : 10.1128/AEM.04169-13

McKellar, R.C., Pérez Rodríguez, F., Harris, L.J., Moyne, A.-L., Blais, B., Topp, E., Bezanson, G.S., Bach, S.J., and Delaquis, P.J. (2014). "Evaluation of different approaches for modeling *Escherichia coli* O157:H7 survival on field lettuce.", *International Journal of Food Microbiology*, 184, pp. 74-85. doi : 10.1016/j.ijfoodmicro.2014.04.026

Franz, E., Delaquis, P.J., Morabito, S., Beutin, L., Gobius, K., Rasko, D.A., Bono, J., French, N., Osek, J., Lindstedt, B., Muniesa, M., Manning, S., LeJeune, J.T., Callaway, T.R., Beatson, S., Eppinger, M., Dallman, T., Forbes, K.J., Aarts, J.H., Pearl, D.L., Gannon, V.P.J., Laing, C.R., and Strachan, N.J.C. (2014). "Exploiting the explosion of information associated with whole genome sequencing to tackle Shiga toxin-producing *Escherichia coli* (STEC) in global food production systems.", *International Journal of Food Microbiology*, 187, pp. 57-72. doi : 10.1016/j.ijfoodmicro.2014.07.002

McKellar, R.C., LeBlanc, D.I., Pérez Rodríguez, F., and Delaquis, P.J. (2014). "Comparative simulation of *Escherichia coli* O157:H7 behaviour in packaged fresh-cut lettuce distributed in a typical Canadian cold chain in the summer and winter.", *Food Control*, 35, pp. 192-199.

2013

Delaquis, P.J., Sáenz-Garza, N.E., and Durance, T. (2013). "Microencapsulation of hexanal by radiant energy vacuum microwave-molecular inclusion for controlled release and inhibition of *Penicillium expansum* in a model system and on apple tissue.", *Food Research International*. doi : 10.1016/j.foodres.2013.01.040

Palakawong, C., Sophanodora, P., Toivonen, P.M.A., and Delaquis, P.J. (2013). "Optimized extraction and characterization of antimicrobial phenolic compounds from mangosteen (*Garcinia mangostana* L.) cultivation and processing waste.", *Journal of the Science of Food and Agriculture*, 93(15), pp. 3792-3800. doi : 10.1002/jsfa.6277

2012

- Hashemi Beni, L., Villeneuve, S., LeBlanc, D.I., Côté, K., Fazil, A.M., Otten, A., McKellar, R., and Delaquis, P.J. (2012). "Spatio-temporal Assessment of Food Safety Risks in Canadian Food Distribution Systems using GIS.", *Spatial and Spatio-temporal Epidemiology*, 3(3), pp. 215-223. doi : 10.1016/j.sste.2012.02.009
- Toivonen, P.M.A., Lu, C., Bach, S.J., and Delaquis, P.J. (2012). "Modulation of wound-induced hydrogen peroxide and its influence on the fate of *Escherichia coli* O157:H7 in cut lettuce tissues.", *Journal of Food Protection*, 75(12), pp. 2208-2212. doi : 10.4315/0362-028X.JFP-12-208
- Harris, L.J., Bender, J., Bihn, E.A., Blessington, T., Danyluk, M.D., Delaquis, P.J., Goodridge, L., Ibekwe, A.M., Ilic, S., Kniel, K., LeJeune, J.T., Schaffner, D.W., Stoeckel, D., and Suslow, T.V. (2012). "A Framework for Developing Research Protocols for Evaluation of Microbial Hazards and Controls during Production That Pertain to the Quality of Agricultural Water Contacting Fresh Produce That May Be Consumed Raw.", *Journal of Food Protection*, 75(12), pp. 2251-2273. doi : 10.4315/0362-028X.JFP-12-252
- Merchant, L.E., Rempel, H., Forge, T.A., Kannangara, T., Bittman, S., Delaquis, P.J., Topp, E., Ziebell, K.A., and Diarra, M. S. (2012). "Characterization of antibiotic-resistant and potentially pathogenic *Escherichia coli* from soil fertilized with litter of broiler chickens fed antimicrobial-supplemented diets.", *Canadian Journal of Microbiology*, 58(9), pp. 1084-1098. doi : 10.1139/W2012-082
- Yemiş, G.P., Pagotto, F.J., Bach, S.J., and Delaquis, P.J. (2012). "Thermal Tolerance and Survival of *Cronobacter sakazaki* in Powdered Infant Formula Supplemented with Vanillin, Ethyl Vanillin, and Vanillic Acid.", *Journal of Food Science*, 77(9), pp. M523-M527. doi : 10.1111/j.1750-3841.2012.02834.x
- Bergeron-Quirion, S., Villeneuve, S., LeBlanc, D.I., and Delaquis, P.J. (2012). "Thermophysical properties and thermal behavior of leafy vegetables packaged in clamshells.", *Journal of Food Engineering*, 113(1), pp. 27-32. doi : 10.1016/j.jfoodeng.2012.05.032
- McKellar, R., LeBlanc, D.I., Lu, J., and Delaquis, P.J. (2012). "Simulation of *Escherichia coli* O157:H7 Behavior in Fresh-Cut Lettuce Under Dynamic Temperature Conditions During Distribution from Processing to Retail.", *Foodborne Pathogens and Disease*, 9(3), pp. 239-244. doi : 10.1089/fpd.2011.1025
- Bezanson, G.S., Delaquis, P.J., Bach, S.J., McKellar, R., Topp, E., Gill, A.O., Blais, B., and Gilmour, M. (2012). "Comparative Examination of *Escherichia coli* O157:H7 Survival on Romaine Lettuce and in Soil at Two Independent Experimental Sites.", *Journal of Food Protection*, 75(3), pp. 480-487. doi : 10.4315/0362-028X.JFP-11-306

2011

- Yemiş, G.P., Pagotto, F.J., Bach, S.J., and Delaquis, P.J. (2011). "Effect of vanillin, ethyl vanillin, and vanillic acid on the growth and heat resistance of *cronobacter* species.", *Journal of Food Protection*, 74(12), pp. 2062-2069. doi : 10.4315/0362-028X.JFP-11-230
- Piercey, M.J., Mazzanti, G., Budge, S.M., Delaquis, P.J., Paulson, A.T., and Truelstrup-Hansen, L. (2011). "Antimicrobial activity of cyclodextrin entrapped allyl isothiocyanate in a model system and packaged fresh-cut onions.", *Food Microbiology*, 30(1), pp. 213-218. doi : 10.1016/j.fm.2011.10.015
- McKellar, R.C. and Delaquis, P.J. (2011). "Development of a dynamic growth-death model for *Escherichia coli* O157:H7 in minimally processed leafy green vegetables.", *International Journal of Food Microbiology*, 151(1), pp. 7-14. doi : 10.1016/j.ijfoodmicro.2011.07.027
- Hashemi Beni, L., Villeneuve, S., LeBlanc, D.I., and Delaquis, P.J. (2011). "A GIS-based approach in support of an assessment of food safety risks.", *Transactions in GIS*, 15(Suppl. 1), pp. 95-108. doi : 10.1111/j.1467-9671.2011.01264.x
- Toivonen, P.M.A., Lu, C., Delaquis, P.J., and Bach, S.J. (2011). "Slicing under chlorinated water improves the disinfection of fresh-cut romaine lettuce.", *Journal of Food Protection*, 74(12), pp. 2142-2147. doi : 10.4315/0362-028X.JFP-11-194

## Other Science Related Publications :

2015

- Franz, E., Delaquis, P.J., Morabito, S., Beutin, L., Gobius, K., Rasko, D.A., and others (2015). "Corrigendum to "Exploiting the explosion of information associated with whole genome sequencing to tackle Shiga toxin-producing *Escherichia coli* (STEC) in global food production systems" [*Int. J. Food Microbiol.* 187 (2014) 57-72] doi:10.1016/j.ijfoodmicro.2014.07.002.", *International Journal of Food Microbiology*, 193, pp. 159. doi : 10.1016/j.ijfoodmicro.2014.09.026
- Bach, S.J., Fan, L., Fomey, C.F., and Delaquis, P.J. (2015). "Quality and Safety in Fresh-cut Vegetables and Fruits. United Fresh Produce Association Food Safety and Technology Council.", United Fresh 2015, Chicago, IL, USA, June 9-11, 2015, Oral presentation and handout information on AAFC's research activities.

Villeneuve, S., LeBlanc, D.I., Hashemi Beni, L., Otten, A., Fazil, A.M., McKellar, R., and Delaquis, P.J. (2015). "CanGRASP: the Canadian GIS-based Risk Assessment, Simulation and Planning tool for food safety.", International Congress on Engineering and Food, Engineering Challenges: bridging science and food innovations, Québec city, Canada, June 14-18, 2015, Oral presentation.

## 2014

Allen, K.J. and Delaquis, P.J. (2014). "Current perspectives on the microbiological safety of fresh produce (<http://canadianfoodinsights.com/2014/04/01/current-perspectives-microbiological-safety-fresh-produce/>).", Canadian Food Insights.

Nadya, S., Allen, K.J., and Delaquis, P.J. (2014). "Lower Mainland surface water research – what did we learn?", Proceedings of the Lower Mainland Horticultural Improvement Association Growers' Short Course, pp. 117-119.

McKellar, R.C., Pérez Rodriguez, F., Harris, L.J., Moyné, A.-L., Blais, B., Topp, E., Bezanson, G.S., Bach, S.J., and Delaquis, P.J. (2014). "Evaluation of mathematical models to describe *Escherichia coli* O157:H7 decay on field-grown leafy vegetables.", Annual Meeting of the International Association for Food Protection (IAFP), Indianapolis, USA, August 3-6, 2014, Oral presentation. (Abstract)

Nadya, S., Allen, K.J., Ziegler, K., Johnson, R., Bach, S.J., and Delaquis, P.J. (2014). "Prevalence of Shiga Toxin-producing *Escherichia coli* in Irrigation Waters and Fresh Produce in British Columbia, Canada.", Annual Meeting of the International Association for Food Protection (IAFP), Indianapolis, USA, August 3-6, 2014, Oral presentation. (Abstract)

Bach, S.J., Delaquis, P.J., and Hartton, C.E. (2014). "Stress and Virulence Gene Response of Non-O157 Shiga Toxin-producing *Escherichia coli* (STEC) Exposed to Low Temperature.", Annual Meeting of the International Association for Food Protection (IAFP), Indianapolis, USA, August 3-6, 2014, Oral presentation. (Abstract)

Bovo, F., de Cesare, A., Manfreda, G., Bach, S.J., and Delaquis, P.J. (2014). "Fate of *Salmonella enterica* in a mixed ingredient salad containing lettuce, cooked chicken and cheese.", Annual Meeting of the International Association for Food Protection (IAFP), Indianapolis, USA, August 3-6, 2014, Oral presentation. (Abstract)

Nadya, S., Allen, K.J., Johnson, R.P., Ziebell, K.A., Topp, E., Delaquis, P.J., and Bach, S.J. (2014). "A comparison of the presence of total *Escherichia coli* and Shiga-toxigenic *E. coli* in irrigation waters from an intensive agricultural region.", United Fresh 2014, Chicago, IL, USA, June 10-14, 2014, Abstract. (Poster)

## 2013

Simmons, K., Rempel, H., Block, G.S., Delaquis, P.J., Topp, E., and Diarra, M.S. (2013). "Identification and prevalence of *Escherichia fergusonii* in broiler chickens.", 58th Annual Meeting of the International Association of Food Protection (IAFP 2013), Charlotte Convention Center, Charlotte, NC, USA, July 28-31, 2013.

Posada-Izquierdo, G.D., Pérez Rodriguez, F., McKellar, R., Carpintero, S., Membrives, F., Garcia-Gimeno, R.M., and Delaquis, P.J. (2013). "Modeling survival of *Escherichia coli* O157:H7 in lettuce as a function of chlorine concentration.", 58th Annual Meeting of the International Association of Food Protection (IAFP 2013), Charlotte Convention Center, Charlotte, NC, USA, July 28-31, 2013. (Abstract)

Bach, S.J., Lu, C., Delaquis, P.J., and Toivonen, P.M.A. (2013). "Impact of wound induced hydrogen peroxide production on *Escherichia coli* O157:H7 in fresh-cut lettuce.", 5th Congress of European Microbiologists (FEMS 2013), Leipzig, Germany, July 21-25, 2013, Presentation. (Poster)

Delaquis, P.J., Bach, S.J., McKellar, R., Bezanson, G.S., and Topp, E. (2013). "Survival of six Shiga-toxigenic *Escherichia coli* serotypes in field lettuce.", 58th Annual Meeting of the International Association of Food Protection (IAFP 2013), Charlotte Convention Center, Charlotte, NC, USA, July 28-31, 2013. (Poster)

Bach, S.J., Delaquis, P.J., Toivonen, P.M.A., and Lu, C. (2013). "Impact of hydrogen peroxide on *Escherichia coli* O157:H7 in vitro and in vivo on fresh-cut lettuce.", United Fresh 2013, San Diego Convention Center, San Diego, CA, USA, May 14-16, 2013, Abstract. (Poster)

Bach, S.J., Delaquis, P.J., Toivonen, P.M.A., and Lu, C. (2013). "The effect of hypoxic treatment of Romaine lettuce on the survival of *Escherichia coli* O157:H7.", United Fresh 2013, San Diego Convention Center, San Diego, CA, USA, May 14-16, 2013, Abstract. (Poster)

Delaquis, P.J., Bach, S.J., Lu, C., and Toivonen, P.M.A. (2013). "Effect of environmental factors (field versus controlled environment chamber) on the survival of *Escherichia coli* O157:H7 on Romaine lettuce.", United Fresh 2013, San Diego Convention Center, San Diego, CA, USA, May 14-16, 2013, Abstract. (Poster)

Toivonen, P.M.A., Lu, C., Bach, S.J., and Delaquis, P.J. (2013). "Hypoxic treatment can enhance cut-edge hydrogen peroxide production in Romaine lettuce.", United Fresh 2013, San Diego Convention Center, San Diego, CA, USA, May 14-16, 2013, Abstract. (Poster)

Fung, S., Rempel, H., Block, G.S., Chen, W., Janzen, T., Lewis, C.T., Zhang, N., El-Kayssi, N., Bilkhu, S., Hambleton, S., Amoako, K.K., Lévesque, C.A., Bach, S.J., Delaquis, P.J., and Diarra, M.S. (2013). "Bacillus species across Canada's agriculture environment: an ecological perspective.", International conference on *Bacillus anthracis*, *B. cereus*, and *B. thuringiensis*, Victoria, BC, Canada, September 1-5, 2013, Abstract. (Poster)

Simmons, K., Rempel, H., Block, G.S., Delaquis, P.J., Topp, E., and Diarra, M.S. (2013). "Identification and prevalence of *Escherichia fergusonii* in broiler chickens.", 102nd IAFP Meeting, Charlotte, North Carolina, USA, July 28-31, 2013.

Toivonen, P.M.A., Lu, C., Bach, S.J., and Delaquis, P.J. (2013). "Hypoxic atmospheres can induce subsequent increases in cutting-induced hydrogen peroxide production by fresh-cut Romaine lettuce.", 11th International Controlled and Modified Atmosphere Research Conference, Trani, Italy, June 3-7, 2013. (Poster)

## 2012

Villeneuve, S., Hashemi Beni, L., Côté, K., LeBlanc, D.I., Fazil, A.M., Otten, A., McKellar, R., and Delaquis, P.J. (2012). "Development of an interactive modeling tool to predict the risks associated with contaminated fresh-cut lettuce in Canadian Distribution Systems.", 101st Annual Meeting of the International Association of Food Protection (IAFP 2012), Rhode Island Convention Center, Providence, RI, USA, July 22-25, 2012.

Bergeron-Quirion, S., Villeneuve, S., LeBlanc, D.I., and Delaquis, P.J. (2012). "Thermophysical properties of pre-washed baby-leaf lettuce and brassica greens packaged in clamshells.", 11th Conference of Food Engineering (CoFE 2012), National Conference Center, Leesburg, VA, USA, April 2-4, 2012. (Poster)

Delaquis, P.J. (2012). "Cellulose production in facultatively anaerobic microorganisms. (US patent 7,811,795 B2)". (Patent)

Fazil, A.M., Otten, A., Hashemi Beni, L., Villeneuve, S., McKellar, R., Delaquis, P.J., and LeBlanc, D.I. (2012). "A simulation model to predict public health risks of pathogens in a Canadian food distribution system.", Society for Risk Analysis (SRA) 2012 Annual Meeting, San Francisco, CA, USA, December 9-12, 2012, T2-F.4.

Fazil, A.M., Otten, A., Hashemi Beni, L., Villeneuve, S., McKellar, R., Delaquis, P.J., and LeBlanc, D.I. (2012). "Development of a simulation tool to predict the public health risks associated with microbiological hazards in Canadian food distribution systems.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012. (Poster)

Delaquis, P.J. (2012). "Cellulose producing strain of *Proteus myxofaciens*. (US patent 8148135 B2)". (Patent)

Fazil, A.M., Otten, A., Hashemi Beni, L., Villeneuve, S., McKellar, R., Delaquis, P.J., and LeBlanc, D.I. (2012). "Développement d'un outil de simulation permettant de prédire les risques de santé publique associés aux dangers microbiologiques présents dans le système canadien de distribution de saliments.", 3e rencontre annuelle de l'Association Québécoise pour l'Innocuité Alimentaire (AQIA), Centre des Congrès de Lévis, Québec City, QC, Canada, September 13, 2012. (Poster)

Diarra, M.S., Rempel, H., Bach, S.J., Harlton, C.E., Delaquis, P.J., Pritchard, J., Aslam, M.N., Leslie, M., and Topp, E. (2012). "Distribution of antibiotic resistance phenotypes and genotypes among *Salmonella* spp. Isolated from broiler chickens in British Columbia.", 101st Annual Meeting of the International Association of Food Protection (IAFP 2012), Rhode Island Convention Center, Providence, RI, USA, July 22-25, 2012, Poster ID# 2398. (Poster)

Delaquis, P.J., Bezanson, G.S., McKellar, R., and Gajadhar, A. (2012). "Fate of protozoan oocysts (*Eimeria papillata*) on lettuce in field plots.", 57th Annual Meeting of the International Association of Food Protection (IAFP 2012), Providence, Rhode Island, USA, July 22-25, 2012. (Poster).

Delaquis, P.J. and Bach, S.J. (2012). "Resistance and sub-lethal damage.", in Gómez-López, V.M. (ed.) - Decontamination of Fresh and Minimally Processed Produce, Wiley - Blackwell, Chapter 4, pp. 77-86.

Bergeron-Quirion, S., Villeneuve, S., LeBlanc, D.I., and Delaquis, P.J. (2012). "Predicting the temperature of leafy vegetables packaged in clamshells during distribution in the cold chain.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012. (Poster)

## 2011

Delaquis, P.J., Bach, S., Bezanson, G.S., Kostrzynska, M., and Jones, S. (2011). "Escherichia coli population dynamics on Romaine lettuce contaminated with poultry manure.", 56th Annual Meeting of the International Association of Food Protection (IAFP 2011), Milwaukee, WI, USA, July 30-August 3, 2011, (Poster).

Bach, S.J., Lu, C., Delaquis, P.J., and Toivonen, P.M.A. (2011). "Cutting Romaine lettuce while submerged in sanitizer improves efficacy of sodium hypochlorite.", *The Grower*, 61(5), pp. 20.

Toivonen, P.M.A., Lu, C., Delaquis, P.J., and Bach, S.J. (2011). "Timing of sanitizer application reduces microbial counts on fresh-cut Romaine lettuce.", 2nd ISHS International Conference on Quality Management of Fresh Cut Produce: Convenience Food for a Tasteful Life, Università degli Studi di Torino, Torino, Italy, July 17-21, 2011.

Fellahi, S., Bezanson, G.S., Brassard, J., Delaquis, P.J., Houde, A., and Mattson, K. (2011). "Long-term stability of norovirus on farm and agriculturally-relevant environments.", 56th Annual Meeting of the International Association of Food Protection (IAFP 2011), Milwaukee, WI, USA, July 30-August 3, 2011, (Poster).



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## Research Publications:

2015

Wright, A.H., DeLong, J.M., Arul, J., and Prange, R.K. (2015). "The trend toward lower oxygen levels during apple (*Malus × domestica* Borkh) storage - A review.", *Journal of Horticultural Science and Biotechnology*, 90(1), pp. 1-13.

2013

DeLong, J.M., Hodges, D.M., Prange, R.K., Fomey, C.F., Fan, L., Bishop, M.C., Elliot, M.L., Jordan, M.A., and Doucette, C. (2013). "The influence of cold water storage on fatty acids, antioxidant content and activity, and microbial load in ostrich fern (*Matteuccia struthiopteris*) fiddleheads.", *Canadian Journal of Plant Science*, 93(4), pp. 683-697. doi : 10.4141/cjps2012-165

2012

Prange, R.K., DeLong, J.M., and Wright, A.H. (2012). "Improving Our Understanding of Storage Stress Using Chlorophyll Fluorescence.", *Acta Horticulturae (ISHS)*, 945, pp. 89-96.

2011

Prange, R.K., DeLong, J.M., Nichols, D.S., and Harrison, P.A. (2011). "Effect of fruit maturity on the incidence of bitter pit, senescent breakdown, and other post-harvest disorders in 'Honeycrisp'™ apple.", *Journal of Horticultural Science and Biotechnology*, 86(3), pp. 245-248.

Prange, R.K., DeLong, J.M., and Wright, A.H. (2011). "Storage of Pears Using Dynamic Controlled-Atmosphere (DCA), a Non-Chemical Method.", *Acta Horticulturae (ISHS)*, 909, pp. 707-717.

Wright, A.H., DeLong, J.M., Gunawardena, A.H.L.A.N., and Prange, R.K. (2011). "Dynamic controlled atmosphere (DCA): Does fluorescence reflect physiology in storage?.", *Postharvest Biology and Technology*, 64(1), pp. 19-30. doi : 10.1016/j.postharvbio.2011.09.015

Wright, A.H., DeLong, J.M., Gunawardena, A.H.L.A.N., and Prange, R.K. (2011). "The interrelationship between the lower oxygen limit, chlorophyll fluorescence and the xanthophyll cycle in plants.", *Photosynthesis Research*, 107(3), pp. 223-235. doi : 10.1007/s1120-011-9621-9

DeLong, J.M., Hodges, D.M., Prange, R.K., Fomey, C.F., Toivonen, P.M.A., Bishop, M.C., Elliot, M.L., and Jordan, M.A. (2011). "The unique fatty acid and antioxidant composition of ostrich fern (*Matteuccia struthiopteris*) fiddleheads.", *Canadian Journal of Plant Science*, 91(5), pp. 919-930. doi : 10.4141/cjps2010-042

## Other Science Related Publications:

2015

Song, J., Fomey, C.F., Myles, S., Sauerteig, K.A., Du, L., Hampson, C.R., Toivonen, P.M.A., Fan, L., DeLong, J.M., and Fillmore, S.A.E. (2015). "An integrated "omics" investigation on control mechanisms and molecular markers of apple fruit storage disorders.", AG Connect 2015 Summit, Turo, NS, USA, March 31-April 1, 2015. (Poster)

Toivonen, P.M.A., DeLong, J.M., Hampson, C.R., Song, J., Fomey, C.F., and Myles, S. (2015). "Peel maturity only correlates with soft scald in a highly susceptible orchard of Ambrosia™ apple.", *HortScience*, 50(9), pp. S181. (Abstract)

Toivonen, P.M.A., DeLong, J.M., Song, J., and Fomey, C.F. (2015). "Peel Maturity only Correlates with Soft Scald in a Highly Susceptible Orchard of Ambrosia™ apple.", ASHS2015, New Orleans, Louisiana, USA, August 4-7, 2015.

2013

Nichols, D.S., DeLong, J.M., Hebb, J., Harrison, P.A., and Harkness, L. (2013). Crop load regulation research report 2012. Fruitlet PGR trials. Nova Scotia Fruit Growers' Association. (Report)

## 2012

Fan, L., DeLong, J.M., Doucette, C., Hughes, T., and Bishop, M.C. (2012). "Effect of heat treatment on microbial quality of fiddleheads.", United Fresh 2012, Dallas Convention Center, Dallas, TX, USA, May 1-23, 2012. (Poster)

DeLong, J.M. (2012). "Fruit quality: The post-harvest story.", 148th annual convention of the Nova Scotia Fruit Growers' Association (NSFGA), Old Orchard Inn, Greenwich, NS, Canada, January 31-February 1, 2012.

DeLong, J.M., Harkness, L., Harrison, P.A., and Cusack, B. (2012). "Minneiska Research on Harvest Maturity, Russetting, Fruit Shape & Storage.", Annual Scotian Gold Meeting, Canada, December 2012. (Presentation)

DeLong, J.M. (2012). "Update on Apple cultivar maturity research at the AFHRC.", 148th annual convention of the Nova Scotia Fruit Growers' Association (NSFGA), Old Orchard Inn, Greenwich, NS, Canada, January 31-February 1, 2012.

## 2011

DeLong, J.M., Harkness, L., Cusack, B., Harrison, P.A., and Hebb, J. (2011). "Preliminary Research on Sweetango Bruising and Optimum Harvest Maturity.", Annual Scotian Gold Meeting, Canada, December 2011. (Presentation)

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## Research Publications:

2016

Singh, A.K., Knox, R.E., Clarke, J.M., Clarke, F.R., Singh, A., DePauw, R.M., and Cuthbert, R.D. (2016). "Genetics of pre-harvest sprouting resistance in a cross of Canadian adapted durum wheat genotypes.", *Molecular Breeding*, 33(4), pp. 919-929. doi : 10.1007/s11032-013-0006-y

2015

Singh, A.K., Clarke, J.M., Knox, R.E., DePauw, R.M., Wise, I.L., Thomas, J.B., McCaig, T.N., Cuthbert, R.D., Clarke, F.R., and Fernandez, M.R. (2015). "AAC Marchwell durum wheat.", *Canadian Journal of Plant Science*, 95(1), pp. 189-195. doi : 10.4141/cjps-2014-223

Singh, A.K., Clarke, J.M., DePauw, R.M., Knox, R.E., McCaig, T.N., and Cuthbert, R.D. (2015). "AAC Current Durum Wheat.", *Canadian Journal of Plant Science*, 95(3), pp. 589-594. doi : 10.4141/CJPS-2014-326

Carew, R., Florkowski, W.J., and DePauw, R.M. (2015). "Review: Shifting patterns in plant cultivar protection for field crops in Canada.", *Canadian Journal of Plant Science*, 95(5), pp. 813-829. doi : 10.4141/CJPS2013-235

Srbislav, D., DePauw, R.M., Vojislava, M., and Ankica, K.-S. (2015). "Efficiency of the different marker systems for estimation of distinctness between sister line wheat cultivars.", *Genetika*, 47(1), pp. 219-232. doi : 10.2298/GENSR1501219D

Kumar, S., Knox, R.E., Clarke, F.R., Pozniak, C.J., DePauw, R.M., Cuthbert, R.D., and Fox, S.L. (2015). "Maximizing the identification of QTL for pre-harvest sprouting resistance using seed dormancy measures in a white-grained hexaploid wheat population.", *Euphytica*, 205(1), pp. 287-309. doi : 10.1007/s10681-015-1460-x

2014

Humphreys, D.G., Brûlé-Babel, A.L., Brule-Babel, A., DePauw, R.M., Fetch Jr., T.G., and McCallum, B.D. (2014). "Agronomic suitability of German spring wheat sources of Fusarium Head Blight resistance for western Canada.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Smith, M.A.H., Wise, I.L., Fox, S.L., Vera, C.L., DePauw, R.M., and Lukow, O.M. (2014). "Seed damage and sources of yield loss by sitodiplosis *mosellana* (Diptera: Cecidomyiidae) in resistant wheat varietal blends relative to susceptible wheat cultivars in western Canada.", *The Canadian Entomologist*, 146(3), pp. 335-346. doi : 10.4039/tce.2013.77

Singh, A., Knox, R.E., DePauw, R.M., Singh, A.K., Cuthbert, R.D., Campbell, H.L., Shorter, S., and Bhavani, S. (2014). "Stripe rust and leaf rust resistance QTL mapping, epistatic interactions, and co-localization with stem rust resistance loci in spring wheat evaluated over three continents.", *Theoretical and Applied Genetics (TAG)*, 127(11), pp. 2465-2477. doi : 10.1007/s00122-014-2390-z

Knox, R.E., Campbell, H.L., Clarke, F.R., Menzies, J.G., Popovic, Z., Procnier, J.D., Clarke, J.M., DePauw, R.M., Cuthbert, R.D., and Somers, D.J. (2014). "Quantitative trait loci for resistance in wheat (*Triticum aestivum*) to *Ustilago tritici*.", *Canadian Journal of Plant Pathology*, 36(2), pp. 187-201. doi : 10.1080/07060661.2014.905497

DePauw, R.M., Knox, R.E., Cuthbert, R.D., Singh, A.K., and McCaig, T.N. (2014). "AAC Bailey hard red spring wheat.", *Canadian Journal of Plant Science*, 94(1), pp. 175-181. doi : 10.4141/cjps2013-252

Singh, A.K., Clarke, J.M., Knox, R.E., DePauw, R.M., McCaig, T.N., Cuthbert, R.D., Clarke, F.R., and Fernandez, M.R. (2014). "AAC Raymore durum wheat.", *Canadian Journal of Plant Science*, 94(7), pp. 1289-1296. doi : 10.4141/CJPS-2014-048

2013

Singh, A., Knox, R.E., DePauw, R.M., Singh, A.K., Cuthbert, R.D., Campbell, H.L., Singh, D., Bhavani, S., Fetch Jr., T.G., and Clarke, F.R. (2013). "Identification and mapping in spring wheat of genetic factors controlling stem rust resistance and the study of their epistatic interactions across multiple environments.", *Theoretical and Applied Genetics (TAG)*, 126(8), pp. 1951-1964. doi : 10.1007/s00122-013-2109-6

Randhawa, H.S., Asif, M., Pozniak, C.J., Clarke, J.M., Graf, R.J., Fox, S.L., Humphreys, D.G., Knox, R.E., DePauw, R.M., Singh, A.K., Cuthbert, R.D., Hucl, P.J., and Spaner, D.M. (2013). "Application of Molecular Markers for Wheat Breeding in Canada.", *Plant Breeding*, 132(5), pp. 458-471. doi: 10.1111/pbr.12057

He, Y., Wei, Y., DePauw, R.M., Qian, B., Lemke, R.L., Singh, A.K., Cuthbert, R.D., McConkey, B.G., and Wang, H. (2013). "Yield production of spring wheat in the semiarid prairie: effect of timing of precipitation and soil texture over 30 years.", *Field Crops Research*, 149, pp. 329-337. doi: 10.1016/j.fcr.2013.05.013

Beres, B.L., Cárcamo, H.A., Byers, J.R., Clarke, F.R., Pozniak, C.J., Basu, S.K., and DePauw, R.M. (2013). "Host plant interactions between wheat germplasm source and wheat stem sawfly *Cephus cinctus* Norton (Hymenoptera: Cephidae) II. Other germplasm.", *Canadian Journal of Plant Science*, 93(6), pp. 1169-1177. doi: 10.4141/CJPS2013-035

Beres, B.L., Pozniak, C.J., Eudes, F., Graf, R.J., Randhawa, H.S., Salmon, D.F., McLeod, G.J., Dion, Y., Irvine, R.B., Voldeng, H.D., Martin, R.A., Pageau, D., Comeau, A., DePauw, R.M., Phelps, S.M., and Spaner, D.M. (2013). "A Canadian Ethanol Feedstock Study to Benchmark the Relative Performance of Triticale: I. Agronomics.", *Agronomy Journal*, 105, pp. 1695-1706. doi: 10.2134/agnonj2013.0192

Beres, B.L., Cárcamo, H.A., Byers, J.R., Clarke, F.R., Pozniak, C.J., Basu, S.K., and DePauw, R.M. (2013). "Host plant interactions between wheat germplasm source and wheat stem sawfly *Cephus cinctus* Norton (Hymenoptera: Cephidae) I. Commercial cultivars.", *Canadian Journal of Plant Science*, 93, pp. 607-617. doi: 10.4141/CJPS2012-088

Knox, R.E., Campbell, H., DePauw, R.M., Gaudet, D.A., and Puchalski, B. (2013). "DNA markers for resistance to common bunt in 'McKenzie' wheat.", *Canadian Journal of Plant Pathology*. doi: 10.1080/07060661.2013.763292

Lukow, O.M., Adams, K., Suchy, J., DePauw, R.M., and Humphreys, D.G. (2013). "The effect of the environment on the grain colour and quality of commercially grown Canada hard white spring wheat, *Triticum aestivum* L. 'Snowbird'.", *Canadian Journal of Plant Science*, 93(1), pp. 1-11. doi: 10.4141/cjps2012-102

Singh, A., Pandey, M.P., Singh, A.K., Knox, R.E., Ammar, K., Clarke, J.M., Clarke, F.R., Singh, R.P., Pozniak, C.J., DePauw, R.M., McCallum, B.D., Cuthbert, R.D., Randhawa, H.S., and Fetch Jr., T.G. (2013). "Identification and mapping of leaf, stem and stripe rust resistance quantitative trait loci and their interactions in durum wheat.", *Molecular Breeding*, 31(2), pp. 405-418. doi: 10.1007/s11032-012-9798-4

Wu, X., Cárcamo, H.A., Beres, B.L., Clarke, F.R., DePauw, R.M., and Pang, B. (2013). "Effects of novel wheat genotype on *Cephus cinctus* Norton (Hymenoptera: Cephidae) and its parasitoid *Bracon cephi* (Hymenoptera: Braconidae).", *Cereal Research Communications*, 41, pp. 647-660.

Vera, C.L., Fox, S.L., DePauw, R.M., Smith, M.A.H., Wise, I.L., Clarke, F.R., Procnier, J.D., and Lukow, O.M. (2013). "Relative performance of resistant wheat varietal blends and susceptible wheat cultivars exposed to wheat midge, *Sitodiplosis mosellana* (Géhin).", *Canadian Journal of Plant Science*, 93(1), pp. 59-66. doi: 10.4141/cjps2012-019

Beres, B.L., Pozniak, C.J., Bressler, D., Gibreel, A., Eudes, F., Graf, R.J., Randhawa, H.S., Salmon, D.F., McLeod, G.J., Dion, Y., Irvine, R.B., Voldeng, H.D., Martin, R.A., Pageau, D., Comeau, A., DePauw, R.M., Phelps, S.M., and Spaner, D.M. (2013). "A Canadian Ethanol Feedstock Study to Benchmark the Relative Performance of Triticale: II. Grain Quality and Ethanol Production.", *Agronomy Journal*, 105, pp. 1707-1720. doi: 10.2134/agnonj2013.0193

Adams, K., Lukow, O.M., Suchy, J., DePauw, R.M., and Humphreys, D.G. (2013). "Analysis of kernel colour, flour and whole wheat end-product quality of commercially grown Canada hard white spring wheat, 'Snowbird'.", *Journal of Agricultural Science*, 151(1), pp. 187-200. doi: 10.5539/jas.v5n1p187

## 2012

He, Y., Wang, H., Qian, B., McConkey, B.G., and DePauw, R.M. (2012). "How Early Can the Seeding Dates of Spring Wheat Be under Current and Future Climate in Saskatchewan, Canada?", *PLoS ONE*, 7(10), Article No. e45153. doi: 10.1371/journal.pone.0045153

Knox, R.E., Clarke, F.R., Clarke, J.M., Fox, S.L., DePauw, R.M., and Singh, A.K. (2012). "Enhancing the identification of genetic loci and transgressive segregants for preharvest sprouting resistance in a durum wheat population.", *Euphytica*, 186(1), pp. 193-206. doi: 10.1007/s10681-011-0557-0

DePauw, R.M., Knox, R.E., Singh, A.K., Fox, S.L., Humphreys, D.G., and Hucl, P.J. (2012). "Developing standardized methods for breeding preharvest sprouting resistant wheat, challenges and successes in Canadian wheat.", *Euphytica*, 188(1), pp. 7-14. doi: 10.1007/s10681-011-0611-y

Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., Krishna, P., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2012). "Brassinosteroid leaf unrolling QTL mapping in durum wheat.", *Planta*, 236(1), pp. 273-281. doi: 10.1007/s00425-012-1603-4

Singh, A.K., Hamel, C., DePauw, R.M., and Knox, R.E. (2012). "Genetic variability in arbuscular mycorrhizal fungi compatibility supports the selection of durum wheat genotypes for enhancing soil ecological services and cropping systems in Canada.", *Canadian Journal of Microbiology*, 58(3), pp. 293-302. doi: 10.1139/W11-140

Wang, H., He, Y., Qian, B., McConkey, B.G., Cutforth, H.W., McCaig, T.N., McLeod, G.J., Zentner, R.P., DePauw, R.M., Lemke, R.L., Brandt, K., Liu, T.T., Qin, X., White, J., Hunt, T., and Hoogenboom, G. (2012). "Climate change and biofuel wheat: A case study of southern Saskatchewan.", *Canadian Journal of Plant Science*, 92(3), pp. 421-425. doi : 10.4141/CJPS2011-192

Singh, A.K., Clarke, J.M., Knox, R.E., DePauw, R.M., McCaig, T.N., Fernandez, M.R., and Clarke, F.R. (2012). "Transcend Durum wheat.", *Canadian Journal of Plant Science*, 92(4), pp. 809-813. doi : 10.4141/cjps2011-255

Isidro, J., Knox, R.E., Clarke, F.R., Singh, A.K., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2012). "Quantitative genetic analysis and mapping of leaf angle in durum wheat.", *Planta*, 236(6), pp. 1713-1723. doi : 10.1007/s00425-012-1728-5

Prashar, S., Wolfe, D., King, M.C., Vera, C.L., Fox, S.L., DePauw, R.M., Chen, G., Smith, M.A.H., Wise, I.L., Clarke, F.R., Lukow, O.M., and Procnier, J.D. (2012). "Stability of midge tolerant varietal blends over 3-4 successive generations: High-speed / high-throughput, SNP-DNA fingerprinting in grain seeds.", *Journal of Plant Biochemistry and Biotechnology*, 3(2), pp. 1-10.

He, Y., Wang, H., Qian, B., McConkey, B.G., Cutforth, H.W., Lemke, R.L., DePauw, R.M., Brandt, K., Hu, K.L., and Hoogenboom, G. (2012). "Effects of climate change on killing frost in the Canadian prairies.", *Climate Research*, 54(3), pp. 221-231. doi : 10.3354/cr01114

2011

Lukow, O.M., Suchy, J., Adams, K., Brown, P.D., DePauw, R.M., Fox, S.L., Humphreys, D.G., McCaig, T.N., and White, N.D.G. (2011). "Effect of Wheat Maturity and Post-Harvest Temperature Treatments on the Quality of Grain and End-Products.", *Journal of Agro Crop Science*, 2(2), pp. 15-22.

DePauw, R.M., Knox, R.E., Humphreys, D.G., Thomas, J.B., Fox, S.L., Brown, P.D., Singh, A.K., Pozniak, C.J., Randhawa, H.S., Fowler, D.B., Graf, R.J., and Hucl, P.J. (2011). "New breeding tools impact Canadian commercial farmer fields.", *Czech Journal of Genetics and Plant Breeding (CJGPB)*, 47(Spec. Issue 1), pp. S28-S34.

DePauw, R.M., Knox, R.E., McCaig, T.N., Clarke, F.R., and Clarke, J.M. (2011). "Carberry hard red spring wheat.", *Canadian Journal of Plant Science*, 91(3), pp. 529-534. doi : 10.4141/cjps10187

DePauw, R.M., Knox, R.E., McCaig, T.N., Clarke, F.R., and Clarke, J.M. (2011). "Muchmore hard red spring wheat.", *Canadian Journal of Plant Science*, 91(4), pp. 797-803. doi : 10.4141/cjps10188

## Other Science Related Publications:

2015

Berraies, S., Ruan, Y., Knox, R.E., Clarke, F.R., Fernandez, M.R., DePauw, R.M., and Cuthbert, R.D. (2015). "Characterization of FHB resistance to *Fusarium* species and associated DON accumulation in spring wheat", *From Seed to Pasta and Beyond: a Sustainable Durum Wheat Chain for Food Security and Healthy Lives*, Bologna, Italy, May 31 - June 2, 2015. (Poster)

Bokore, F.E., Cuthbert, R.D., Knox, R.E., Henriquez, M.A., Ruan, Y., DePauw, R.M., Pozniak, C.J., N'Daiye, A., Sharpe, A.G., Clarke, F.R., and Berraies, S. (2015). "Quantitative Trait Loci Associated with Resistance to *Fusarium* Head Blight in a Carberry x Vesper Derived Wheat Population.", 2015 National *Fusarium* Head Blight Forum, St. Louis, MO, USA, December 6-8, 2015. (Poster)

Berraies, S., Knox, R.E., Cuthbert, R.D., Henriquez, M.A., Ruan, Y., DePauw, R.M., Singh, A., Pozniak, C.J., Meyer, B., Clarke, F.R., and Bokore, F.E. (2015). "Molecular Mapping of QTL for *Fusarium* Head Blight Resistance in Spring Wheat.", 2015 National *Fusarium* Head Blight Forum, St. Louis, MO, USA, December 6-8, 2015. (Poster)

Feurtado, J.A., Huang, D.C., Koh, C., Smith, M., Flatman, L., Ehman, L., He, Y., Knox, R.E., Cuthbert, R.D., DePauw, R.M., Ruan, Y., and Cutler, A. (2015). "Improving productivity under water stress: the path from germplasm to genes and back again.", 2nd Annual Science Meeting of the Canadian Wheat Association, Saskatoon, Canada, July 14-16, 2015. (Poster)

2014

Bokore, F.E., Knox, R.E., DePauw, R.M., Cuthbert, R.D., Clarke, F.R., and Campbell, H.L. (2014). "Validation of DNA markers for *Fusarium* head blight resistance in Canada Western Red Spring (CWRS) wheat doubled haploid populations.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

DePauw, R.M., Cuthbert, R.D., Knox, R.E., Kumar, S., Singh, A., Singh, A.K., Campbell, H.L., Bhavani, S., Singh, D., Clarke, F.R., and Fetch Jr., T.G. (2014). "Evidence for Recombination of Sr2 and Fhb1.", *Borlaug Global Rust Initiative (BGRI) Technical Workshop 2014*, CIMMYT, México, March 2014.

Feurtado, J.A., Huang, D., Koh, C.S., He, Y., Knox, R.E., Cuthbert, R.D., DePauw, R.M., and Cutler, A. (2014). "Height differences in durum wheat as a test case for marker and gene identification by sequencing-based bulk segregant analysis.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Humphreys, D.G., Brûlé-Babel, A.L., DePauw, R.M., Fetch Jr., T.G., and McCallum, B.D. (2014). "Field evaluation of German spring wheat sources of Fusarium Head Blight resistance in western Canada.", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014.

Knox, R.E., Kumar, S., Fetch Jr., T.G., Singh, A.K., Clarke, J.M., DePauw, R.M., Cuthbert, R.D., Campbell, H.L., Singh, D., Bhavani, S., Pozniak, C.J., and Clarke, F.R. (2014). "Identification of Quantitative Trait Loci for Stem Rust Resistance in Durum Wheat.", Canadian Wheat Alliance Annual Science Meeting 2014, Saskatoon, Canada, April 2014.

Biswas, D.K., Ashe, P., Shaterian, H., Sudarshan, G.P., He, Y., Knox, R.E., DePauw, R.M., Wang, H., Cuthbert, R.D., Singh, A.K., and Selvaraj, G. (2014). "Phenotypic, physiological and molecular responses of a selected collection of common wheat (*Triticum aestivum* L.) and durum wheat [*Triticum turgidum* L. ssp. *Durum* (Desf.) Husn.] lines to drought stress under laboratory conditions.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Kumar, S., Knox, R.E., Clarke, F.R., Cuthbert, R.D., Pozniak, C.J., DePauw, R.M., and He, Y. (2014). "High-Density SNP Mapping and Quantitative Trait Locus Analysis of Glaucousness and Leaf Colour in Common Wheat.", XXII International Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2014.

Kumar, S., Knox, R.E., Clarke, F.R., Pozniak, C.J., DePauw, R.M., Cuthbert, R.D., and Fox, S.L. (2014). "Fine mapping of pre-harvest sprouting resistance associated QTL in white-grained wheat.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Kumar, S., Knox, R.E., Clarke, F.R., Clarke, J.M., Pozniak, C.J., Isidro, J., Singh, A.K., Cuthbert, R.D., DePauw, R.M., Campbell, H.L., and Somers, D.J. (2014). "QTL mapping for resistance to loose smut in a durum wheat doubled haploid population.", CSA/CSHS Conference, Lethbridge, Alberta, Canada, July 10-14, 2014.

Wang, H., Zou, J.W., DePauw, R.M., Knox, R.E., Cuthbert, R.D., Ruan, Y., Qian, B., Gopalan, Y.S., Cutler, A., He, Y., and Qin, X. (2014). "Heat stress in wheat: Beat it or avoid it?", Heat and Drought Wheat Improvement Consortium -HeDWIC, Frankfurt, Germany, December 2014. (Poster)

Bokore, F.E., Knox, R.E., DePauw, R.M., Cuthbert, R.D., Clarke, F.R., and Campbell, H.L. (2014). "Assessment of Canada Western Red Spring (CWRS) Wheat Doubled Haploid Populations with Fusarium Head Blight Resistance Genetic Markers.", Canadian Wheat Alliance Annual Science Meeting 2014, Saskatoon, Canada, April 2014.

Knox, R.E., Singh, A., Kumar, S., DePauw, R.M., Clarke, F.R., Cuthbert, R.D., Singh, A.K., Pozniak, C.J., and Campbell, H.L. (2014). "Epistasis and Preliminary Fine Mapping of Quantitative Trait Loci for Common Bunt Resistance.", XXII International Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2014.

Cuthbert, R.D., Kumar, S., Knox, R.E., Clarke, F.R., Pozniak, C.J., Hucl, P.J., DePauw, R.M., and He, Y. (2014). "High-Density SNP Mapping and Quantitative Trait Locus Analysis of Agronomic Traits in Common Wheat.", XXII International Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2014.

Brûlé-Babel, A.L., DePauw, R.M., Cuthbert, R.D., Pozniak, C.J., Hucl, P.J., Spaner, D.M., Randhawa, H.S., Graf, R.J., Kirigw, F., Humphreys, D.G., and Tamburic-Ilicic, L. (2014). "Breeding for FHB resistance: Progress and challenges.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Knox, R.E., DePauw, R.M., and Cuthbert, R.D. (2014). Update to the durum and hexaploid rust genetic work at SPARC. Growing Forward Ug99 Rust Project. Feb. Winnipeg MB. (Report)

Humphreys, D.G., Brûlé-Babel, A.L., DePauw, R.M., Fetch Jr., T.G., and McCallum, B.D. (2014). "Agronomic suitability of German spring wheat sources of Fusarium Head Blight resistance for western Canada.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014, Abstract and Poster, pp. 88.

## 2013

Singh, A., Knox, R.E., DePauw, R.M., Cuthbert, R.D., Singh, A.K., Shorter, S., Campbell, H., and Bhavani, S. (2013). "Identification and mapping of genetic factors controlling stripe and leaf rust resistance in spring wheat.", 5th BGRI Workshop, New Delhi, India, August 19-22, 2013.

Kumar, S., Knox, R.E., Clarke, F.R., Pozniak, C.J., Singh, A., DePauw, R.M., Cuthbert, R.D., Hucl, P.J., Randhawa, H.S., Fox, S.L., Fetch Jr., T.G., McCartney, C., and He, Y. (2013). "High-resolution Mapping of Agronomic and Disease Related Traits Featuring Pre-harvest Sprouting and Common Bunt Resistance.", Canadian Triticum Advancement through Genomics (CTAG) annual meeting 2014, Saskatoon, SK, Canada.

Isidro, J., Knox, R.E., Clarke, F.R., Singh, A.K., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2013). "Quantitative trait loci for chlorophyll content in durum wheat.", XXI Plant and Animal Genome Conference, San Diego, CA, USA, January 12-16, 2013.

Singh, A., DePauw, R.M., Knox, R.E., Cuthbert, R.D., Singh, A.K., Singh, D., Bhavani, S., Fetch Jr., T.G., and Campbell, H.L. (2013). "Identification and mapping of genetic factors controlling stem rust resistance in spring wheat and the study of their epistatic interactions across multiple environments.", 5th BGRI Workshop, New Delhi, India, August 19-22, 2013.

2012

Humphreys, D.G., DePauw, R.M., Knox, R.E., Singh, A.K., Cuthbert, R.D., Fox, S.L., and Randhawa, H.S. (2012). "Weathering and pre-harvest sprouting resistance.", *Canadian Journal of Plant Science*, 92, pp. 593. (Abstract)

DePauw, R.M., McCallum, B.D., Voldeng, H.D., Knox, R.E., Edwards, N., Hatcher, D., Fetch Jr., T.G., Lukow, O.M., Fox, S.L., Pozniak, C.J., Hucl, P.J., Comeau, A., and Singh, A.K. (2012). "Canadian Triticologists: The Game Changers!", *Canadian Journal of Plant Science*, 92, pp. 593. (Abstract)

Knox, R.E., Hucl, P.J., Cuthbert, R.D., Singh, A.K., Clarke, F.R., DePauw, R.M., Pozniak, C.J., Fox, S.L., Humphreys, D.G., Clarke, J.M., Randhawa, H.S., Spaner, D.M., McCartney, C., Gaudet, D.A., Menzies, J.G., Gilbert, J.R., Fetch Jr., T.G., McCallum, B.D., and Brûlé-Babel, A.L. (2012). "Phenomics.", *Canadian Triticum Advancement through Genomics (CTAG) annual meeting 2014*, Saskatoon, SK, Canada.

Singh, A., DePauw, R.M., Knox, R.E., Cuthbert, R.D., Singh, A.K., Singh, D., Bhavani, S., Fetch Jr., T.G., and Campbell, H.L. (2012). "Mapping of stem rust resistance QTL and study of their epistatic interactions in hexaploid wheat (*Triticum aestivum* L.).", *Borlaug Global Rust Initiative (BGRI) Technical Workshop*, Beijing, China, September 1-4, 2012.

Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2012). "Mapping quantitative trait loci for leaf angle in durum wheat.", *Canadian Journal of Plant Science*, 92, pp. 593. (Abstract)

Singh, A., Pandey, M.P., Singh, A.K., Clarke, J.M., Knox, R.E., Ammar, K., Singh, R.P., Pozniak, C.J., DePauw, R.M., Clarke, F.R., McCallum, B.D., Cuthbert, R.D., and Randhawa, H.S. (2012). "Molecular mapping of leaf rust and stripe rust resistance QTL in durum wheat.", *Canadian Journal of Plant Science*, 92, pp. 593. (Abstract)

DePauw, R.M., He, Y., Wang, H., Cutforth, H.W., Cuthbert, R.D., Singh, A.K., and Knox, R.E. (2012). "Pressures On Wheat To Produce Safe, Nutritious And Affordable Quantities At Sustainable Prices For Producers – Adapting Crops to Change — Technology Transfer in the 21st Century.", *CSA-CSHS-CCA-AIC Conference*, University of Saskatchewan, Saskatoon, Saskatchewan, Canada, July 16-19, 2012.

Edwards, N.M., Gawalko, E.J., Knox, R.E., McCaig, T.N., and DePauw, R.M. (2012). "Mineral micro-nutrient content of Canada Western Red Spring wheat segregating for *Gpc-B1*.", *14th ICC Cereal and Bread Congress and Forum on Fats & Oils*, Beijing, China, August 6-9, 2012, pp. 575-576.

Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2012). "Leaf angle and its relationship with brassinosteroid response loci in durum wheat.", *XX Plant and Animal Genome Conference*, San Diego, CA, USA, January 14-18, 2012.

Lukow, O.M., Adams, K., Brown, P.D., DePauw, R.M., Fox, S.L., Humphreys, D.G., and Suchy, J. (2012). "Measurement of Phenolics, Carotenoids and Chlorophylls During Wheat Development in Different Environments.", *Pittcon 2012*, Orlando, FL, USA, March 11-16, 2012. (Poster)

2011

DePauw, R.M., Malhi, S.S., Bullock, P.R., Gan, Y.T., McKenzie, R.H., Lamey, F.J., Janzen, H.H., Cutforth, H.W., and Wang, H. (2011). "Wheat Production in Northern High Latitudes – Canadian example.", in *Bonjean, A., Angus, W., and Van Ginkel, M. (eds.) - The World Wheat Book A History of Wheat Breeding. Vol. 2*, Lavoisier Techet Doc, Paris, France, pp. 607-651.

DePauw, R.M., Knox, R.E., Singh, A.K., Humphreys, D.G., Fox, S.L., and Hucl, P.J. (2011). "Breeding for Pre-Harvest Sprouting Resistance in Canadian Wheat: Challenges & Successes.", *12th International Symposium on Pre-Harvest Sprouting in Cereals (ISPHSC)*, Red Deer, AB, Canada, July 24-27, 2011.

DePauw, R.M., Somers, D.J., Cuthbert, R.D., McCallum, B.D., Knox, R.E., Voldeng, H.D., Humphreys, D.G., Fox, S.L., Singh, A.K., McCartney, C.A., and Fedak, G. (2011). "Are QTLs for fusarium head blight response additive?", *7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose*, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 70.

Singh, A.K., Knox, R.E., DePauw, R.M., Clarke, F.R., Martin, R.A., Xue, A.G., Gilbert, J., Brûlé-Babel, A.L., Campbell, H., and Cuthbert, R.D. (2011). "Validation of molecular markers linked to Sumai 3 resistance to DON and FDK in Canadian spring wheat populations.", *7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose*, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 106.

DePauw, R.M., Singh, A., Singh, A.K., Knox, R.E., Singh, D., Bhavani, S., and Fetch Jr., T.G. (2011). "The *SrCad* and *Sr2* locus influences reaction to stripe rust and Fusarium head blight.", *Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop*, St. Paul, MN, USA, June 13-16, 2011, Poster #60. (Poster)

Fox, S.L., DePauw, R.M., Humphreys, D.G., Hucl, P.J., Singh, A.K., Pozniak, C.J., Brown, P.D., Graf, R.J., Randhawa, H.S., Voldeng, H.D., McCartney, C.A., Hiebert, C.W., Knox, R.E., Thomas, J.B., Townley-Smith, L., and Fetch Jr., T.G. (2011). "Canadian initiatives in breeding for stem rust resistance to race Ug99 and variants.", *Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop*, St. Paul, MN, USA, June 13-16, 2011, pp. 121-126.

Knox, R.E., DePauw, R.M., Singh, A., Singh, A.K., Singh, D., Bhavani, S., Fetch Jr., T.G., and Campbell, H. (2011). "Investigating the role of *SrCad* and *Sr2* on stem rust race TTKST in wheat.", *Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop*, St. Paul, MN, USA, June 13-16, 2011, pp. 186.

- DePauw, R.M., McCallum, B.D., Voldeng, H.D., Knox, R.E., Edwards, N., Fetch Jr., T.G., Lukow, O.M., Fox, S.L., Pozniak, C.J., Hucl, P.J., Singh, A.K., and Comeau, A. (2011). "Canadian Triticologists: the game changers.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.
- Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., Krishna, P., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2011). "Brassinosteroid leaf unrolling QTL mapping in durum wheat.", 1st Congress of Cereal Biotechnology and Breeding, Szeged, Hungary, May 24 -27, 2011. (Abstract)
- McCallum, B.D., Humphreys, D.G., DePauw, R.M., and Hiebert, C.W. (2011). "The effect of leaf rust on 'Thatcher' near-isogenic wheat lines.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011. (Poster)
- Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2011). "Mapping quantitative trait loci for leaf angle in durum wheat.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.
- Isidro, J., Singh, A.K., Wang, H., DePauw, R.M., Pozniak, C.J., Knox, R.E., Cuthbert, R.D., Beres, B.L., and Johnson, E.N. (2011). "Effects of plant density on durum crop production.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30 - December 2, 2011.
- Singh, M.P., Singh, A.K., Clarke, J.M., Knox, R.E., Ammar, K., Singh, R.P., Pozniak, C.J., DePauw, R.M., Clarke, F.R., McCallum, B.D., Cuthbert, J.L., and Randhawa, H.S. (2011). "Molecular mapping of leaf rust and stripe rust resistance QTL in durum wheat.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.
- Wang, H., He, Y., Qian, B., McConkey, B.G., Cutforth, H.W., McCaig, T.N., McLeod, G.J., Zentner, R.P., Campbell, C.A., DePauw, R.M., Lemke, R.L., Brandt, K., Liu, T.T., Qin, X., Hoogenboom, G., White, J., and Hunt, T. (2011). "Impact of Climate Change on Dual-Purpose Wheat Production in Western Canada.", World Renewable Energy Congress, Linköping, Sweden, May 8-13, 2011.
- Humphreys, D.G., DePauw, R.M., Knox, R.E., Singh, A.K., Cuthbert, R.D., Fox, S.L., and Randhawa, H.S. (2011). "Weathering and pre-harvest sprouting resistance.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.
- Knox, R.E., Clarke, F.R., Clarke, J.M., Fox, S.L., DePauw, R.M., Singh, A.K., and Isidro-Sanchez, J. (2011). "Evaluation of methods of measurement of pre-harvest sprouting resistance in durum wheat", 12th International Symposium on Pre-Harvest Sprouting in Cereals (ISPHSC), Red Deer, AB, Canada, July 24-27, 2011.
- Fenn, D., Lukow, O.M., Vera, C.L., DePauw, R.M., Fox, S.L., Smith, M.A.H., Wise, I.L., and Procnier, J.D. (2011). "Kernel quality of hard red spring wheat damaged by the Orange Wheat Blossom Midge insect.", in Chibar, R.N. and Dexter, J. (eds.) - Wheat Science Dynamics: Challenges and Opportunities, Agrobias International, Jodhpur, India, pp. 193-198.
- DePauw, R.M., Singh, A., Singh, A.K., Knox, R.E., Singh, D., and Fetch Jr., T.G. (2011). "The presence of SrCad and Sr2 influences reaction to stripe rust and Fusarium head blight.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011. (Poster)
- Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2011). "Leaf angle and its relationship with brassinosteroid response loci in durum wheat.", Plant & Animal Genome XX Conference, Town & Country Convention Center, San Diego, CA, USA, January 14-18, 2012.



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## Research Publications :

2015

Deschênes, L., Lyklema, J., Danis, C., and St-Germain, F. (2015). "Phase transitions in Polymer Monolayers: Application of the Clapeyron equation to PEO in PPO-PEO Langmuir Films.", *Advances in Colloids and Interface Science*, 222, pp. 199-214. doi : 10.1016/j.cis.2014.11.002

Masse, L., Puig-Bargues, J., Mondor, M., Deschênes, L., and Talbot, G. (2015). "Efficiency of EDTA, SDS and NaOH solutions to clean RO membranes processing swine wastewater.", *Separation Science and Technology*, 50(16), pp. 2509-2517. doi : 10.1080/01496395.2015.1062395

Deschênes, L., Saint-Germain, F., and Lyklema, J. (2015). "Langmuir Monolayers of non-ionic polymers: equilibrium or metastability? Case Study of PEO and its PPO-PEO diblock copolymers.", *Journal of Colloid and Interface Science*, 449, pp. 494-505. doi : 10.1016/j.jcis.2015.01.072

Deschênes, L. (2015). "Packaging Functional Foods: From Basic Requirements to Nano Perspectives.", in Shi, J. (ed.) - *Functional Food Ingredients and Nutraceuticals: Processing Technologies*, Second Edition, CRC Press, Chapter 13, pp. 409-425.

2014

Robitaille, G., Choinière, S., Ellis, T.C., Deschênes, L., and Mafu, A.A. (2014). "Attachment of *Listeria innocua* to Polystyrene: Effects of Ionic Strength and Conditioning Films from Culture Media and Milk Proteins.", *Journal of Food Protection*, 77(3), pp. 427-434.

Masse, L., Mondor, M., Talbot, G., Deschênes, L., Drolet, H., Gagnon, N., St-Germain, F., and Puig-Bargues, J. (2014). "Fouling of reverse osmosis membranes processing swine wastewater pretreated by mechanical separation and aerobic biofiltration.", *Separation Science and Technology*, 49(9), pp. 1298-1308. doi : 10.1080/01496395.2014.881880

Masse, L., Mondor, M., Puig-Bargues, J., Deschênes, L., and Talbot, G. (2014). "The efficiency of various chemical solutions to clean reverse osmosis membranes processing swine wastewater.", *Water Quality Research Journal of Canada*, 49(4), pp. 295-306. doi : 10.2166/wqrj.2014.008

2011

Lyklema, J. and Deschênes, L. (2011). "The first step in layer-by-layer deposition: electrostatics and/or non-electrostatics?", *Advances in Colloids and Interface Science*, 168(1-2), pp. 135-148. doi : 10.1016/j.cis.2011.03.008

Mafu, A.A., Plumety, C., Deschênes, L., and Goulet, J. (2011). "Adhesion of Pathogenic Bacteria to Food Contact Surfaces: Influence of pH of Culture.", *International Journal of Microbiology*, 2011 (Article ID 972494). doi : 10.1155/2011/972494

Mafu, A.A., Plumety, C., Deschênes, L., and Goulet, J. (2011). "Influence du pH de culture sur les propriétés physico-chimiques de surface des bactéries pathogènes.", *Annales de la Faculté de médecine vétérinaire*, XXII(1).

## Other Science Related Publications :

2014

Hiremath, N., Deschênes, L., Ramaswamy, H.S., and Zareifard, M.R. (2014). "Utilization of Extended DLVO theory to understand protein surface interactions in food industry environments.", Kemptville, Ontario, Canada, July 27-30, 2014. (Abstract)

Hiremath, N., Deschênes, L., Ramaswamy, H.S., and Zareifard, M.R. (2014). "Thermodynamics and prediction of conditioning film formation from food proteins on hydrophobic and hydrophilic substrates.", Institute of Food Technology conference, New Orleans, Louisiana, USA, June 21-24, 2014. (Abstract)

Deschênes, L., Savard, T., Lapointe, C., Chabot, D., Zareifard, M.R., St-Germain, F., and Barrette, J. (2014). "Challenges in investigating nanoparticles as antimicrobial in Food Packaging. ZnO case study.", *Eco-sustainable Food Packaging Based on Polymer Nanomaterials International Conference*, Roma, Italy, February 26-28, 2014.

Coulombe, J., Deschênes, L., and St-Germain, F. (2014). "Étude tensiométrique des interactions entre les nanoparticules d'oxyde de zinc et l'albumine bovine sérique.", 10e Journée scientifique du 1er cycle de la FMSS (faculté de médecine et de science de la santé), September 12, 2014, Presentation. (Poster)

Savard, T., Lapointe, C., Barrette, J., Deschênes, L., Chabot, D., and St-Germain, F. (2014). "A competitive advantage in microbial consortia and biofilm; lactic acid bacteria resistant to nanoparticles.", Foodmicro 2014, Nantes, France, Sept 1-4, 2014. (Abstract)

## 2013

Hiremath, N., Deschênes, L., Ramaswamy, H.S., and Zareifard, M.R. (2013). "Protein adsorption to model surfaces in food industry environments.", Institute of Food Technology conference 2013, Chicago, Illinois, USA, July 13-16, 2013. (Abstract)

Masse, L., Puig-Bargues, J., Mondor, M., Deschênes, L., and Talbot, G. (2013). "The efficiency of EDTA+SDS solutions to clean RO membranes processing swine wastewater.", 7th IWA Specialised Membrane Technology Conference and Exhibition for Water and Wastewater Treatment and Reuse, Westin Harbour Castle, Toronto, Toronto, Canada, August 25-29, Session 08C Abstract #401.

## 2012

Deschênes, L. (2012). "Nanoscience and Food Safety: FRDC's Experience and Expertise.", International Food Safety Workshop, Saint-Hyacinthe, QC, Canada, October 15, 2012.

Horchani, H., Salesse, C., and Deschênes, L. (2012). "Assessment of the structural properties of a recombinant protein G for its potential use in biosensing.", Quebec Network for Research on Protein Function, Structure, and Engineering (PROTEO) 2012 Annual Meeting, Sherbrooke, QC, Canada, May 18, 2012.

Deschênes, L. and Lego, B. (2012). "PS-PEO surface nanostructures from Langmuir films.", International Association of Colloid and Interface Scientists Conference (IACIS 2012), Sendai, Japan, May 13-18, 2012.

Raymond, P., Venne, P., Richard, M.-A., Deschênes, L., Lego, B., Paul, S., St-Germain, F., and Mafu, A.A. (2012). "IMS/MS based quantification of fullerene spiked into model food matrices.", 60th American Society for Mass Spectrometry Conference on Mass Spectrometry and Allied Topics, Vancouver, BC, Canada, May 20-24, 2012.

## 2011

Hiremath, N., Deschênes, L., Ramaswamy, H.S., and Zareifard, M.R. (2011). "Protein adsorption kinetics: Quantification of surface bound proteins on selected food contact surfaces.", Northeast Agriculture and Biological Conference 2011, Burlington, VT, USA. (Abstract)

Lego, B. and Deschênes, L. (2011). "Surface micelles of PS-b-PEO diblock copolymer: Effect of solvent, nature of substrate and surface pressure on aggregation number.", 85th Annual Symposium on Colloid and Surface Science, McGill University in Montreal, Montréal, QC, Canada, June 19-22, 2011.

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## Research Publications:

2015

Dyer, J.A., Vergé, X.P.C., Desjardins, R.L., and Worth, D.E. (2015). "An Assessment of Greenhouse Gas Emissions from Co-Grazing Sheep and Beef in Western Canadian Rangeland.", in Lac, S., Kulshreshtha, S. and McHenry, M. (eds.) - Agricultural management for climate change, Nova Science Publishers Inc.

Congreves, K.A., Grant, B.B., Campbell, C.A., Smith, W.N., VandenBygaart, A.J., Kröbel, R., Lemke, R.L., and Desjardins, R.L. (2015). "Measuring and modelling the long-term impact of crop management on soil C sequestration in the semiarid Canadian prairies.", *Agronomy Journal*, 107(3), pp. 1141-1154. doi: 10.2134/agronj15.0009

Betts, A.K., Desjardins, R.L., Beljaars, A.C.M., and Tawfik, A. (2015). "Observational study of land-surface-cloud-atmosphere coupling on daily timescales.", *Frontiers in Earth Science*, 3(Article 13), pp. 1-18. doi: 10.3389/feart.2015.00013

Uzoma, K.C., Smith, W.N., Grant, B.B., Desjardins, R.L., Gao, X., Hanis, K., Tenuta, M., Goglio, P., and Li, C. (2015). "Assessing the effects of agricultural management on nitrous oxide emissions using flux measurements and the CAN-DNDC model.", *Agriculture, Ecosystems and Environment*, 206, pp. 71-83. doi: 10.1016/j.agee.2015.03.014

Vergé, X.P.C., Maxime, D., Desjardins, R.L., VanderZaag, A.C., and Worth, D.E. (2015). "Allocation factors and issues in agricultural carbon footprint: a case study of the Canadian pork industry.", *Journal of Cleaner Production*, pp. 1-9. doi: 10.1016/j.jclepro.2015.11.046

Goglio, P., Smith, W.N., Grant, B.B., Desjardins, R.L., McConkey, B.G., Campbell, C.A., and Nemecek, T. (2015). "Accounting for soil carbon changes in agricultural life cycle assessment (LCA): A review.", *Journal of Cleaner Production*, 104, pp. 23-39. doi: 10.1016/j.jclepro.2015.05.040

McDermid, S.P., Ruane, A., Hudson, N., Desjardins, R.L., Rosenzweig, C., Morales, M.D., Grant, B.B., Smith, W.N., and others (2015). "The AgMIP Coordinated Climate-Crop Modeling Project (C3MP): Methods and Protocols.", in Hillel, D. and Rosenzweig, C. (eds.) - *Handbook of Climate Change and Agroecosystems, The Agricultural Model Intercomparison and Improvement Project (AgMIP) Integrated Crop and Economic Assessments (ICP Series on Climate Change Impacts, Adaptation, and Mitigation: Volume 3)*, ASA, CSSA, and SSSA, Madison, WI, USA.

2014

Matus, F., Monreal, C.M., Lefebvre, M., Wu, S.S., Desjardins, R.L., and DeRosa, M.C. (2014). "Producing isotopically enriched plant, soil solution and rhizosphere soil materials over a few hours.", *Communications in Soil Science and Plant Analysis*, 45(7), pp. 865-880. doi: 10.1080/00103624.2013.875190

Eder, F., De Roo, F., Kohnert, K., Desjardins, R.L., Schmid, H.P., and Mauder, M.R. (2014). "Evaluation of two energy balance closure parameterizations.", *Boundary-Layer Meteorology*, 151(2), pp. 195-219. doi: 10.1007/s10546-013-9904-0

Dyer, J.A., Vergé, X.P.C., Desjardins, R.L., and McConkey, B.G. (2014). "Assessment of the Carbon and Non-Carbon Footprint Interactions of Livestock Production in Eastern and Western Canada.", *Agroecology and Sustainable Food Systems*, 38(5), pp. 541-572. doi: 10.1080/21683565.2013.870631

Kaharabata, S.K., Banerjee, S.M., Kieser, M., Desjardins, R.L., and Worth, D.E. (2014). "Determining the influence of agricultural land use on climate variables for the Canadian Prairies.", *International Journal of Climatology*, 34(15), pp. 3849-3862. doi: 10.1002/joc.3946

Flesch, T.K., McGinn, S.M., Chen, D., Wilson, J.D., and Desjardins, R.L. (2014). "Data filtering for inverse dispersion emission calculations.", *Agricultural and Forest Meteorology*, 198-199, pp. 1-6. doi: 10.1016/j.agrformet.2014.07.010

VanderZaag, A.C., Flesch, T.K., Desjardins, R.L., Baldé, H., and Wright, T. (2014). "Measuring methane emissions from two dairy farms: Seasonal and manure-management effects.", *Agricultural and Forest Meteorology*, 194, pp. 259-267. doi: 10.1016/j.agrformet.2014.02.003

Goglio, P., Grant, B.B., Smith, W.N., Desjardins, R.L., Worth, D.E., Zentner, R.P., and Malhi, S.S. (2014). "Impact of management strategies on the global warming potential at the cropping system level.", *Science of the Total Environment*, 490, pp. 921-933. doi: 10.1016/j.scitotenv.2014.05.070

Betts, A.K., Desjardins, R.L., Worth, D.E., Wang, S., and Li, J.H. (2014). "Coupling of winter climate transitions to snow and clouds over the Prairies.", *Journal of Geophysical Research: Atmospheres*, 119(3), pp. 1118-1139. doi : 10.1002/2013JD021168

Shrestha, B.M., Desjardins, R.L., McConkey, B.G., Worth, D.E., Dyer, J.A., and Cerkowniak, D.D. (2014). "Change in carbon footprint of canola production in the Canadian Prairies from 1986 to 2006.", *Renewable Energy*, 63, pp. 634-641. doi : 10.1016/j.renene.2013.10.022

Grant, B.B., Smith, W.N., Campbell, C.A., Desjardins, R.L., Lemke, R.L., Kröbel, R., McConkey, B.G., and Smith, E.G. (2014). "Comparison of DayCent and DNDC models: Case studies using data from long-term experiments on the Canadian prairies.", in Del Grosso, S., Parton, B., Lajpat, A. (eds.) - *Advances in Modeling Agricultural Systems: Trans-disciplinary Research, Synthesize, Modeling, and Applications*, Volume 5, ASA, CSSA, and SSSA, Madison, WI, USA.

Betts, A.K., Desjardins, R.L., Worth, D.E., and Beckage, B. (2014). "Climate coupling between temperature, humidity, precipitation and cloud cover over the Canadian Prairies.", *Journal of Geophysical Research: Atmospheres*, 119(23), pp. 13305-13326. doi : 10.1002/2014JD022511

Dyer, J.A., Desjardins, R.L., and McConkey, B.G. (2014). "The fossil energy use and CO<sub>2</sub> emissions budget for Canadian agriculture.", in Bundschuh, J. and Chen, G. (eds.) - *Sustainable Energy Solutions in Agriculture*, Taylor & Francis, Chapter 4.

Sansoulet, J.B., Pattey, E., Kröbel, R., Grant, B.B., Smith, W.N., Jégo, G., Desjardins, R.L., Tremblay, N., and Tremblay, G. (2014). "Comparing the performance of STICS, DNDC and DayCent models for predicting N uptake and biomass of spring wheat in Eastern Canada.", *Field Crops Research*, 156, pp. 135-150. doi : 10.1016/j.fcr.2013.11.010

## 2013

Flesch, T.K., Vergé, X.P.C., Desjardins, R.L., and Worth, D.E. (2013). "Methane emissions from a swine manure tank in western Canada.", *Canadian Journal of Animal Science*, 93(1), pp. 159-169. doi : 10.4141/CJAS2012-072

VanderZaag, A.C., MacDonald, J.D., Evans, L., Vergé, X.P.C., and Desjardins, R.L. (2013). "Towards a methane emission inventory that is responsive to changes on Canadian farms.", *Environmental Research Letters*, 8(3).

Dyer, J.A., Desjardins, R.L., McConkey, B.G., Kulshreshtha, S.N., and Vergé, X.P.C. (2013). "Integration of farm fossil fuel use with local scale assessments of biofuel feedstock production in Canada.", in Fang, Z. (ed.) - *Biofuel Economy, Environment and Sustainability*, InTech, Open Access Publisher, Chapter 4, pp. 97-122.

Vergé, X.P.C., Maxime, D., Dyer, J.A., Desjardins, R.L., Arcand, Y., and VanderZaag, A.C. (2013). "Carbon footprint of Canadian dairy products: Calculations and issues.", *Journal of Dairy Science (JDS)*, 96(9), pp. 6091-6104. doi : 10.3168/jds.2013-6563

Desjardins, R.L. (2013). "Climate Change - A Long-term Global Environmental Challenge.", *Procedia - Social and Behavioral Sciences*, 77, pp. 247-252. doi : 10.1016/j.sbspro.2013.03.084

Qian, B., De Jong, R., Gameda, S.B., Huffman, E.C., Neilsen, D., Desjardins, R.L., Wang, H., and McConkey, B.G. (2013). "Impact of climate change scenarios on Canadian agroclimatic indices.", *Canadian Journal of Soil Science*, 93(2), pp. 243-259. doi : 10.4141/CJSS2012-053

Betts, A.K., Desjardins, R.L., Worth, D.E., and Cerkowniak, D.D. (2013). "Impact of Land-use Change on the Diurnal Cycle Climate of the Canadian Prairies.", *Journal of Geophysical Research: Atmospheres*, 118(21), pp. 11996-12011. doi : 10.1002/2013JD020717

Smith, W.N., Grant, B.B., Desjardins, R.L., Kröbel, R., Qian, B., Worth, D.E., McConkey, B.G., and Drury, C.F. (2013). "Assessing the effects of climate change on crop production and GHG emissions in Canada.", *Agriculture, Ecosystems and Environment*, 179, pp. 139-150. doi : 10.1016/j.agee.2013.08.015

Betts, A.K., Desjardins, R.L., and Worth, D.E. (2013). "Cloud Radiative Forcing of the Diurnal Cycle Climate of the Canadian Prairies.", *Journal of Geophysical Research*, 118(16), pp. 8935-8953. doi : 10.1002/jgrd.50593

VanderZaag, A.C., MacDonald, J.D., Evans, L., Vergé, X.P.C., and Desjardins, R.L. (2013). "Towards an inventory of methane emissions from manure management that is responsive to changes on Canadian farms.", *Environmental Research Letters*, 8(3). doi : 10.1088/1748-9326/8/3/035008

Dyer, J.A., Desjardins, R.L., and McConkey, B.G. (2013). "The fossil energy use and CO<sub>2</sub> emissions budget for Canadian agriculture.", in Bundschuh, J. (ed.) - *Sustainable Energy Solutions*, Taylor & Francis, Chapter 6.

Shrestha, B.M., McConkey, B.G., Smith, W.N., Desjardins, R.L., Campbell, C.A., Grant, B.B., and Miller, P.R. (2013). "Effects of crop rotation, crop type and tillage on soil organic carbon in a semiarid climate.", *Canadian Journal of Soil Science*, 93(1), pp. 137-146. doi : 10.4141/CJSS2012-078

2012

Kröbel, R., Campbell, C.A., Zentner, R.P., Lemke, R.L., Desjardins, R.L., and Karim-i-Zindashty, Y. (2012). "Effect of N, P and cropping frequency on nitrogen use efficiencies of spring wheat in the Canadian semi-arid Prairie.", *Canadian Journal of Plant Science*, 92(1), pp. 141-154. doi: 10.4141/CJPS2011-067

Desjardins, R.L., Worth, D.E., Vergé, X.P.C., Maxime, D., Dyer, J.A., and Cerkowniak, D.D. (2012). "Carbon Footprint of Beef Cattle.", *Sustainability*, 4(12), pp. 3279-3301. doi: 10.3390/su4123279

Vergé, X.P.C., Dyer, J.A., Worth, D.E., Smith, W.N., Desjardins, R.L., and McConkey, B.G. (2012). "A greenhouse gas and soil carbon model for estimating the carbon footprint of livestock production in Canada.", *Animal*, 2(3), pp. 437-454. doi: 10.3390/ani2030437

Shrestha, B.M., Raddatz, R., Desjardins, R.L., and Worth, D.E. (2012). "Continuous Cropping and Moist Deep Convection on the Canadian Prairies.", *Atmosphere*, 3(4), pp. 573-590. doi: 10.3390/atmos3040573

Kröbel, R., Campbell, C.A., Zentner, R.P., Lemke, R.L., Steppuhn, H., Desjardins, R.L., and DeJong, R. (2012). "Nitrogen and phosphorus effects on water use efficiency of spring wheat grown in a semi-arid region of the Canadian Prairies.", *Canadian Journal of Soil Science*, 92(4), pp. 573-587. doi: 10.4141/CJSS2011-055

Smith, W.N., Grant, B.B., Campbell, C.A., McConkey, B.G., Desjardins, R.L., Kröbel, R., and Malhi, S.S. (2012). "Crop residue removal effects on soil carbon: Measured and inter-model comparisons.", *Agriculture, Ecosystems and Environment*, 161, pp. 27-38. doi: 10.1016/j.agee.2012.07.024

Karimi-Zindashty, Y., MacDonald, J.D., Desjardins, R.L., Worth, D.E., Hutchinson, J.J., and Vergé, X.P.C. (2012). "Sources of uncertainty in the IPCC Tier 2 Canadian livestock model.", *Journal of Agricultural Science*, 150(5), pp. 556-569. doi: 10.1017/S002185961100092x

2011

Dyer, J.A., Desjardins, R.L., Karimi-Zindashty, Y., and McConkey, B.G. (2011). "Comparing fossil CO<sub>2</sub> emissions from vegetable greenhouses in Canada with CO<sub>2</sub> emissions from importing vegetables from the southern USA.", *Energy for Sustainable Development*, 15(4), pp. 451-459. doi: 10.1016/j.esd.2011.08.004

Dyer, J.A., Hendrickson, Q., Desjardins, R.L., and Andrachuk, H.L. (2011). "An Environmental Impact Assessment of Biofuel Feedstock Production on Agro-Ecosystem Biodiversity in Canada.", in Contreras, L.M. (ed.) - *Agricultural Policies: New Developments*, Nova Science Publishers Inc, Chapter 3, pp. 87-115.

Kröbel, R., Smith, W.N., Grant, B.B., Desjardins, R.L., Campbell, C.A., Tremblay, N., Li, C.S., Zentner, R.P., and McConkey, B.G. (2011). "Development and evaluation of a new Canadian spring wheat sub-model for DNDC.", *Canadian Journal of Soil Science*, 91(4), pp. 503-520. doi: 10.4141/cjss2010-059

Gao, Z., Yuan, H., Ma, W., Li, J.G., Liu, X., and Desjardins, R.L. (2011). "Diurnal and seasonal patterns of methane emissions from a dairy operation in North China plain.", *Advances in Meteorology*, 2011. doi: 10.1155/2011/190234

Flesch, T.K., Desjardins, R.L., and Worth, D.E. (2011). "Fugitive methane emissions from an agricultural biodigester.", *Biomass and Bioenergy*, 35(9), pp. 3927-3935. doi: 10.1016/j.biombioe.2011.06.009

DeJong, R., Campbell, C.A., Zentner, R.P., Basnyat, P., Grant, B.B., and Desjardins, R.L. (2011). "Cropping frequency and N fertilizer effects on soil water distribution from spring to fall in the semiarid Canadian prairies.", *Agricultural Sciences*, 2(3), pp. 220-237. doi: 10.4236/as.2011.23031

Gao, Z., Yuan, H., Ma, W., Desjardins, R.L., and Liu, X. (2011). "Methane emissions from a dairy feedlot during the fall and winter seasons in Northern China.", *Environmental Pollution*, 159(5), pp. 1183-1189. doi: 10.1016/j.envpol.2011.02.003

Dyer, J.A., Vergé, X.P.C., Kulshreshtha, S.N., Desjardins, R.L., and McConkey, B.G. (2011). "Areas and greenhouse gas emissions from feed crops not used in Canadian livestock production in 2001.", *Agroecology and Sustainable Food Systems*, 35(7), pp. 780-803. doi: 10.1080/10440046.2011.606493

Yuan, H., Gao, Z., Ma, W., Liu, X.-J., and Desjardins, R.L. (2011). "Determination of methane emissions from a dairy feedlot using an inverse dispersion technique.", *Journal of Environmental Sciences (China)*, 30(4), pp. 746-752.

Bernier, P.Y., Desjardins, R.L., Karimi-Zindashty, Y., Worth, D.E., Beaudoin, A., Luo, Y., and Wang, S. (2011). "Boreal lichen woodlands: A possible negative feedback to climate change in eastern North America.", *Agricultural and Forest Meteorology*, 151(4), pp. 521-528. doi: 10.1016/j.agrformet.2010.12.013

Dyer, J.A., Vergé, X.P.C., Desjardins, R.L., and McConkey, B.G. (2011). "Implications of biofuel feedstock crops for the livestock feed industry in Canada.", in dos Santos Bernardes, M.A. (ed.) - *Environmental Impact of Biofuels*, InTech, Open Access Publisher, Chapter 9, pp. 161-177.

## Other Science Related Publications:

2015

Baldé, H., VanderZaag, A.C., Burt, S.D., Evans, L., Wagner-Riddle, C., Desjardins, R.L., and Macdonald, D.J. (2015). "Farm-scale Measurement of Methane Emissions from Liquid Manure Storages over Two Years.", Dairy Environmental Systems & Climate Adaption Conference, Ithaca, NY, USA, July 29-31, 2015. (Poster)

Dutta, B., Grant, B.B., Congreves, K.A., Smith, W.N., Wagner-Riddle, C., VanderZaag, A.C., and Desjardins, R.L. (2015). "Model development and testing of soil temperature in DNDC for the effects of snow, biomass and residue cover and soil texture.", Canadian Soil Science Society Conference, Montreal, QC, Canada, July 5-10, 2015, Presentation.

VanderZaag, A.C., Desjardins, R.L., Burt, S.D., Anderson, D., Balde, H., Worth, D.E., and Singh, J. (2015). "Farm-Scale Research on Air Quality.", Doors Open Ottawa Central Experimental Farm / Portes Ouvertes Ferme Expérimentale Centrale, June 6-7, 2015. (Poster)

VanderZaag, A.C., Pattey, E., Smith, W.N., and Desjardins, R.L. (2015). "Farm-scale research to improve Canada's Greenhouse Gas and Ammonia Inventory, Agricultural models, and Sustainability.", ECORC/ACGEO Agri-Environmental Science Day. Invited Presentation, Ottawa, ON, Canada, February 10, 2015. (Presentation)

VanderZaag, A.C., Crolla, A., Kinsley, C., Ngwabie, M., Burt, S.D., Wagner-Riddle, C., Desjardins, R.L., and Macdonald, D.J. (2015). "Potential For Manure Treatment To Reduce Methane Emissions.", Dairy Environmental Systems & Climate Adaption Conference, Ithaca, NY, USA, July 29-31, 2015. (Poster)

2014

McConkey, B.G., Smith, S., Vergé, X.P.C., Desjardins, R.L., MacGregor, B., Worth, D.E., Liu, T.T., Cerkowniak, D.D., and Huffman, E.C. (2014). "Experience using 2006 GL AFOLU methods for estimating mitigation potential for agriculture and carbon footprint of primary agricultural products.", IPCC expert meeting on application of greenhouse gas methodology for purposes other than inventory reporting, Sophia, Bulgaria, July 1-4, 2014.

McConkey, B.G., Martin, T.J., Huffman, E.C., Cerkowniak, D.D., Desjardins, R.L., Worth, D.E., and Liang, C. (2014). "Canada's Agricultural GHG Inventory Methods and Issues with their Application at the Entity and Commodity Levels.", 7th Forestry and Agriculture Greenhouse Gas Modeling Forum, National Conservation Training Centre, Shepherstown, WV, USA, June 1-4, 2014.

VanderZaag, A.C., MacDonald, J.D., Wagner-Riddle, C., and Desjardins, R.L. (2014). "Making It Count Bridging the Gap between GHG Mitigation Practices and GHG Inventories.", ASA-CSSA-SSSA International Annual Meeting, Long Beach, CA, USA, November 3, 2014, Invited presentation: <https://scisoc.confex.com/scisoc/2014am/webprogram/Paper85882.html>.

Desjardins, R.L., Worth, D.E., Mauder, M.R., VanderZaag, A.C., Pattey, E., Smith, W.N., and Grant, B.B. (2014). "Challenges in Scaling Up Flux Measurements of Carbon Dioxide, Methane and Nitrous Oxide Emissions from Terrestrial Ecosystems.", 1st TERENO International Conference 2014, Bonn, Germany, September 29-October 2, 2014.

Pattey, E., Jégo, G., VanderZaag, A.C., Liu, J., Qian, B., Smith, W.N., Geng, X.Y., Baret, F., Beaudoin, N., Desjardins, R.L., Fernandes, R., Jarvis, I.E., Huffman, E.C., Lacaze, R., and McNair, H. (2014). "JECAM CFIA-Ottawa.", JECAM/GEOGLAM Science Meeting, Ottawa, Canada, July 21-23, 2014, Oral presentation.

Desjardins, R.L., Worth, D.E., Mauder, M.R., VanderZaag, A.C., Pattey, E., Smith, W.N., and Grant, B.B. (2014). "Challenges in scaling up flux measurements of carbon dioxide, methane and nitrous oxide emissions.", TERENO International Conference 2014, Bonn, Germany, September 29-October 2, 2014, Keynote Presentation.

Desjardins, R.L., Worth, D.E., Vergé, X.P.C., VanderZaag, A.C., Kröbel, R., Janzen, H.H., Maxime, D., and Dyer, J.A. (2014). "The carbon footprint of agricultural products: A measure of the impact of agricultural production on climate change.", International Conference on Promoting Weather and Climate Information for Agriculture and Food Security, Antalya, Turkey, April 7-9, 2014.

Desjardins, R.L. (2014). "Impact of Agriculture on Climate Change.", Symposium on Beneficial Microbes for Agriculture and Biosphere Protection, Madrid, Spain, May 20-21, 2014.

Desjardins, R.L., Worth, D.E., Vergé, X.P.C., VanderZaag, A.C., Smith, W.N., Grant, B.B., Maxime, D., and Dyer, J.A. (2014). "Obtaining Useful and Defensible Estimates of C Footprint of Agricultural Products.", International Conference on Global Agricultural Monitoring and Outlook Service (GLAMOS) Alliance for Better Climate Services to Agriculture and Food Security, Jeju, South Korea, November 25-28, 2014.

Goglio, P., Gabrielle, B., Colnenne-David, D., Laville, P., Doré, T., and Desjardins, R.L. (2014). "Assessing GHG mitigation options for crops at regional level using ecosystem modelling and LCA.", 9th International Conference of LCA Food, San Francisco, USA, October 8-10, 2014.

Smith, W.N., Desjardins, R.L., Grant, B.B., Worth, D.E., and Qian, B. (2014). "Estimating the effects of climate change and climate variability on crop production and GHG emissions using process-based models.", International Symposium on Weather and Climate Extreme, Food Security and Biodiversity, Washington DC, USA, October 20-24, 2014.

Desjardins, R.L., Worth, D.E., Srinivasan, R., Pattey, E., VanderZaag, A.C., Mauder, M.R., Worthy, D., Sweeney, C., and Watchorn, J.D. (2014). "Verifying inventory estimates of agricultural methane emissions using direct flux measurements.", IPCC Expert Meeting on Systematic Assessment of TFI Products, Ottawa, Canada, August 25-27, 2014.

Baldé, H., VanderZaag, A.C., Evans, L., MacDonald, J.D., and Desjardins, R.L. (2014). "Methane emissions from manure storages on two Canadian dairy farms.", Northeast Agricultural and Biological Engineering Conference (NABEC), Kemptville, Canada, July 28, 2014, Presentation.

VanderZaag, A.C., Desjardins, R.L., Arcand, Y., Vergé, X.P.C., Maxime, D., and Worth, D.E. (2014). "Carbon footprint of dairy and meat production in Canada.", IUFOST 2014 World Congress, Montreal, QC, Canada, August 17-21, 2014, Invited presentation.

Shrestha, B.M., Desjardins, R.L., McConkey, B.G., Worth, D.E., Dyer, J.A., and Cerkowniak, D.D. (2014). "Corrigendum to "Change in carbon footprint of canola production in the Canadian Prairies from 1986 to 2006" [Renew Energy 63 (2014) 634-641].", Renewable Energy, 68, pp. 906.

Smith, W.N., Grant, B.B., Uzoma, K.C., Desjardins, R.L., Pattey, E., Gao, X., Hanis, K., Tenuta, M., Wagner-Riddle, C., and Li, C. (2014). "Effects of agricultural management intensity on nitrous oxide emissions in Canada: measured and modeled comparisons.", Joint Global Research Alliance – FACCE JPI Workshop on "Experimental databases and model of N<sub>2</sub>O emissions by croplands: do we have what is needed to explore mitigation options?", Paris, France, March 17-19, 2014. (Poster)

Evans, L., VanderZaag, A.C., Gordon, R.J., Wagner-Riddle, C., MacDonald, J.D., Thiam, A., Balde, H., and Desjardins, R.L. (2014). "Influence of anaerobic digestion on ammonia emissions from dairy farms.", Northeast Agricultural and Biological Engineering Conference (NABEC), Kemptville, Canada, July 28, 2014, Presentation.

VanderZaag, A.C., Desjardins, R.L., Howard, A., Mkhabela, M., Spittlehouse, D., Amiro, B.D., Tenuta, M., Pattey, E., Wagner-Riddle, C., and Anderson, D. (2014). "Agricultural Meteorology in Canada.", Global Federation of Agricultural Meteorology Societies (GLOBALFAMS), International conference and Commission of Agricultural Meteorology meeting, Antalya, Turkey, April 7-15, 2014. (Poster)

## 2013

Smith, W.N., Grant, B.B., Uzoma, K.C., Desjardins, R.L., Gao, X., Hanis, K., and Tenuta, M. (2013). "Evaluating the DNDC Model for Estimating Nitrous Oxide Emissions from a Poorly Drained Soil in the Canadian Prairies.", 2013 Conference of the Global DNDC Network, Beijing, China, September 14-17th, 2013, Oral Presentation.

Evans, L., VanderZaag, A.C., Gordon, R.J., Wagner-Riddle, C., MacDonald, J.D., Thiam, A., Balde, H., and Desjardins, R.L. (2013). "Influence of anaerobic digestion on whole farm emissions of ammonia from dairy farms using an inverse dispersion approach.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013.

VanderZaag, A.C., MacDonald, J.D., Evans, L., Desjardins, R.L., Verge, X., and Flesch, T.K. (2013). "Towards a methane emission inventory that responds to changes in manure management on Canadian farms.", CSSS/MSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Desjardins, R.L., Worth, D.E., Vergé, X.P.C., Maxime, D., Dyer, J.A., McConkey, B.G., and VanderZaag, A.C. (2013). "A decision tool to evaluate greenhouse gas mitigation policies for the agriculture sector.", Greenhouse Gases & Animal Agriculture (GGAA) Conference, Dublin, Ireland, June 24, 2013.

Desjardins, R.L., Worth, D.E., Pattey, E., Mauder, M.R., Srinivasan, R., Worthy, D., Sweeney, C., and Metzger, S. (2013). "Airborne Flux Measurement of Agricultural Methane Emissions.", 30th Conference on Agricultural and Forest Meteorology and 1st Conference on Atmospheric Biogeosciences, Boston, MA, USA, May 28-June 1, 2012.

## 2012

Pattey, E., Jégo, G., Liu, J., Desjardins, R.L., Worth, D.E., and Srinivasan, R. (2012). "Importance of spatially distributed rainfall for agriculture models - Regional crop biomass and yield predictions and other environmental applications.", 5th International Workshop for Global Precipitation Management Ground Validation, Toronto, ON, Canada, July 10-12, 2012. (Poster)

Desjardins, R.L., Arcand, Y., and Worth, D.E. (2012). "Carbon footprint of Canadian dairy products: National and regional assessments.", The 8th International Conference on LCA in the Agri-Food Sector, Saint-Malo, France, October 1-4, 2012.

Desjardins, R.L., Worth, D.E., Maxime, D., Vergé, X.P.C., Dyer, J.A., and Cerkowniak, D.D. (2012). "Carbon footprint of beef cattle hides.", The 9th AICLST Conference, Taipei, Taiwan, pp. 139-150.

Vergé, X.P.C., Worth, D.E., Desjardins, R.L., McConkey, B.G., and Dyer, J.A. (2012). "LCA of Animal Production.", in Boye, J.I. and Arcand, Y. (eds.) - Green Technologies in Food Production and Processing (Food Engineering Series), Springer, Chapter 5, pp. 83-115.

2011

Chang, K.-H., Warland, J.S., Bartlett, P., Voroney, P.R., Huffman, E.C., McConkey, B.G., and Desjardins, R.L. (2011). "Accounting carbon and GHGs in agriculture and forest ecosystems using process-based models.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Smith, W.N., Grant, B.B., Campbell, C.A., McConkey, B.G., Desjardins, R.L., Kröbel, R., and Malhi, S.S. (2011). "Analysis and inter-model comparisons of crop residue removal effects on soil carbon.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Poster)

Pattey, E., Smith, W.N., Grant, B.B., and Desjardins, R.L. (2011). "Seasonal nitrous oxide emissions from cropland in eastern Canada measured using tunable diode laser flux gradients between 1996 and 2005 - Comparison with DNDC predictions.", European Geosciences Union (EGU) General Assembly 2011, Vienna, Austria, April 3-8, 2011, published in Geophysical Research Abstracts, Vol. 13, EGU2011-11461-1. (Presentation)

Smith, W.N., Grant, B.B., Desjardins, R.L., Qian, B., and McConkey, B.G. (2011). "Potential agricultural cropping strategies to adapt to climate variability and climate change in Canada.", International Conference on Current Knowledge of Climate Change Impacts on Agriculture and Forestry in Europe, Zámok Topoľčianky, Topoľčianky, Slovakia, May 3-6, 2011. (Presentation)

Kulshreshtha, S.N., McConkey, B.G., Liu, T.T., Dyer, J.A., Vergé, X.P.C., and Desjardins, R.L. (2011). "Biobased Economy – Sustainable Use of Agricultural Resources.", in dos Santos Bernardes, M.A. (ed.) - Environmental Impact of Biofuels, InTech, Open Access Publisher, Chapter 8, pp. 137-159.



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## Research Publications:

2016

Devillers, N., Giraud, D., and Farmer, C. (2016). "Neonatal piglets are able to differentiate more productive from less productive teats.", *Applied Animal Behaviour Science*, 174, pp. 24-31. doi: 10.1016/j.applanim.2015.11.018

2015

Brajon, S., LaForest, J.-P., Schmitt, O., and Devillers, N. (2015). "The way humans behave modulates the emotional states of piglets.", *PLoS ONE*, 10(8): Article number e0133408, pp. 1-17. doi: 10.1371/journal.pone.0133408

Conte, S., Bergeron, R., Gonyou, H.W., Brown, J.A., Rioja-Lang, F.C., Connor, M.L., and Devillers, N. (2015). "Use of an analgesic to identify pain-related indicators of lameness in sows.", *Livestock Science*, 180(Article number 2818), pp. 203-208. doi: 10.1016/j.livsci.2015.08.009

Brajon, S., LaForest, J.-P., Bergeron, R., Tallet, C., and Devillers, N. (2015). "The perception of humans by piglets: recognition of familiar handlers and generalisation to unfamiliar humans.", *Animal Cognition*, 18(6), pp. 1299-1316. doi: 10.1007/s10071-015-0900-2

Brajon, S., LaForest, J.-P., Bergeron, R., Tallet, C., Hötzel, M.J., and Devillers, N. (2015). "Persistency of the piglet's reactivity to the handler following a previous positive or negative experience.", *Applied Animal Behaviour Science*, 162, pp. 9-19. doi: 10.1016/j.applanim.2014.11.009

2014

Bovey, K., Widowski, T.M., Dewey, C., Devillers, N., Farmer, C., Lessard, M., and Torrey, S. (2014). "The effect of birth weight and age on the behavioral and physiological responses of piglets to tail docking and ear notching.", *Journal of Animal Science*, 92(4), pp. 1718-1727. doi: 10.2527/jas.2013-7063

Conte, S., Bergeron, R., Grégoire, J., Gête, M., D'Allaire, S., Meunier-Salaün, M.-C., and Devillers, N. (2014). "On-farm evaluation of methods to assess welfare of gestating sows.", *Animal*, 8(7), pp. 1153-1161. doi: 10.1017/S1751731114000949

Conte, S., Bergeron, R., Gonyou, H.W., Brown, J.A., Rioja-Lang, F.C., Connor, L., and Devillers, N. (2014). "Measure and characterization of lameness in gestating sows using force plate, kinematics, and accelerometers methods.", *Journal of Animal Science*, 92(12), pp. 5693-5703. doi: 10.2527/jas.2014-7865

2013

Nalon, E., Conte, S., Maes, D., Tuytens, F.A.M., and Devillers, N. (2013). "Evaluation of lameness and claw lesions in sows.", *Livestock Science*. doi: 10.1016/j.livsci.2013.06.003

Grégoire, J., Bergeron, R., D'Allaire, S., Meunier-Salaün, M.-C., and Devillers, N. (2013). "Assessment of lameness in sows using gait, footprints, postural behaviour and foot lesions analysis.", *Animal*, 7(7), pp. 1163-1173. doi: 10.1017/S1751731113000098

Weschenfelder, A.V., Torrey, S., Devillers, N., Crowe, T.G., Bassols, A., Saco, Y., Piñeiro, M., Saucier, L., and Faucitano, L. (2013). "Effects of trailer design on animal welfare parameters and carcass and meat quality of three Pietrain crosses being transported over a short distance.", *Livestock Science*, 157(1), pp. 234-244. doi: 10.1016/j.livsci.2013.07.004

Rocha, L.M., Bridi, A.M., Foury, A., Mormède, P., Weschenfelder, A.V., Devillers, N., Bertoloni, W., and Faucitano, L. (2013). "Effects of ractopamine administration and castration method on the response to pre-slaughter stress and carcass and meat quality in pigs of two Piétrain genotypes.", *Journal of Animal Science*, 91(8), pp. 3965-3977. doi: 10.2527/jas.2012-6058

2012

Ringgenberg, N., Bergeron, R., Meunier-Salaün, M.-C., and Devillers, N. (2012). "Impact of social stress during gestation and environmental enrichment during lactation on the maternal behaviour of sows.", *Applied Animal Behaviour Science*, 136(2-4), pp. 126-135. doi: 10.1016/j.applanim.2011.12.012

Quesnel, H., Farmer, C., and Devillers, N. (2012). "Colostrum intake: Influence on piglet performance and factors of variation.", *Livestock Science*, 146(2-3), pp. 105-114. doi : 10.1016/j.livsci.2012.03.010

Farmer, C., Palin, M.-F., Theil, P.K., Sørensen, M.T., and Devillers, N. (2012). "Milk production in sows from a teat in second parity is influenced by whether it was suckled in first parity.", *Journal of Animal Science*, 90(11), pp. 3743-3751. doi : 10.2527/jas.2012-5127

Weschenfelder, A.V., Torrey, S., Devillers, N., Crowe, T.G., Bassols, A., Saco, Y., Piñeiro, M., Saucier, L., and Faucitano, L. (2012). "Effects of trailer design on animal welfare parameters and carcass and meat quality of three Pietrain crosses being transported over a long distance.", *Journal of Animal Science*, 90(9), pp. 3220-3231. doi : 10.2527/jas.2011-4676

2011

Devillers, N., Le Dividich, J., and Prunier, A. (2011). "Influence of colostrum intake on piglet survival and immunity.", *Animal*, 5(10), pp. 1605-1612. doi : 10.1017/S175173111100067X

Clouard, C., Meunier-Salaün, M.-C., and Devillers, N. (2011). "Development of approach and handling tests for the assessment of reactivity to humans of sows housed in stall or in group.", *Applied Animal Behaviour Science*, 133(1-2), pp. 26-39. doi : 10.1016/j.applanim.2011.04.015

## Other Science Related Publications:

2016

Devillers, N., Delijani, F., Janvier, E., Méthot, S., Dick, K., Zhang, Q., and Connor, L. (2016). "Impact of slat and gap widths of concrete slatted floor on sow gait using kinematics.", *Banff Pork Seminar 2016*, Banff, AB, Canada, January 12-14, 2016.

2015

Gil, M., Faucitano, L., Talbot, G., Devillers, N., Guay, F., and Saucier, L. (2015). "Pre-slaughter strategies to improve pork carcass microbial quality.", *Meat Science*, 99, pp. 153. doi : 10.1016/j.meatsci.2014.07.006 (Abstract)

Gil, M., Faucitano, L., Talbot, G., Devillers, N., and Saucier, L. (2015). "Influence of pre-slaughter feed withdrawal time applied at the abattoir on carcass microbial quality.", *Meat Science*, 99, pp. 143. doi : 10.1016/j.meatsci.2014.07.016 (Abstract)

Dalla Costa, F.A., Devillers, N., Paranhos da Costa, M.J.R., and Faucitano, L. (2015). "Influence of pre-slaughter feed withdrawal time applied at the farm or at abattoir on behaviour and meat quality in pigs.", *61st International Congress of Meat Science and Technology*, Clermont-Ferrand, France, August 23-28, 2015.

Brajon, S., LaForest, J.-P., Schmitt, O., and Devillers, N. (2015). "Positive contact with humans can improve learning performance and emotional states of animals: a study in piglets.", *International Society for Anthrozoology (ISAZ) 2015 conference*, Saratoga Springs, New York, USA, July 7-9, 2015.

2014

Saucier, L., Faucitano, L., Devillers, N., Talbot, G., and Guay, F. (2014). *Des stratégies pour l'amélioration de la qualité de la viande de porc*. Final report submitted to MAPAQ, 16 p. (Report)

Conte, S., Bergeron, R., Gonyou, H.W., Brown, J.R., Lang, F., Connor, L., and Devillers, N. (2014). "Use of a force plate to assess lameness in sows.", *Banff Pork Seminar 2014*, Banff, AB, Canada, January 21-23, 2014.

Gil, M., Faucitano, L., Talbot, G., Devillers, N., and Saucier, L. (2014). "Influence of pre-slaughter feed withdrawal applied either at the farm or at the abattoir on carcass microbial quality.", *Canadian Meat Council's 94th Annual Conference*, Toronto, ON, Canada, May 7-9, 2014.

Gil, M., Faucitano, L., Talbot, G., Devillers, N., Guay, F., Gosselin, A., Desjardins, Y., and Saucier, L. (2014). "Pre-slaughter strategies to improve the microbial quality of pork carcasses.", *International Union of Microbiological Societies Congress (IUMS 2014)*, Montréal, QC, Canada, July 27-August 1, 2014.

Brajon, S., Schmitt, O., LaForest, J.-P., and Devillers, N. (2014). "Chronic positive experience with humans induces optimistic judgement bias in weaned piglets.", *48th Congress of the ISAE*, Vitoria-Gasteiz, Spain, July 29-August 2, 2014, pp. 199. (Abstract)

Devillers, N., Giraud, D., and Farmer, C. (2014). "Neonatal piglets can differentiate more productive from less productive teats.", *12th ISAE North American Regional Meeting*, East Lansing, Michigan, USA, May 30-31, 2014, pp. 44. (Abstract)

Brajon, S., LaForest, J.-P., and Devillers, N. (2014). "Generalization processes of a previous experience to human in weaned piglets.", *12th ISAE North American Regional Meeting*, East Lansing, Michigan, USA, May 30-31, 2014, pp. 25. (Abstract)

## 2013

- Nalon, E., Conte, S., Maes, D., Tuytens, F.A.M., and Devillers, N. (2013). "Assessment of lameness and claw lesions in sows.", 9th International Veterinary Behaviour Meeting (IVBM), Lisbon, Portugal, September 26-29, 2013.
- Seddon, Y.M., Brown, J.A., Rioja-Lang, F.C., Devillers, N., Connor, L., and Gonyou, H.W. (2013). "Temperament traits of sows in two group housing systems.", 47th Congress of the International Society for Applied Ethology, Florianopolis, Brazil, June 2-6, 2013, pp. 57.
- Devillers, N. (2013). "How does Canada deal with the issues of animal welfare and sow group housing?", 64th Annual Meeting of the European Federation of Animal Science (EAAP), Nantes, France, August 26-30, 2013.
- Farmer, C. and Devillers, N. (2013). "Teat use or non-use in first lactation affects its milkyield in the next lactation.", Western Hog Journal (WHJ), 34(3), pp. 34-36.
- Devillers, N. (2013). "Évaluer le bien-être. Avec quels outils?", Porc Québec, 24(1), pp. 38-39.
- Gil, M., Faucitano, L., Talbot, G., Devillers, N., and Saucier, L. (2013). "Stratégies pré-abattage pour améliorer la qualité microbiologique des carcasses de porc.", Congrès de bactériologie intégrative: symbiose & pathogénèse (BiSP), Québec, QC, Canada, novembre 28-29, 2013.
- Brajon, S., LaForest, J.-P., and Devillers, N. (2013). "Les porcelets sont-ils capables de reconnaître les humains?", 38ème congrès annuel de la SQEBC (Société Québécoise pour l'Étude Biologique du Comportement), Montréal, QC, Canada, novembre 8-10, 2013.
- Conte, S., Bergeron, R., Gonyou, H.W., Brown, J.A., Devillers, N., and Connor, L. (2013). "Development of a force plate scale to measure weight distribution and lameness in gestating sows.", 64th Annual Meeting of the European Federation of Animal Science (EAAP), Nantes, France, August 26-30, 2013.

## 2012

- Devillers, N. and Conte, S. (2012). "Measuring lameness in sows.", 12th London Swine Conference, London, ON, Canada, March 28-29, 2012, pp. 21-25.
- Amezcuca, R., Friendship, R.M., Devillers, N., Connor, L., and Gonyou, H.W. (2012). "Novel techniques to assess lameness and to evaluate the effect of analgesia.", 31st Annual Centralia Swine Research Update, Kirkton-Woodham Community Centre, Kirkton, ON, Canada, January 25, 2012, pp. I19-I21.
- Devillers, N., Menant, O., Hötzel, M.J., Tallet, C., and Bergeron, R. (2012). "Persistence of piglets' reactivity to humans after conditioning to negative or positive stimuli associated to humans.", 11th International Society for Applied Ethology (ISAE) North-American Regional Meeting, Banff, AB, Canada, May 11-12, 2012, pp. 40.
- Devillers, N. (2012). "L'influence des relations homme-animal sur le stress des animaux et leurs performances.", 2ème journée porcine de l'Estrie, Sherbrooke, QC, Canada, February 2, 2012.
- Devillers, N. (2012). "Impact des manipulations des porcs par l'homme sur leur bien-être.", Soirée Techni-Porc 2012, Drummondville, QC, Canada, February 14, 2012.
- Rocha, L.M., Bridi, A.M., Devillers, N., Daigneault, J., Weschenfelder, A.V., Bertoloni, W., and Faucitano, L. (2012). "Effects of ractopamine administration and castration method on the behavioral and physiological response to pre-slaughter stress in pigs of two Pietrain genotypes.", 11th International Society for Applied Ethology (ISAE) North-American Regional Meeting, Banff, AB, Canada, May 11-12, 2012, pp. 45. (Abstract)
- Lemieux, M., Gonyou, H.W., Brown, J.A., Devillers, N., and Connor, M.L. (2012). "Assessing the active-passive and confident-fearful temperament traits in group-housed gestating sows.", 11th International Society for Applied Ethology (ISAE) North-American Regional Meeting, Banff, AB, Canada, May 11-12, 2012, pp. 35.
- Farmer, C. and Devillers, N. (2012). "Une tétine utilisée en première parité donnera plus de lait en deuxième parité!", Porc Québec, 23(4), pp. 26-30.
- Rocha, L.M., Bridi, A.M., Devillers, N., Daigneault, M.J., Weschenfelder, A.V., Bertoloni, W., and Faucitano, L. (2012). "Effects of ractopamine administration and castration method on the behavioral and physiological response to pre-slaughter stress in pigs of two Pietrain genotypes.", 11th International Society for Applied Ethology (ISAE) North-American Regional Meeting, Banff, AB, Canada, May 11-12, 2012, pp. 45. (Abstract)
- Brajon, S., LaForest, J.-P., and Devillers, N. (2012). "Persistance de la réactivité aux humains chez les porcelets après un contact préalable avec eux-ci.", 2ème symposium du Centre de Recherche et de Développement sur le Bovin Laitier et le Porc / 2nd Annual DSRDC/CRDBLP Symposium on Animal Production, Sherbrooke, QC, Canada, November 28, 2012, pp. 17.
- Lang, L., Devillers, N., Connor, C., Brown, J.A., Gonyou, H.W., Beaulieu, A.D., Friendship, R.M., Luimes, P.H., Bergeron, R., Kontulainen, S., and Johnson, G. (2012). Assessment of lameness, productivity and longevity in group and individually housed gestating sows. Prairie Swine Centre 2011 Annual Report., Prairie Swine Centre, University of Saskatchewan, Saskatoon, SK, Canada. (Report)

Araújo, A.P., Dalla Costa, O.A., Roça, R.O., Ludtke, C.B., Faucitano, L., Devillers, N., and Guidoni, A.L. (2012). "Meat quality of pigs submitted to different water spray periods.", EventoBA 2012 Congreso Internacional sobre Bienestar Animal / International Conference on Animal Welfare, Montevideo, Uruguay, July 10-11, 2012.

Araújo, A.P., Dalla Costa, O.A., Roça, R.O., Ludtke, C.B., Faucitano, L., Devillers, N., and Guidoni, A.L. (2012). "Comportamento dos suínos submetidos a diferentes períodos de aspersão e descanso (Behaviour of pigs submitted to different water spray and rest periods).", EventoBA 2012 Congreso Internacional sobre Bienestar Animal / International Conference on Animal Welfare, Montevideo, Uruguay, July 10-11, 2012.

Devillers, N., Conte, S., and Grégoire, J. (2012). "Assessing lameness of sows.", FeetFirst® Lameness Symposium III, Minneapolis, MN, USA, September 5-7, 2012, pp. 37-44.

Rocha, L.M., Bridi, A.M., Faucitano, L., Weschenfelder, A.V., Bertoloni, W., and Devillers, N. (2012). "Effects of ractopamine administration and castration method on the response to pre-slaughter stress in pigs of two pietrain genotypes.", 11th International Society for Applied Ethology (ISAE) North-American Regional Meeting, Banff, AB, Canada, May 11-12, 2012, pp. 45.

Conte, S., Grégoire, J., Bergeron, R., D'Allaire, S., Meunier-Salaün, M.-C., and Devillers, N. (2012). "Evaluation of on-farm methods assessing locomotor disorders of individual or group housed sows.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012.

Ringgenberg, N., Torrey, S., Bergeron, R., and Devillers, N. (2012). "Impacts of prenatal stress and environmental enrichment during lactation on the behaviour and performances of piglets after weaning.", 46th Congress of the International Society for Applied Ethology, Vienna, Austria, July 31-August 4, 2012, pp. 11.

Araújo, A.P., Dalla Costa, O.A., Roça, R.O., Ludtke, C.B., Faucitano, L., Devillers, N., and Guidoni, A.L. (2012). "Stress levels of pigs submitted to three water spray periods.", EventoBA 2012 Congreso Internacional sobre Bienestar Animal / International Conference on Animal Welfare, Montevideo, Uruguay, July 10-11, 2012.

## 2011

Rocha, L.M., Faucitano, L., Devillers, N., Bertoloni, W., Weschenfelder, A.V., and Bridi, A.M. (2011). "Effects of immunocastration, Pietrain genetics and dietary ractopamine administration on carcass and meat quality traits in pigs.", 62nd Annual Meeting of the European Association for Animal Production (EAAP), Stavanger, Norway, August 29-September 2, 2011, pp. 258.

Ringgenberg, N., Devillers, N., and Bergeron, R. (2011). "Counteracting the effects of stress on gestating sows.", Ontario Farmers, 44(50), pp. B10-B11.

de Araujo, A.P., Dalla Costa, O.A., Ludtke, C.B., Faucitano, L., Devillers, N., Guidoni, A.L., Roça, R.O., and Athaide, N.B. (2011). "Use of water-sprays in lairage: implications on animal welfare in pigs.", 38e Conbravet Congresso Brasileiro de Medicina Veterinária, Florianópolis, Brazil, November 1-4, 2011.

de Araujo, A.P., Dalla Costa, O.A., Ludtke, C.B., Faucitano, L., Devillers, N., Guidoni, A.L., Roça, R.O., and Athaide, N.B. (2011). "Effects of different water spraying times in lairage on pork meat quality.", 38e Conbravet Congresso Brasileiro de Medicina Veterinária, Florianópolis, Brazil, November 1-4, 2011.

Ringgenberg, N., Bergeron, R., and Devillers, N. (2011). "Stress in gestation, lactation housing and maternal behaviour in the pig, *Sus scrofa* .", 48th Annual Meeting of the Animal Behavior Society, Indiana University, Bloomington, IN, USA, July 25-30, 2011, pp. 215.

Devillers, N. (2011). "Le porc, un modèle pour l'étude du bien-être animal.", 36ème congrès annuel de la Société Québécoise pour l'étude Biologique du Comportement (SQEBC), Université de Sherbrooke, Sherbrooke, QC, Canada, November 4-6, 2011.

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## Research Publications:

2015

Dastrmalchi, M. and Dhaubhadel, S. (2015). "Soybean chalcone isomerase: evolution of the fold, and the differential expression and localization of the gene family.", *Planta*, 241(2), pp. 507-523. doi : 10.1007/s00425-014-2200-5

Dastrmalchi, M. and Dhaubhadel, S. (2015). "Proteomic insights into synthesis of isoflavonoids in soybean seeds.", *Proteomics*, 15(10), pp. 1646-1657. doi : 10.1002/pmic.201400444

Duwadi, K., Chen, L., Menassa, R., and Dhaubhadel, S. (2015). "Identification, characterization and down-regulation of cysteine protease genes in tobacco for use in recombinant protein production.", *PLoS ONE*, 10(7): Article number e0130556, pp. 1-19. doi : 10.1371/journal.pone.0130556

Anguraj Vadivel, A.K., Sukumaran, A., Li, X., and Dhaubhadel, S. (2015). "Soybean isoflavonoids: role of GmMYB176 interactome and 14-3-3 proteins.", *Phytochemistry Reviews*, pp. 1-13. doi : 10.1007/s11101-015-9431-3

2014

Dastrmalchi, M. and Dhaubhadel, S. (2014). "Soybean seed isoflavonoids: Biosynthesis and regulation.", in Jetter, R. (ed.) - *Recent Advances in Phytochemistry: Phytochemicals- Biosynthesis, Function and Application*, Vol. 44, Springer, pp. 1-21.

Mainali, H.R., Chapman, P., and Dhaubhadel, S. (2014). "Genome-wide analysis of cyclophilin gene family in soybean (*Glycine max*).", *BMC Plant Biology*, 14(282). doi : 10.1186/s12870-014-0282-7

2013

Chen, L., Dempsey, B.R., Gyenis, L., Menassa, R., Brandle, J.E., and Dhaubhadel, S. (2013). "Identification of the factors that control synthesis and accumulation of a therapeutic protein, human immune-regulatory interleukin-10, in *Arabidopsis thaliana*.", *Plant Biotechnology Journal*, 11(5), pp. 546-554. doi : 10.1111/pbi.12042

2012

Liao, D., Pajak, A., Karcz, S.R., Chapman, B. P., Austin, R.S., Sharpe, A.G., Datla, R.S.S., Dhaubhadel, S., and Marsolais, F. (2012). "Transcripts of sulfur metabolic genes are coordinately regulated in developing seeds of common bean lacking phaseolin and major lectins.", *Journal of Experimental Botany*, 63(17), pp. 6283-6295. doi : 10.1093/jxb/ers280

Li, X. and Dhaubhadel, S. (2012). "14-3-3 proteins act as scaffolds for GmMYB62 and GmMYB176 and regulate their intracellular localization in soybean.", *Plant Signaling & Behavior*, 7(8), pp. 965-968. doi : 10.4161/psb.20940

Li, X., Chen, L., and Dhaubhadel, S. (2012). "14-3-3 proteins regulate the intracellular localization of the transcriptional activator GmMYB176 and affect isoflavonoid synthesis in soybean.", *Plant Journal*, 71(2), pp. 239-250. doi : 10.1111/j.1365-3113.2012.04986.x

Pandurangan, S., Pajak, A., Molnar, S.J., Cober, E.R., Dhaubhadel, S., Hernández-Sebastià, C., Kaiser, W.M., Nelson, R.L., Huber, S.C., and Marsolais, F. (2012). "Relationship between asparagine metabolism and protein concentration in soybean seed.", *Journal of Experimental Botany*, 63(8), pp. 3173-3184. doi : 10.1093/jxb/ers039

2011

Li, X. and Dhaubhadel, S. (2011). "Soybean 14-3-3 gene family: identification and molecular characterization.", *Planta*, 233(3), pp. 569-582. doi : 10.1007/s00425-010-1315-6

## Other Science Related Publications:

## 2015

Anguraj Vadivel, A.K. and Dhaubhadel, S. (2015). "Identification of key regulatory factors involved in isoflavonoid biosynthesis in soybean.", Gordon Research Conference- Plant Metabolic Engineering, Waterville Valley, NH, USA, July 18-24, 2015. (Abstract)

Sukumaran, A. and Dhaubhadel, S. (2015). "Identification and characterization of Isoflavonoid-specific prenyltransferases in Soybean.", The Biology Graduate Research Forum, Western University, October 16, 2015. (Abstract)

Lama, P., Anguraj Vadivel, A.K., and Dhaubhadel, S. (2015). "Functional characterization of GmMYB176 interacting protein kinases in soybean.", Botany 2015 Joint Conference: Science and plants for people, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015. (Abstract)

Bett, K.E., Stonehouse, R.G., Miklas, P.N., Dhaubhadel, S., Austin, R.S., and Marsolais, F. (2015). "Is the slow-darkening gene another allele at P?", Bean Improvement Cooperatives 2015, Niagara Falls, ON, Canada, November 1-4, 2015. (Abstract)

Sepiol, C. and Dhaubhadel, S. (2015). "Root-specific chalcone reductases hold the secret to Phytophthora sojae resistance in soybean.", Canadian Plant Genomics Workshop 2015, Victoria, BC, Canada, August 10-13, 2015. (Abstract)

## 2014

Lama, P., Anguraj Vadivel, A.K., and Dhaubhadel, S. (2014). "Identification of GmMYB176-specific protein kinase in soybean.", 2014 CSPB Eastern Regional Meeting, University of Guelph, Guelph, ON, Canada, November 28-29, 2014.

Sepiol, C., Yu, J., and Dhaubhadel, S. (2014). "Molecular and biochemical analysis of chalcone reductase genes in soybean.", 2014 CSPB Eastern Regional Meeting, University of Guelph, Guelph, ON, Canada, November 28-29, 2014.

Anguraj Vadivel, A.K. and Dhaubhadel, S. (2014). "Regulation of isoflavonoid biosynthesis: Identification of the key factors-GmMYB176 interactome.", Banff Conference on Plant Metabolism, Banff, AB, Canada, June 26-30, 2014.

Dastmalchi, M. and Dhaubhadel, S. (2014). "Soybean isoflavonoid biosynthesis – constituents and circumstance in the metabolon.", Banff Conference on Plant Metabolism, Banff, AB, Canada, June 26-30, 2014.

Dastmalchi, M. and Dhaubhadel, S. (2014). "Soybean chalcone isomerase: evolutionary history of the fold as told by sequence, expression and localization of the gene family.", Joint conference of the 6th International Food Legumes Research Conference (IFLRC VI) and 7th International Conference on Legume Genetics and Genomics (ICLGG VII), Saskatoon, SK, Canada, July 6-11, 2014.

Dhaubhadel, S., Austin, R.S., Marsolais, F., Mainali, H.R., P-Behnam, S., Pajak, A., and Chen, L. (2014). "Seed coat RNAseq analysis of two Pinto bean cultivars that differ in post-harvest seed coat darkening.", Joint conference of the 6th International Food Legumes Research Conference (IFLRC VI) and 7th International Conference on Legume Genetics and Genomics (ICLGG VII), Saskatoon, SK, Canada, July 6-11, 2014.

Duwadi, K., Chen, L., Menassa, R., and Dhaubhadel, S. (2014). "Silencing of selected cysteine protease genes improves recombinant protein accumulation in transgenic tobacco plants.", 9th Canadian Plant Biotechnology Conference, Montreal, QC, Canada, May 12-15, 2014.

Dastmalchi, M. and Dhaubhadel, S. (2014). "Soybean isoflavonoid metabolon: elements and interaction at the molecular level.", 2014 CSPB Eastern Regional Meeting, University of Guelph, Guelph, ON, Canada, November 28-29, 2014.

## 2013

Mahubani, T. and Dhaubhadel, S. (2013). "Subcellular localization of isoflavone synthase 1 and 2 in soybean.", Ontario Biology Day 2011, Wilfrid Laurier University, Waterloo, ON, Canada, March 12-13, 2011.

## 2012

Dhaubhadel, S. and Marsolais, F. (2012). "Transcriptomics of Legume Seed: Soybean a Model Grain Legume.", in Agrawal, G.K. and Rakwal, R. (eds.) - Seed Development: OMICS Technologies toward Improvement of Seed Quality and Crop Yield. OMICS in Seed Biology, Springer, Chapter 8, pp. 129-142.

Mainali, H.R. and Dhaubhadel, S. (2012). "Soybean Cyclophilin gene family: characterization of GmCYP1.", 51st Phytochemical Society of North America (PSNA) Annual Meeting, University of Western Ontario, London, ON, Canada, August 11-15, 2012.

Dastmalchi, M. and Dhaubhadel, S. (2012). "Soybean Chalcone Isomerase gene family: characterization and role in isoflavonoid biosynthesis.", 51st Phytochemical Society of North America (PSNA) Annual Meeting, University of Western Ontario, London, ON, Canada, August 11-15, 2012.

Anguraj Vadivel, A.K. and Dhaubhadel, S. (2012). "Identification and characterization of GmMYB176 interactome in soybean.", 51st Phytochemical Society of North America (PSNA) Annual Meeting, University of Western Ontario, London, ON, Canada, August 11-15, 2012.

Dastmalchi, M. and Dhaubhadel, S. (2012). "Soybean Chalcone Isomerase gene family and their role in isoflavonoid biosynthesis.", Canadian Society of Plant Biologists Meeting (CSPB 2012), University of Alberta Campus, Edmonton, AB, Canada, June 25-27, 2012.

Chen, L., Kaldis, A., Menassa, R., and Dhaubhadel, S. (2012). "Identification and Characterization of a Cysteine Protease Gene in Tobacco for Use in Recombinant Protein Production.", 51st Phytochemical Society of North America (PSNA) Annual Meeting, University of Western Ontario, London, ON, Canada, August 11-15, 2012.

## 2011

Li, X. and Dhaubhadel, S. (2011). "Soybean 14-3-3 proteins: are they involved in the regulation of isoflavonoid biosynthesis in soybean?", 50th Anniversary Meeting of the Phytochemical Society of North America, Fairmont Orchid Hotel and HILO Conference Centre, Kohala Coast, Big Island, HI, USA, December 10-15, 2011.

Dhaubhadel, S. (2011). "Regulation of Isoflavonoid Biosynthesis in Soybean Seeds.", in Ng, T.-B. (ed.) - Soybean - Biochemistry, Chemistry and Physiology, InTech, Open Access Publisher, Chapter 15, pp. 243-258.

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## Research Publications:

2015

Dhanani, A.S., Block, G.S., Dewar, K., Forgetta, V., Topp, E., Beiko, R.G., and Diarra, M.S. (2015). "Genomic comparison of nontyphoidal *Salmonella enterica* Serovars Typhimurium, Enteritidis, Heidelberg, Hadar and Kentucky isolates from broiler chickens.", *PLoS ONE*. doi : 10.1371/journal.pone.0128773

2014

Diarra, M.S., Delaquis, P.J., Rempel, H., Bach, S.J., Harlton, C.E., Aslam, M.N., Pritchard, J., and Topp, E. (2014). "Antibiotic resistance and diversity of *Salmonella enterica* serovars associated with broiler chickens.", *Journal of Food Protection*, 77(1), pp. 40-49. doi : 10.4315/0362-028.JFP-13-251

Simmons, K., Rempel, H., Block, G.S., Forgetta, V., Vaillancourt Jr., R., Malouin, F., Topp, E., Delaquis, P.J., and Diarra, M.S. (2014). "Duplex PCR methods for the molecular detection of *Escherichia fergusonii* from broiler chickens.", *Applied and Environmental Microbiology*, 80(6), pp. 1941-1948. doi : 10.1128/AEM.04169-13

Aslam, M., Mehdi, T., Bravo, C.N., Lai, V., Rempel, H., Manges, A., and Diarra, M.S. (2014). "Characterization of Extraintestinal Pathogenic *Escherichia coli* Isolated from Retail Poultry Meats from Alberta, Canada", *International Journal of Food Microbiology*, 177, pp. 49-56. doi : 10.1016/j.ijfoodmicro.2014.02.006

Diarra, M.S. and Hammermeister, A.M. (2014). "Potential of Cranberry Extracts as Immuno-Modulatory Agent in Organic Broiler Chicken Production.", in RAHMANN G & AKSOY U (eds.) - Proceedings of the 4th ISOFAR Scientific Conference. 'Building Organic Bridges', Organic World Congress 2014, 13-15 Oct., Istanbul, Turkey.

Diarra, M.S. and Malouin, F. (2014). "Antibiotics in Canadian poultry productions and anticipated alternatives.", *Frontiers in Microbiology*, 5(Article 282), pp. 1-15. doi : 10.3389/fmicb.2014.00282

2013

Harrison, J.E., Oomah, B.D., Diarra, M.S., and Ibarra-Alvarado, C. (2013). "Bioactivities of pilot-scale extracted cranberry juice and pomace.", *Journal of Food Processing and Preservation*, 37(4), pp. 356-365. doi : 10.1111/j.1745-4549.2011.00655.x

Allard, M., Ster, C., Jacob, C.L., Scholl, D.T., Diarra, M.S., and Lacasse, P. (2013). "The expression of a putative exotoxin and an ABC transporter during bovine intramammary infection contributes to the virulence of *Staphylococcus aureus*.", *Veterinary Microbiology*, 162(2-4), pp. 761-770. doi : 10.1016/j.vetmic.2012.09.029

Ehret, D.L., Usher, K.B., Helmer, T., Block, G.S., Steinke, D., Frey, B., Kuang, T., and Diarra, M.S. (2013). "Tomato fruit antioxidants in relation to salinity and greenhouse climate.", *Journal of Agricultural and Food Chemistry*, 61(5), pp. 1138-1145. doi : 10.1021/jf304660d

Diarra, M.S., Block, G.S., Rempel, H., Oomah, B.D., Harrison, J.E., McCallum, J.L., Boulanger, S., Brouillette, É., Gattuso, M., and Malouin, F. (2013). "In vitro and in vivo antibacterial activities of cranberry press cake extracts alone or in combination with  $\beta$ -lactams against *Staphylococcus aureus*.", *BMC Complementary and Alternative Medicine Journal*, 13(90). doi : 10.1186/1472-6882-13-90

Fatima, M., Rempel, H., Kuang, T., Allen, K.J., Cheng, K.M.-T., Malouin, F., and Diarra, M.S. (2013). "Effect of 3',5'-cyclic diguanylic acid in a broiler *Clostridium perfringens* infection model.", *Poultry Science*, 92(10), pp. 2644-2650. doi : 10.3382/ps.2013-03143

2012

Forgetta, V., Rempel, H., Malouin, F., Vaillancourt Jr., R., Topp, E., Dewar, K., and Diarra, M.S. (2012). "Pathogenic and multidrug-resistant *Escherichia fergusonii* from broiler chicken.", *Poultry Science*, 91(2), pp. 512-525. doi : 10.3382/ps.2011-01738

Aslam, M., Diarra, M.S., Checkley, S.L., Bohaychuk, V.M., and Masson, L. (2012). "Characterization of antimicrobial resistance and virulence genes in *Enterococcus* spp. Isolated from retail meats in Alberta, Canada.", *International Journal of Food Microbiology*, 156(3), pp. 222-230. doi : 10.1016/j.ijfoodmicro.2012.03.026



Aslam, M., Diarra, M.S., and Masson, L. (2012). "Characterization of antimicrobial resistance and virulence genotypes of *Enterococcus faecalis* recovered from a pork processing plant.", *Journal of Food Protection*, 75(8), pp. 1486-1491. doi : 10.4315/0362-028X.JFP-11-524

Merchant, L.E., Rempel, H., Forge, T.A., Kannangara, T., Bittman, S., Delaquis, P.J., Topp, E., Ziebell, K.A., and Diarra, M.S. (2012). "Characterization of antibiotic-resistant and potentially pathogenic *Escherichia coli* from soil fertilized with litter of broiler chickens fed antimicrobial-supplemented diets.", *Canadian Journal of Microbiology*, 58(9), pp. 1084-1098. doi : 10.1139/W2012-082

Vela, J., Hildebrandt, K., Metcalfe, A., Rempel, H., Bittman, S., Topp, E., and Diarra, M.S. (2012). "Characterization of *Staphylococcus xylophilus* isolated from broiler chicken barn bioaerosol.", *Poultry Science*, 91(12), pp. 3003-3012. doi : 10.3382/ps.2012-02302

## 2011

Fatima, M., Ster, C., Rempel, H., Talbot, B.G., Allen, K.J., Malouin, F., and Diarra, M.S. (2011). "Effect of co-administration of 3', 5'-cyclic diguanylic acid with infectious bursal disease virus vaccine on serum antibody levels in broilers.", *Journal of Animal and Veterinary Advances*, 10(24), pp. 3263-3268. doi : 10.3923/jvavaa.2011.3263.3268

Champagne, J., Diarra, M.S., Rempel, H., Topp, E., Greer, C.W., Harel, J., and Masson, L. (2011). "Development of a DNA Microarray for Enterococcal Species, Virulence, and Antibiotic Resistance Gene Determinations among Isolates from Poultry.", *Applied and Environmental Microbiology*, 77(8), pp. 2625-2633. doi : 10.1128/AEM.00263-11

## Other Science Related Publications:

### 2014

Gong, J., Wang, Q., Yang, Y., Yu, H., Diarra, M.S., and Cui, S.W. (2014). "Novel preparation of citral encapsulated with special soybean-derived polymers as a feed additive for controlling necrotic enteritis caused by *Clostridium perfringens* in poultry. Filed on March 21, 2014." (Patent)

Lefebvre, G., Vaillancourt Jr., R., Jacques, P., Rodrigue, S., Diarra, M.S., and Malouin, F. (2014). "MMRS-related genes in hypermutable *Escherichia coli* strains.", 24th European Congress of Clinical Microbiology and Infectious Diseases (ECCMID), Barcelona, Spain, May 10-13, 2014.

Ko, K., Ying, X., Ng, A., Rempel, H., McCormick, L., Gagnon, N., Auffret, M., Talbot, G., and Diarra, M.S. (2014). "Antibiotic resistance and pathogenic bacteria from dairy cow manure.", Guelph Food Safety Seminar Series - Food Safety: Compliance to Commitment (GFSS 11th Annual Symposium), Guelph, Ontario, Canada, October 22, 2014, Award winner. (Poster)

Block, G.S., Robertson, M.C., and Diarra, M.S. (2014). "Antibacterial activities of copper-based biocides against multidrug resistant *Salmonella enterica* serovars.", 54th Annual Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC) of American Society for Microbiology, Washington DC, USA, September 5-9, 2014.

Diarra, M.S., Diarrassouba, F., Proudfoot, J., Rempel, H., Topp, E., and Prichard, J. (2014). "Fate of antibiotic resistant enterococci during broiler chicken production.", 54th Annual Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC) of American Society for Microbiology, Washington DC, USA, September 5-9, 2014.

Lefebvre, G., Vaillancourt Jr., R., Jacques, P., Rodrigue, S., Diarra, M.S., and Malouin, F. (2014). "*Escherichia albertii*, an Emerging Pathogen, Isolated From a Commercial Poultry Farm in Canada.", 7th Congress of the Centre de Recherche en Infectiologie Porcine (CRIPA), Saint-Hyacinthe, Québec, Canada, June 3-4, 2014.

### 2013

Fung, S., Rempel, H., Block, G.S., Chen, W., Janzen, T., Lewis, C.T., Zhang, N., El-Kayssi, N., Bilkhu, S., Hambleton, S., Amoako, K.K., Lévesque, C.A., Bach, S.J., Delaquis, P.J., and Diarra, M.S. (2013). "Bacillus species across Canada's agriculture environment: an ecological perspective.", International conference on *Bacillus anthracis*, *B. cereus*, and *B. thuringiensis*, Victoria, BC, Canada, September 1-5, 2013, Abstract. (Poster)

Simmons, K., Rempel, H., Block, G.S., Delaquis, P.J., Topp, E., and Diarra, M.S. (2013). "Identification and prevalence of *Escherichia fergusonii* in broiler chickens.", 58th Annual Meeting of the International Association of Food Protection (IAFP 2013), Charlotte Convention Center, Charlotte, NC, USA, July 28-31, 2013.

Fung, S., Rempel, H., Forgetta, V., Dewar, K., Topp, E., and Diarra, M.S. (2013). "Ceca Microbiome of Mature Broiler Chickens Fed with or without Salinomycin.", Keystone Symposium: The Gut Microbiome: The Effector/Regulatory Immune Network (B3), Taos, NM, USA, February 10-15, 2013.

Mehdi, T., Narvaez-Bravo, C., Weese, J.S., Deckert, A., Smith, R.R., Diarra, M.S., and Aslam, M. (2013). "Prevalence and Characterization of Methicillin-Resistant *Staphylococcus aureus* Isolated from Commercial Pork Processing Plants in Alberta, Canada.", Annual meeting of International Association for Food Protection, Charlotte, North Carolina, USA, July 28-31, 2013. (Poster)

Fung, S., Rempel, H., Forgetta, V., Dewar, K., Topp, E., and Diarra, M.S. (2013). "Ceca Microbiome of Mature Broiler Chickens Fed with or without Salinomycin.", Keystone Symposia: The Gut Microbiome: The Effector/Regulatory Immune Network (B3), Taos, New Mexico, USA, February 10-15, 2013.

Simmons, K., Rempel, H., Block, G.S., Delaquis, P.J., Topp, E., and Diarra, M.S. (2013). "Identification and prevalence of *Escherichia fergusonii* in broiler chickens.", 102nd IAFP Meeting, Charlotte, North Carolina, USA, July 28-31, 2013.

Diarra, M.S. (2013). The use of mineral-based biocide products to control bacteria during broiler chicken processing. Research Report presented to Ocion Water Sciences Group, Ltd. (Report)

Mehdi, T., Narvaez-Bravo, C., Weese, J.S., Diarra, M.S., Deckert, A., Reid-Smith, R., and Aslam, M.N. (2013). "Prevalence and characterization of methicillin-resistant *Staphylococcus aureus* isolated from commercial pork processing plants in Alberta, Canada.", 102nd IAFP Meeting, Charlotte, North Carolina, USA, July 28-31, 2013.

Simmons, K., Rempel, H., Block, G.S., Topp, E., and Diarra, M.S. (2013). "Anti microbial resistance in *Escherichia fergusonii* isolated from commercial broiler chickens.", 53rd Annual Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC) of American Society for Microbiology, Denver, Colorado, USA, September 10-13, 2013, #1561. (Poster)

Lewis, C.T., Chen, W., Zhang, N., El-Kayssi, N., Fung, S., Diarra, M.S., Bilkhu, S., Hambleton, S., and Lévesque, C.A. (2013). "Developing an integrated bioinformatics platform to support real-time monitoring of agricultural environments.", 21st Annual Conference of Intelligent Systems for Molecular Biology (ISMB) and European Conference on Computational Biology (ECCB), Berlin, Germany, July 19-23, 2013.

Aslam, M., Weese, J.S., Diarra, M.S., Reid-Smith, R., and Deckert, A. (2013). Prevalence and characterization of methicillin-resistant *Staphylococcus aureus* isolated from commercial pork processing plant. Final report to ALMA on project 2010F018R. (Report)

Goubé, M.A., Diarra, M.S., and Fliiss, I. (2013). "Potentiel antimicrobien d'extrait de canneberge contre *Salmonella*", La 4e rencontre annuelle de l'Association québécoise pour l'innocuité alimentaire (AQIA): La gestion de la qualité, un défi récurrent, Lévis, Quebec, Canada, 19 septembre 2013, Award winner. (Poster)

Yang, Y., Wang, Q., Gong, J., Diarra, M.S., Yu, H.H., and Qian, G.T. (2013). "Evaluation of the antibacterial capacity of novel essential oil microcapsules against *Clostridium perfringens*.", Guelph Food Safety Seminar Series - Food Safety: Compliance to Commitment (GFSS 10th Annual Symposium), Guelph, Ontario, Canada, October 23, 2013. (Poster)

Fatima, M., Allen, K.J., Cheng, K.M.-T., Malouin, F., and Diarra, M.S. (2013). "Potential role of the bacterial second messenger 3', 5' Cyclic Diguanilylic Acid (c-di-GMP) as an alternative to antibiotics in broiler chicken.", First Annual Land and Food Systems Graduate Student Conference, Vancouver, BC, Canada, November 7, 2013.

## 2012

Diarra, M.S. (2012). "Pathogens and Antibiotic Resistance: Poultry and Bovine Production.", International Organic Inspectors Association, Agassiz, BC, Canada, February 28, 2012. (Presentation)

Côté-Gravel, J., Ster, C., Allard, M., Gagnon, S., Boulanger, S., Mulbacher, J., Lafontaine, D.A., Scholl, D., Diarra, M.S., Lacasse, P., and Malouin, F. (2012). "Mise en évidence des gènes utilisés par *Staphylococcus aureus* pendant l'infection intra-mammaire et utilisation de ceux-ci comme cibles thérapeutiques: développement d'une nouvelle classe d'antibiotique et d'un vaccin contre *S. aureus* pour le contrôle de la mammite bovine.", Forum Technologique NOVALAIT / IDF Dairy Science and Technology Week 2012, Hôtel et Suites Le Dauphin, Drummondville, QC, Canada, May 29, 2012.

Diarra, M.S., Rempel, H., Champagne, J., Masson, L., and Topp, E. (2012). "Diversity of multiple antibiotic resistant enterococci from broiler chicken fed antimicrobial supplemented Diets.", 52nd Annual Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC) of American Society for Microbiology, San Francisco, CA, USA, September 9-12, 2012, Poster # 1914. (Poster)

Diarra, M.S., Rempel, H., Bach, S.J., Harlton, C.E., Delaquis, P.J., Pritchard, J., Aslam, M.N., Leslie, M., and Topp, E. (2012). "Distribution of antibiotic resistance phenotypes and genotypes among *Salmonella* spp. Isolated from broiler chickens in British Columbia.", 101st Annual Meeting of the International Association of Food Protection (IAFP 2012), Rhode Island Convention Center, Providence, RI, USA, July 22-25, 2012, Poster ID# 2398. (Poster)

Vaillancourt Jr., R., Malouin, F., Rempel, H., and Diarra, M.S. (2012). "Virulence of commensal *Escherichia coli* isolated from healthy broiler chickens.", 112th General Meeting of American Society for Microbiology, San Francisco, CA, USA, June 15-19, 2012. (Poster)

Aslam, M., Diarra, M.S., and Masson, L. (2012). "Characterization of antimicrobial resistance and virulence genes in *Enterococcus faecalis* isolated from a pork processing plant.", 101st Annual Meeting of the International Association of Food Protection (IAFP 2012), Rhode Island Convention Center, Providence, RI, USA, July 22-25, 2012, (Poster ID# 2317. (Poster)

Diarra, M.S., Lai, V., Rempel, H., Bravo, C.A.N., Aslam, M., and Manges, A.R. (2012). "Characterization of extraintestinal pathogenic *Escherichia coli* isolated from retail poultry meats in Alberta Canada.", 101st Annual Meeting of the International Association of Food Protection (IAFP 2012), Rhode Island Convention Center, Providence, RI, USA, July 22-25, 2012, Poster ID# 2291. (Poster)

## 2011

Yost, C.K., Diarra, M.S., and Topp, E. (2011). "Animals and human as source of fecal indicator bacteria.", in Sadowsky, M. J. and R. L. Whitman (eds.) - *The Fecal Bacteria*, American Society for Microbiology (ASM), Chapter 4, pp. 67-91.

Diarra, M.S., Masson, L., and Aslam, M.N. (2011). "Molecular characterization of antibiotic resistance and virulence genotype of *Enterococcus faecalis* isolates from different retail meats.", Annual Meeting of the International Association of Food Protection (IAFP 2011), Milwaukee, WI, USA, July 31-August 3, 2011. (Poster)

Diarra, M.S. (2011). "Does antibiotic-feed supplementation as growth promoter benefit animal industries?", 10th Conference of the Canadian Rural Health Research Society KEEPING IT RURAL: Health, Multiculturalism & The Rural-Urban Interface, Richmond, BC, Canada, October 20-22, 2011. (Presentation)

Diarra, M.S. (2011). "Antibiotic Resistance in *Enterococcus*.", University of British Columbia Guest Lecture of Course Food 523, September 30, 2011. (Presentation)

Diarra, M.S., Lai, V., Heidi, R., Service, C., Aslam, M., and Manges, A.R. (2011). "Detection of virulence genes in *Escherichia coli* isolated from retail poultry meats.", Canadian Meat Science Association 60th Annual Meeting / Canadian Meat Council Technical Symposium 91st Annual Conference, Halifax, NS, Canada, May 4-7, 2011.

Diarra, M.S., Vela, J., Hilderbrand, K., Metcalfe, A., Rempel, H., Bittman, S., and Topp, E. (2011). "Antibiotic resistance of *Staphylococcus xylosum* isolated from broiler barn bioaerosol.", 51st Annual Conference of the Pacific Northwest International Section (PNWIS) of the Air & Waste Management Association, Harrison, BC, Canada, November 8-11, 2011, Oral presentation.

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## Research Publications:

2015

Fu, Y.B., Yang, M.-H., Horbach, C., Kessler, D., Diederichsen, A., You, F.M., and Wang, H. (2015). "Patterns of SSR variation in bread wheat (*Triticum aestivum* L.) seeds under ex situ genebank storage and accelerated ageing.", *Genetic Resources and Crop Evolution*, 62(8), pp. 1-14. doi: 10.1007/s10722-015-0349-9

2014

Soto-Cerda, B.J., Duguid, S.D., Booker, H.M., Rowland, G.G., Diederichsen, A., and Cloutier, S. (2014). "Association mapping of seed quality traits using the flax (*Linum usitatissimum* L.) core collection.", *Theoretical and Applied Genetics (TAG)*, 127(4), pp. 881-896. doi: 10.1007/s00122-014-2264-4

Soto-Cerda, B.J., Duguid, S.D., Booker, H.M., Rowland, G.G., Diederichsen, A., and Cloutier, S. (2014). "Genomic regions underlying agronomic traits in linseed (*Linum usitatissimum* L.) as revealed by association mapping.", *Journal of Integrative Plant Biology (JIPB)*, 56(1), pp. 75-87. doi: 10.1111/jipb.12118

Soto-Cerda, B.J., Diederichsen, A., and Duguid, S.D. (2014). "The potential of pale flax as a source of useful genetic variation for cultivated flax revealed through molecular diversity and association analyses.", *Molecular Breeding*, 34(4), pp. 2091-2107. doi: 10.1007/s11032-014-0165-5

Zhang, T., Lamb, E.G., Soto-Cerda, B.J., Duguid, S.D., Cloutier, S., Rowland, G.G., Diederichsen, A., and Booker, H.M. (2014). "Structural equation modeling of the Canadian flax (*Linum usitatissimum* L.) core collection for multiple phenotypic traits.", *Canadian Journal of Plant Science*, 94(8), pp. 1325-1332. doi: 10.4141/CJPS-2014-158

Soto-Cerda, B.J., Diederichsen, A., Duguid, S.D., Booker, H.M., Rowland, G.G., and Cloutier, S. (2014). "Molecular diversity and association analyses reveal the potential of pale flax (*Linum bienne* Mill.), the wild progenitor of cultivated flax (*Linum usitatissimum* L.) as a source of useful genetic variation.", *Molecular Breeding*, 34, pp. 2091-2107.

2013

Soto-Cerda, B.J., Diederichsen, A., Ragupathy, R., and Cloutier, S. (2013). "Genetic characterization of a core collection of flax (*Linum usitatissimum* L.) suitable for association mapping studies and evidence of divergent selection between fiber and linseed types.", *BMC Plant Biology*, 13(78), pp. 1-14. doi: 10.1186/1471-2229-13-78

Diederichsen, A., Solberg, S.Ø., and Jeppson, S. (2013). "Morphological changes in Nordic spring wheat (*Triticum aestivum* L.) cultivars released from 1982 to 1994 and a comparison with landraces.", *Genetic Resources and Crop Evolution*, 60(2), pp. 569-585. doi: 10.1007/s10722-012-9858-y

Diederichsen, A., Kusters, P.M., Kessler, D., Baines, Z., and Gugel, R.K. (2013). "Assembling a core collection from the flax world collection maintained by Plant Gene Resources of Canada.", *Genetic Resources and Crop Evolution*, 60(4), pp. 1479-1485. doi: 10.1007/s10722-012-9936-1

Jha, A.B., Arganosa, G.C., Tar'an, B., Diederichsen, A., and Warkentin, T.D. (2013). "Characterization of 169 diverse pea germplasm accessions for agronomic performance, *Mycosphaerella* blight resistance and nutritional profile.", *Genetic Resources and Crop Evolution*, 60(2), pp. 747-761. doi: 10.1007/s10722-012-9871-1

2012

Shaikh, R., Diederichsen, A., Harrington, M., Adam, J., Conner, R.L., and Buchwaldt, L. (2012). "New sources of resistance to *Colletotrichum truncatum* race Ct0 and Ct1 in *Lens culinaris* subsp. *culinaris* obtained by single plant selection in germplasm accessions.", *Genetic Resources and Crop Evolution*, 60(1), pp. 193-201. doi: 10.1007/s10722-012-9825-7

Uysal, H., Kurt, O., Fu, Y.B., Diederichsen, A., and Kusters, P.M. (2012). "Variation in phenotypic characters of pale flax (*Linum bienne* Mill.) from Turkey.", *Genetic Resources and Crop Evolution*, 59(1), pp. 19-30. doi: 10.1007/s10722-011-9663-z

Fu, Y.B., Diederichsen, A., and Allaby, R.G. (2012). "Locus-specific view of flax domestication history.", *Ecology and Evolution*, 2(1), pp. 139-152. doi: 10.1002/ece3.57

2011

Tullu, A., Diederichsen, A., Suvorova, G., and Vandenberg, A. (2011). "Genetic and genomic resources of lentil: status, use and prospects.", *Plant Genetic Resources: Characterization and Utilization*, 9(1), pp. 19-29. doi : 10.1017/S1479262110000353

## Other Science Related Publications:

2014

Solberg, S.Ø., Diederichsen, A., Breian, L., and Poulsen, G. (2014). "Genebank interactions with the seed sector in the Nordic and Arctic regions.", International Conference on ENHANCED GENEPOOL UTILIZATION - Capturing wild relative and landrace diversity for crop improvement, Cambridge, UK, June 16-20, 2014, Book of Abstracts. Bioversity International, Rome, Italy, pp. 136. (Abstract)

Diederichsen, A., Kessler, D., and Sander, T. (2014). "Seed characteristics in cultivated *Cicer arietinum* and wild *Cicer* species preserved by Plant Gene Resources of Canada.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014, [https://www.google.ca/?gfe\\_rd=cr&ei=cwxhU4PdCePN8gfXmYD4CA#q=Diederichsen%2C+A.1%2C+Kessler%2C+D.1%2C+and+Sander%2C+T.1](https://www.google.ca/?gfe_rd=cr&ei=cwxhU4PdCePN8gfXmYD4CA#q=Diederichsen%2C+A.1%2C+Kessler%2C+D.1%2C+and+Sander%2C+T.1), pp. 135. (Abstract)

Diederichsen, A. (2014). "Structure of the oat gene pool at Plant Gene Resources of Canada. ([http://oatnews.org/Oat\\_Newsletter\\_reports.htm](http://oatnews.org/Oat_Newsletter_reports.htm))", *Oat Newsletter*, 51.

Diederichsen, A. (2014). "Distribution of seed germplasm from plant gene resources of Canada. ([http://publications.gc.ca/site/archiv/ee-archived.html?url=http://publications.gc.ca/collections/collection\\_2014/aac-aafc/A47-8-20-2013-eng.pdf](http://publications.gc.ca/site/archiv/ee-archived.html?url=http://publications.gc.ca/collections/collection_2014/aac-aafc/A47-8-20-2013-eng.pdf))", *Potato Gene Resources Newsletter*, 20, pp. 1-4.

2012

Diederichsen, A., Rozhkov, R.V., Korzhenevsky, V.V., and Boguslavskij, R.L. (2012). "Collecting genetic resources of crop wild relatives in Crimea, Ukraine, in 2009.", *Crop Wild Relative*, 8, pp. 34-38.

Diederichsen, A. (2012). "The Canadian national genebank and oat.", University of Saskatchewan, Saskatoon, SK, Canada, November 27, 2012. (Presentation)

Diederichsen, A. (2012). "Åsmund Bjørnstad: Vårt daglige brød - kornets kulturhistorie [Our daily bread – cultural history of cereals]. 2010, Vidarforlaget, Oslo, Norway, 255 pp. 68 references, in Neo Norwegian language ISBN: 978-82-7900-102-0. Book review.", *Genetic Resources and Crop Evolution*, 59, pp. 965-966.

Diederichsen, A. (2012). "Jerusalem artichoke (*Helianthus tuberosus* L.) in the Canadian genebank.", Western Canadian Crop Production Show 2012, Saskatoon, SK, Canada, January 9, 2012. (Poster)

Diederichsen, A., Blackburn, H.D., and Plante, Y. (2012). "The reduction in biodiversity in agriculture: myth or reality?", 5th World Congress of Agronomists and Agrologists, Québec City Convention Centre, Québec City, QC, Canada, September 17-21, 2012.

2011

Diederichsen, A. (2011). "Characterization of Nordic cultivars and landraces of spring wheat released during the 20th century.", Nordic Genetic Resource Centre, Alnarp, Sweden, March 17, 2011. (Presentation)

Diederichsen, A., Vishnyakova, M., and Vandenberg, A. (2011). "Lentils: The Saskatchewan – Russia Connection.", *PulsePoint*, pp. 38-39.

Diederichsen, A. (2011). "Research in flax, oat and chickpea at the Canadian national genebank for improved collection utilization.", Seminar at Swedish Agricultural University SLU, Alnarp, Sweden, May 19, 2011. (Presentation)

Diederichsen, A. and McVetty, P.B.E. (2011). "Botany and Plant Breeding.", in Daun, J.K., Eskin, N.A.M. and Hickling, D. (eds.) - *Canola: Chemistry, Production, Processing and Utilization* (AOCS Monograph Series on Oilseeds), AOCS Press, Urbana, USA, Chapter 2, pp. 29-56.

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## Research Publications:

2015

Goulet, H., Hillier, N.K., Dixon, P.L., and Larsson, D.G.J. (2015). "Phanerotoma libertinecida (Hymenoptera: Braconidae), a new species of parasitoid of Grapholita libertina (Lepidoptera: Tortricidae) associated with lingonberry (Ericaceae).", *The Canadian Entomologist*. doi: 10.4039/tce.2015.46

2014

Dixon, P.L., Cass, L., Vincent, C., and Olfert, O.O. (2014). "Implementation and Adoption of Integrated Pest Management in Canada: Insects.", in Peshin, R. and Pimentel, D. (eds.) - *Experiences with IPM, Transgenic Crops and Pesticide Use*, Springer, Chapter 9, pp. 221-252.

## Other Science Related Publications:

2015

Debnath, S.C., Anderson, S., Bishop, G.A., Dixon, P.L., McKenzie, D.-L., Mills, A.A.S., and Siow, Y.L. (2015). Developing innovative technologies to accelerate industry transition from 'wild' to cultivated cool climate berry crop production systems. Project ID: 13-1155; Research Project Annual Report 2014-2015., AAFC Science and Technology Branch. (Report)

2014

Debnath, S.C., Dixon, P.L., and Bishop, G.A. (2014). "Recherches sur la canneberge menées au Centre de recherches de l'Atlantique sur les cultures de climat frais.", Atlantic Cranberry Management Conference - "Out of the Red", St. John's, Canada, March 20-21, 2014. (Poster)

Debnath, S.C., Anderson, S., Bishop, G.A., Dixon, P.L., McKenzie, D.B., Mills, A.A.S., and Siow, Y.L. (2014). Developing innovative technologies to accelerate industry transition from 'wild' to cultivated cool climate berry crop production systems. Project ID: 13-1155; Research Project Annual Report 2013-2014, AAFC Science and Technology Branch. (Report)

McKenzie, D.B., Bishop, G.A., and Dixon, P.L. (2014). "Assessment of surface mulch type effect on the initial growth of half-high blueberry cultivars from a range of maturity classes under the cool, high precipitation climatic conditions of eastern Newfoundland.", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014, Presentation. (Poster)

McKenzie, D.B., Bishop, G.A., and Dixon, P.L. (2014). "Effet de divers types de paillis sur la croissance initiale des cultivars de bleuets semi-géants de différentes classes de précocité de maturation dans les conditions fraîches et pluvieuses de l'est de Terre-Neuve.", Research Centre Field Day, Centre de recherche de l'Atlantique sur les cultures de climat frais, Agriculture et Agroalimentaire Canada, St. John's, NL, Canada, August 9, 2014. (Poster)

McKenzie, D.B., Bishop, G.A., and Dixon, P.L. (2014). "Assessment of surface mulch type effect on the initial growth of half-high blueberry cultivars from a range of maturity classes under the cool, high precipitation climatic conditions of eastern Newfoundland.", Research Centre Field Day, Centre de recherche de l'Atlantique sur les cultures de climat frais, Agriculture et Agroalimentaire Canada, St. John's, NL, Canada, August 9, 2014. (Poster)

McKenzie, D.B., Bishop, G.A., Dixon, P.L., and Noronha, C. (2014). "Non merci, je ne veux pas de larves de doryphores sur mes patates!", 56th Annual Farm Field Day, St. John's, NL, Canada, August 9, 2014, Presentation. (Poster)

McKenzie, D.B., Bishop, G.A., Dixon, P.L., and Noronha, C. (2014). "No thanks, I'll pass on the wireworms in my potatoes.", 56th Annual Farm Field Day, St. John's, NL, Canada, August 9, 2014, Presentation. (Poster)

Debnath, S.C., Dixon, P.L., and Bishop, G.A. (2014). "Cranberry Research at the Atlantic Cool Climate Crop Research Centre.", Atlantic Cranberry Management Conference - "Out of the Red", St. John's, Canada, March 20-21, 2014. (Poster)

Debnath, S.C., McKenzie, D.B., Bishop, G.A., Dixon, P.L., Siow, Y.L., and Mills, A.A.S. (2014). "Blueberries: transitioning from wild to cultivated production.", STB Weekly Science Story, January 21, 2014. (Newsletter)

McKenzie, D.B., Bishop, G.A., and Dixon, P.L. (2014). "Effet de divers types de paillis sur la croissance initiale des cultivars de bleuets semi-géants de différentes classes de précocité de maturation dans les conditions fraîches et pluvieuses de l'est de Terre-Neuve.", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014.

## 2013

Owen, J., LeBlanc, S., Dixon, P.L., Parsons, C.K., Madore, L., Zvalo, V., Mellish, S., and Pemberton, R. (2013). Row covers as physical barriers in brassica vegetable crops to control cabbage maggot (*Delia radicum* L.): Final Report for AAFC Pesticide Risk Reduction Program. Project Code: PRR10-220. (Report)

Dixon, P.L., Zvalo, V., Fillmore, S.A.E., LeBlanc, S., Madore, L., Mellish, S., Owen, J., Parsons, C.K., Pemberton, R., and Power, T. (2013). "Update on the use of long-lasting insect netting to control the cabbage maggot.", Joint Annual Meeting of the Entomological Societies of Ontario and Canada, Guelph, Ontario, Canada, October 20-23, 2013.

Dixon, P.L., Zvalo, V., Fillmore, S.A.E., LeBlanc, S., Madore, L., Mellish, S., Owen, J., Parsons, C.K., Pemberton, R., and Power, T. (2013). "Managing the cabbage maggot using long-lasting insect netting." (Factsheet)

## 2012

Debnath, S.C., McKenzie, D.B., Dixon, P.L., and Bishop, G.A. (2012). "Cool climate berry crop production and protection in Newfoundland and Labrador.", Newfoundland and Labrador Symposium: Our Food, Our Future, Growing the Agriculture Industry in Newfoundland and Labrador, Corner Brook, NL, Canada, November 23, 2012, pp. 11-12.

Dixon, P.L., Fillmore, S.A.E., LeBlanc, S., Madore, L., Mellish, S., Owen, J., Parsons, C.K., Pemberton, R., Power, T., and Zvalo, V. (2012). "Row covers as physical barriers to control cabbage maggot (*Delia radicum*) in rutabaga.", Ontario Fruit and Vegetable Grower Association Conference, February, 2012. (Poster)

## 2011

Dixon, P.L., Fillmore, S.A.E., LeBlanc, S., Madore, L., Mellish, S., Owen, J., Parsons, C.K., Pemberton, R., Power, T., and Zvalo, V. (2011). "Rutabaga, (*Brassica napus* var. *napobrassica* L. Reichenb.), cv. Laurentian, York and pest Cabbage maggot (*Delia radicum* (L.)).", Pest Management Research Report.

Dixon, P.L., Fillmore, S.A.E., LeBlanc, S., Madore, L., Mellish, S., Owen, J., Parsons, C.K., Pemberton, R., Power, T., and Zvalo, V. (2011). "Row covers as physical barriers to control cabbage maggot (*Delia radicum*) in rutabaga.", Entomological Society of Canada-Acadian Entomological Society Joint Annual Meeting, Halifax, N.S., Canada, November, 2011. (Poster)

# Dobinson, Katherine F., Ph.D.

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## Research Publications:

2015

Alkher, H.A., Islam, M.R., Wijekoon, C.P., Wijekoon, C.P., Kalischuk, M.L., Kawchuk, L.M., Peters, R.D., Al-Mughrabi, K.I., Conn, K.L., Dobinson, K.F., Waterer, D.R., and Daayf, F. (2015). "Characterization of *Phytophthora infestans* populations in Canada during 2012.", *Canadian Journal of Plant Pathology*, 37(3), pp. 305-314. doi: 10.1080/07060661.2015.1053987

2014

Peters, R.D., Al-Mughrabi, K.I., Kalischuk, M.L., Dobinson, K.F., Conn, K.L., Alkher, H.A., Islam, M.R., Daayf, F., Lynn, J., Bizimungu, B., De Koeber, D.L., Lévesque, C.A., and Kawchuk, L.M. (2014). "Characterization of *Phytophthora infestans* population diversity in Canada reveals increased migration and genotype recombination.", *Canadian Journal of Plant Pathology*, 36(1), pp. 73-82. doi: 10.1080/07060661.2014.892900

2012

Amyotte, S.G., Tan, X., Pennerman, K., Jimenez-Gasco, M., Klosterman, S.J., Ma, L.-J., Dobinson, K.F., and Veronese, P. (2012). "Transposable elements in phytopathogenic *Verticillium* spp.: insights into genome evolution and inter- and intra-specific diversification.", *BMC Genomics*, 13:314. doi: 10.1186/1471-2164-13-314

2011

Klosterman, S.J., Subbarao, K.V., Kang, S., Veronese, P., Gold, S.E., Thomma, B.P.H.J., Chen, Z., Henriessat, B., Lee, Y.-H., Park, J., Garcia-Pedrajas, M.D., Barbara, D.J., Anchieta, A., de Jonge, R., Santhanam, P., Maruthachalam, K., Atallah, Z., Amyotte, S.G., Paz, Z., Inderbitzin, P., Hayes, R.J., Heiman, D.I., Young, S., Zeng, Q., Engels, R., Galagan, J., Cuomo, C.A., Dobinson, K.F., and Ma, L.-J. (2011). "Comparative Genomics Yields Insights into Niche Adaptation of Plant Vascular Wilt Pathogens.", *PLoS Pathogens*, 7(7, Article No. e1002137). doi: 10.1371/journal.ppat.1002137

## Other Science Related Publications:

2014

Islam, M.R., Alkher, H.A., Bezzahou, M., Godee, C., Adam, L.R., Kawchuk, L.M., Dobinson, K.F., Conn, K.L., Peters, R.D., Al-Mughrabi, K.I., Shinnars-Camelley, T., and Daayf, F. (2014). "Diversity in population structure of the late blight pathogen, *Phytophthora infestans*, in Manitoba.", *Canadian Journal of Plant Pathology*, 36, pp. 267. (Abstract)

2013

Islam, M.R., Alkher, H.A., Bezzahou, M., Godee, C., Adam, L.R., Kawchuk, L.M., Dobinson, K.F., Conn, K.L., Peters, R.D., Al-Mughrabi, K.I., Shinnars-Camelley, T., and Daayf, F. (2013). "Diversity in population structure of late blight pathogen, *P. infestans* in Manitoba.", 84rd Annual Meeting of the Canadian Phytopathological Society (CPS), Matrix Hotel, Edmonton, AB, Canada, June 16-19, 2013.

Kawchuk, L.M., Peters, R.D., Al-Mughrabi, K.I., Dobinson, K.F., Conn, K.L., and Daayf, F. (2013). "Population diversity and segregation analysis of genotype specific loci of the Irish Potato Famine pathogen.", 84rd Annual Meeting of the Canadian Phytopathological Society (CPS), Matrix Hotel, Edmonton, AB, Canada, June 16-19, 2013.

2012

Dobinson, K.F., Conn, K.L., Kawchuk, L.M., Peters, R.D., Al-Mughrabi, K.I., and Daayf, F. (2012). "Characterization of *Phytophthora infestans* (Mont.) de Bary from tomato in southwestern Ontario.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012.



Alkher, H.A., Kawchuk, L.M., Adam, L.R., Islam, M.R., Dobinson, K.F., Conn, K.L., Peters, R.D., Al-Mughrabi, K.I., and Daayf, F. (2012). "Pathogenic diversity of Manitoba isolates of *Phytophthora infestans* on potato and tomato.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012.

Kawchuk, L.M., Peters, R.D., Al-Mughrabi, K.I., Conn, K.L., Dobinson, K.F., and Daayf, F. (2012). "Migration and recombination increase the genetic diversity of *Phytophthora infestans* in Canada.", 96th Annual Meeting of the Potato Association of America (PAA), Crowne Plaza Denver International Airport, Denver, CO, USA, August 12-16, 2012.

Kawchuk, L.M., Peters, R.D., Al-Mughrabi, K.I., Conn, G., Dobinson, K.F., and Daayf, F. (2012). "Distribution of genotypes of *Phytophthora infestans* isolated from potato and tomato in Canada in 2011.", American Phytopathological Society (APS) 2012 Annual Meeting, Westin Providence, Providence, RI, USA, August 4-8, 2012.

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## Research Publications:

2014

Donly, B.C., Theilmann, D.A., Hegedus, D.D., Baldwin, D., and Erlandson, M.A. (2014). "Mamestra configurata nucleopolyhedrovirus-A transcriptome from infected host midgut.", *Virus Genes*, 48(1), pp. 174-183. doi : 10.1007/s11262-013-0986-z

2013

Simmons, N.J., D'Souza, O., Rheault, M., and Donly, B.C. (2013). "Multidrug resistance protein gene expression in *Trichoplusia ni* caterpillars.", *Insect Molecular Biology*, 22(1), pp. 62-71. doi : 10.1111/imb.12003

Lam, F., McNeil, J.N., and Donly, B.C. (2013). "Octopamine receptor gene expression in three lepidopteran species of insect.", *Peptides*, 41, pp. 66-73. doi : 10.1016/j.peptides.2012.03.034

2011

Labbé, R.M., Caveney, S., and Donly, B.C. (2011). "Expression of multidrug resistance proteins is localized principally to the Malpighian tubules in larvae of the cabbage looper moth, *Trichoplusia ni*.", *Journal of Experimental Biology*, 214(6), pp. 937-944. doi : 10.1242/jeb.051060

Labbé, R.M., Caveney, S., and Donly, B.C. (2011). "Genetic analysis of the xenobiotic resistance-associated ABC gene subfamilies of the Lepidoptera.", *Insect Molecular Biology*, 20(2), pp. 243-256. doi : 10.1111/j.1365-2583.2010.01064.x

## Other Science Related Publications:

2015

Theilmann, D.A., Willis, L.G., Weis, M.M., Donly, B.C., Hegedus, D.D., and Erlandson, M.A. (2015). "Analysis of occlusion derived virus infection in tissue culture using gene knock out viruses of the per os infectivity factors and GP64.", 48th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Vancouver, B.C., Canada, August 9-13, 2015, Oral Presentation.

2014

Erlandson, M.A., Donly, B.C., Theilmann, D.A., Hegedus, D.D., Coutu, C., and Baldwin, D. (2014). "Mamestra configurata nucleopolyhedrovirus-A transcriptome from infected host midgut.", 47th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Johannes Gutenberg University, Mainz, Germany, August 3-7, 2014, oral presentation, pp. 80.

Erlandson, M.A., Donly, B.C., Theilmann, D.A., Hegedus, D.D., Coutu, C., and Baldwin, D. (2014). "Mamestra configurata nucleopolyhedrovirus-A transcriptome from infected host midgut.", 47th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Mainz, Germany, August 3-7, 2014, Oral Presentation.

2012

Lam, F., McNeil, J.N., and Donly, B.C. (2012). "Octopamine receptor genes in the cabbage looper, *Trichoplusia ni*.", Invertebrate Neuropeptide Conference, San Pedro, Chile, February 5-9, 2012.

2011

Lam, F., McNeil, J.N., and Donly, B.C. (2011). "Expression of octopamine receptor genes in the cabbage looper, *Trichoplusia ni*.", Insect Biotech Conference, St. Catharines, ON, Canada, June 8-10, 2011.

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## Research Publications :

2015

Gravel, V., Dorais, M., Dey, D., and Vandenberg, G.W. (2015). "Fish effluents promote root growth and suppress fungal diseases in tomato transplants.", *Canadian Journal of Plant Science*, 95(2), pp. 427-436. doi : 10.4141/CJPS-2014-315

Thiagarajan, A., Lada, R.R., Pepin, S., Fomey, C.F., Desjardins, Y., and Dorais, M. (2015). "Vulnerability of low temperature induced needle retention in balsam fir (*Abies balsamiae* L.) to vapour pressure deficits.", *Scandinavian Journal of Forest Research*. doi : 10.1080/02827581.2015.1059484

2014

Gruyer, N., Dorais, M., Bastien, C., Dassylva, N., and Triffault-Bouchet, G. (2014). "Interaction between silver nanoparticles and plant growth.", *Acta Horticulturae (ISHS)*, 1037, pp. 795-800.

Clément, A., Bacon, R., and Dorais, M. (2014). "Greenhouse tomato quality determinants on a north american market: A year round study.", *Acta Horticulturae (ISHS)*, 1037, pp. 377-384.

Méthot, J., de Halleux, D., and Dorais, M. (2014). "Potential assessment of growth and yield of organic greenhouse tomato using a geothermal system.", *Acta Horticulturae (ISHS)*, 1037, pp. 237-242.

Dorais, M., Antón, A.A., Montero, J.I., and Torrellas, M. (2014). "Environmental assessment of demarcated bed-grown organic greenhouse tomatoes using renewable energy.", *Acta Horticulturae (ISHS)*, 1041, pp. 291-298.

Ménard, C., Dorais, M., Zyromski, N., and Dansereau, B. (2014). "Ornamental production of organic basil and *Calibrachoa*: Fertilisation and beneficial organisms.", *Acta Horticulturae (ISHS)*, 1041, pp. 71-78.

Vallières, M., Dorais, M., de Halleux, D., and Bouzid, S. (2014). "Comparison of two cooling and dehumidifying methods for a semi-closed organic tomato greenhouse.", *Acta Horticulturae (ISHS)*, 1037, pp. 611-616.

2013

Thiagarajan, A., Lada, R.R., Pepin, S., Fomey, C.F., Desjardins, Y., and Dorais, M. (2013). "Temperature and Photoperiod Influence Postharvest Needle Abscission of Selected Balsam Fir (*Abies balsamea* L. (Mill.)) Genotypes by Modulating ABA Levels.", *Journal of Plant Growth Regulation*, 32(4), pp. 843-851. doi : 10.1007/s00344-013-9349-1

Gravel, V., Dorais, M., and Ménard, C. (2013). "Organic potted plants amended with biochar: its effect on growth and *Pythium* colonization.", *Canadian Journal of Plant Science*, 93(6), pp. 1217-1227. doi : 10.4141/CJPS2013-315

Gruyer, N., Dorais, M., Alsanius, B.W., and Zagury, G.J. (2013). "Use of a passive bioreactor to reduce water-borne plant pathogens, nitrate, and sulfate in greenhouse effluent.", *Journal of Environmental Science and Health, Part A: Toxic - Hazardous Substances & Environmental Engineering*, 48(13), pp. 1740-1747. doi : 10.1080/10934529.2013.815569

Gruyer, N., Dorais, M., Alsanius, B.W., and Zagury, G.J. (2013). "Simultaneous removal of nitrate and sulphate from greenhouse effluent by artificial wetlands.", *Journal of Environmental Quality*, 42(4), pp. 1256-1266. doi : 10.2134/jeq2012.0306

Gruyer, N., Dorais, M., Zagury, G.J., and Alsanius, B.W. (2013). "Removal of plant pathogens from recycled greenhouse wastewater using constructed wetlands.", *Agricultural Water Management*, 117(1), pp. 153-158. doi : 10.1016/j.agwat.2012.11.009

Pedneault, K., Dorais, M., and Angers, P. (2013). "Flavor of cold-hardy grapes: Impact of berry maturity and environmental conditions.", *Journal of Agricultural and Food Chemistry*, 61, pp. 10418-10438. doi : 10.1021/jf402473u

Pedneault, K., Dorais, M., Léonhart, S., Angers, P., and Gosselin, A. (2013). "Time-course accumulation of flavonoids in hydroponically grown *Achillea millefolium* L.", *Canadian Journal of Plant Science*, 94(2), pp. 383-395. doi : 10.4141/CJPS2013-282

2012

Gravel, V., Dorais, M., and Ménard, C. (2012). "Organic Fertilization and Its Effect on Development of Sweet Pepper Transplants.", *HortScience*, 47(2), pp. 198-204.

MacDonald, M.T., Lada, R.R., Martynenko, A., Pépin, S., Desjardins, Y., and Dorais, M. (2012). "Is There a Relationship between Ethylene Evolution, Ethylene Sensitivity, and Needle Abscission in Root-Detached Balsam Fir?", *Acta Horticulturae* (ISHS), 932, pp. 405-412.

MacDonald, M.T., Rajasekaran, R., Dorais, M., and Pepin, S. (2012). "Influence of humidity and temperature on postharvest needle abscission in Balsam fir in the presence and absence of exogenous ethylene.", *HortScience*, 47(9), pp. 1328-1332.

Lemay, I., Caron, J., Dorais, M., and Pépin, S. (2012). "Defining Irrigation Set Points Based on Substrate Properties for Variable Irrigation and Constant Matric Potential Devices in Greenhouse Tomato.", *HortScience*, 47(8), pp. 1141-1152.

Papadopoulos, A.P., Yaganza, E.-S., Hao, X.M., Martynenko, A., Ramados, M., Saha, U.K., Ehret, D.L., Dorais, M., and Kholsa, S. (2012). "Effects of Oxygen Super-Saturated Nutrient Solutions on Greenhouse Tomato.", *Acta Horticulturae* (ISHS), 952, pp. 713-720.

2011

Dorais, M. and Dubé, Y. (2011). "An integrated sustainable organic production system for greenhouse crops.", 17th IFOAM Organic Life, pp. 2:302-305.

Lévesque, V., Dorais, M., Gravel, V., Ménard, C., Antoun, H., Rochette, P., and Roy, S. (2011). "The Use of Artificial Wetlands to Treat Greenhouse Effluents.", *Acta Horticulturae* (ISHS), 893, pp. 1185-1192.

Gravel, V., Dorais, M., Gruyer, N., and Ménard, C. (2011). "Constructed Wetlands Implanted with *Iris versicolor*, *Juncus* sp. and *Phragmites australis* as a Potential Treatment for Greenhouse Effluents.", *Acta Horticulturae* (ISHS), 893, pp. 1139-1146.

Aberkani, K., Hao, X.M., de Halleux, D., Papadopoulos, A.P., Dorais, M., and Vineberg, S. (2011). "Energy saving achieved by retractable liquid foam between double polyethylene films covering greenhouses.", *Transactions of the ASABE*, 54(1), pp. 275-284.

MacDonald, M.T., Lada, R.R., Dorais, M., and Pépin, S. (2011). "Endogenous and exogenous ethylene induces needle abscission and cellulase activity in post-harvest balsam fir (*Abies balsamea* L.).", *Trees - Structure and Function*, 25(5), pp. 947-952. doi : 10.1007/s00468-011-0569-3

Gruyer, N., Dorais, M., Zagury, G.J., and Alsanjus, B.W. (2011). "Effects of Using Water Treated by Artificial Wetlands on Rot Suppression and Tomato Growth.", *HortTechnology*, 21(6), pp. 759-766.

Gravel, V., Ménard, C., Dorais, M., and Pépin, S. (2011). "Greenhouse Tomato Plant Development under Organic Growing Conditions: a Case Study of Six Organic Soils.", *Acta Horticulturae* (ISHS), 915, pp. 83-89.

Gravel, V., Ménard, C., and Dorais, M. (2011). "Organic Greenhouse Tomato Production in Raised Bed Containers: a Two Year Study.", *Acta Horticulturae* (ISHS), 915, pp. 69-74.

MacDonald, M.T., Lada, R.R., Martynenko, A., Dorais, M., Pépin, S., and Desjardins, Y. (2011). "Ethylene Exposure Duration Affects Postharvest Needle Abscission in Balsam Fir (*Abies balsamea* L.).", *HortScience*, 46(2), pp. 260-264.

Dorais, M. and Dubé, Y. (2011). "Managing greenhouse organic wastes: A holistic approach.", *Acta Horticulturae* (ISHS), 893, pp. 183-198.

Dorais, M. and Pépin, S. (2011). "Soil Oxygenation Effects on Growth, Yield and Nutrition of Organic Greenhouse Tomato Crops.", *Acta Horticulturae* (ISHS), 915, pp. 91-99.

Gruyer, N., Dorais, M., Gravel, V., and Zagury, G.J. (2011). "Removal of *Pythium ultimum* propagules in recycled greenhouse nutrient solution using artificial wetlands.", *Acta Horticulturae* (ISHS), 903, pp. 1179-1184.

## Other Science Related Publications:

2013

Dorais, M. (2013). "Grappe agroscientifique du Canada sur les Productions biologiques: Cultures sous abris.", *La semaine Horticole 2013*, Maison de l'UPA, Longueuil, QC, Canada, February 12, 2013.

Bolduc, M., Dorais, M., Gravel, V., Rochette, P., and Antoun, H. (2013). "Using artificial wetlands enriched with biochar to treat greenhouse effluent and reduce N<sub>2</sub>O emission.", *Greensys 2013 - New Technologies for Environment Control, Energy-saving and Crop Production in Greenhouse and Plant Factory*, Jeju, South Korea, September 22-27, 2013. (Presentation)

Méthot, J., de Halleux, D., and Dorais, M. (2013). "Évaluation du Potentiel de Croissance et de Rendement d'une Culture de Tomates Biologiques Cultivées dans une Serre Climatisée à l'Aide d'un Système Géothermique.", 81e Congrès de l'Association francophone pour le savoir (ACFAS), Université Laval, Québec City, QC, Canada, May 6-10, 2013. (Abstract)

Gravel, V., Dorais, M., and Ménard, C. (2013). "Organic potted plants amended with biochar.", 2nd ISHS Symposium on Organic Greenhouse Horticulture, Avignon, France, October 28-31, 2013.

Dorais, M. and Fortier, É. (2013). "Effects of vermicompost and beneficial agents for seedling production.", 2nd ISHS Symposium on Organic Greenhouse Horticulture, Avignon, France, October 28-31, 2013.

Dorais, M. and Dansereau, B. (2013). "Feasibility of producing ornamental potted plants for the North American market.", 2nd ISHS Symposium on Organic Greenhouse Horticulture, Avignon, France, October 28-31, 2013.

Pepin, S., Dorais, M., Ménard, C., Bacon, R., Fortier, É., Khedid, H., and Béchard-Dubé, S.-A. (2013). "Mid-canopy supplemental 3-D LED lighting for greenhouse tomato production – Effects on leaf photosynthetic capacity, yield and fruit quality.", Greensys 2013 - New Technologies for Environment Control, Energy-saving and Crop Production in Greenhouse and Plant Factory, Jeju, South Korea, September 22-27, 2013. (Presentation)

Dorais, M. (2013). "Culture biologique du basilic ornemental et du Calibrachoa.", Journée de l'IQDHO, Drummondville, QC, Canada, February 5, 2013.

Ouertani, S., Dorais, M., Antoun, H., and Pepin, S. (2013). "Effet de l'ajout du biochar sur les microorganismes des marais filtrants artificiels traitant des effluents de serre.", Journée annuel du Centre de recherche en Horticulture 2013, Université Laval, Sainte-Foy, QC, Canada, May 23, 2013.

Vallières, M., de Halleux, D., and Dorais, M. (2013). "Comparison of Two Cooling and Dehumidifying Methods for a Semi-Closed Organic Tomato Greenhouse.", Greensys2013 - New Technologies for Environment Control, Energy-saving and Crop Production in Greenhouse and Plant Factory, Jeju, South Korea, September 22-27, 2013. (Abstract)

Méthot, J., de Halleux, D., and Dorais, M. (2013). "Potential Assessment of Growth and Yield of Greenhouse Grown organic tomato using a Geothermal System.", Greensys2013 - New Technologies for Environment Control, Energy-saving and Crop Production in Greenhouse and Plant Factory, Jeju, South Korea, September 22-27, 2013. (Abstract)

Pepin, S., Fortier, É., Béchard-Dubé, S.-A., Dorais, M., Ménard, C., and Bacon, R. (2013). "Beneficial effects of using 3-D LED interlighting system for tomato: winter vs summer seasons.", 2nd ISHS Symposium on Organic Greenhouse Horticulture, Avignon, France, October 28-31, 2013. Also published on Acta Horticulturae Volume 1041, 10 July 2014, Pages 239-246.

Bolduc, M., Dorais, M., Antoun, H., and Rochette, P. (2013). Does biochar improve wetland efficiency to treat organic and conventional greenhouse effluents?

Dorais, M., Pepin, S., and Ménard, C. (2013). "Impact of biochar soil amendment on greenhouse tomato grown in six types of soil.", 2nd ISHS Symposium on Organic Greenhouse Horticulture, Avignon, France, October 28-31, 2013.

## 2012

Gravel, V., Dorais, M., and Ménard, C. (2012). "Ornamental potted plants: production under organic fertilization.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012.

Dorais, M., Pépin, S., Gaudreau, L., Ménard, C., and Bacon, R. (2012). "Organically-grown Greenhouse Tomato Under Supplemental Lighting.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012, G6, pp. 95. (Poster)

Bolduc, M., Dorais, M., Gravel, V., Rochette, P., and Antoun, H. (2012). "Enrichment of Artificial Wetlands with Biochar to Improve their Efficiency and Reduce N<sub>2</sub>O Emission.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012.

Gruyer, N., Dorais, M., Zagury, G.J., and Alsanis, B.W. (2012). "A Passive Biological Approach to Remove Plant Pathogens from an Organic Greenhouse Effluent.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012, G7, pp. 96. (Poster)

Dorais, M. (2012). "Organic Greenhouse Cluster Research Activities: An Overview.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012.

Dorais, M., Antón, A.A., Torrellas, M., and Montero, J.I. (2012). "Environmental Assessment of an Organic Integrated Greenhouse Tomato Crop Grown Under Northern Conditions Compared to a Conventional Crop.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012, G3, pp. 92. (Poster)

Dorais, M., Gaudreau, L., Bordeleau, M., Gosselin, A., Medina, Y., Gauthier, L., Desjardins, Y., and Khanizadeh, S. (2012). "High Tunnel Production of Organic Raspberries.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012. (Poster)

Vallières, M., de Halleux, D., and Dorais, M. (2012). "Caractérisation de systèmes de déshumidification et de refroidissement pour une production en serre de tomates biologiques.", Journée du 100e anniversaire de la FSAA, Université Laval, Québec City, QC, Canada, Novembr 28, 2012.

Gruyer, N., Dorais, M., Alsanius, B.W., and Zagury, G.J. (2012). "The Use of Passive Bioreactors to Simultaneously Remove NO<sub>3</sub>, SO<sub>4</sub> and Plant Pathogens from Organic Greenhouse Effluent.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012, G10, pp. 99. (Poster)

Gravel, V., Dorais, M., Ménard, C., and Pépin, S. (2012). "Soil Salinization of Organically-grown Greenhouse Tomato.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012, G9, pp. 98. (Poster)

Gravel, V., Dorais, M., and Ménard, C. (2012). "Organic Fertilization and its Effect on Development of Sweet Pepper Transplants.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012, G4, pp. 93. (Poster)

Gravel, V., Dorais, M., and Ménard, C. (2012). "Organic Production of Vegetable and Herb Transplants.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012, G5, pp. 94. (Poster)

Hao, X.M., Dorais, M., Ehret, D.L., and Papadopoulos, A.P. (2012). Dynamic plant-based environment control to improve energy use efficiency in greenhouse crop production. Final A-Base Research Project (2008-12) Report, 13 pages. (Report)

Tempesta, M., Tremblay, N., Vigneault, P., Bouroubi, M.Y., Dorais, M., and Gianquinto, G.P. (2012). "Remote sensing of nitrogen and water status on Boston lettuce transplants in a greenhouse environment.", 11th International Conference on Precision Agriculture (ICPA), Indianapolis, IN, USA, July 15-18, 2012, Paper #1278, pp. 2 pages.

Vallières, M., Dorais, M., de Halleux, D., and Rondeau, M.-H. (2012). "Comparison of Two Cooling and Dehumidifying Methods for a Semi-Closed Organic Tomato Greenhouse.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012.

Tempesta, M., Tremblay, N., Vigneault, P., Bouroubi, M.Y., and Dorais, M. (2012). "Remote Sensing of Nitrogen and Water Status on Boston Lettuce Transplants in a Greenhouse Environment.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012, pp. 87.

Gravel, V., Dorais, M., Ménard, C., and Pépin, S. (2012). "Organic greenhouse tomato production in a closed system.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012.

Bolduc, M., Dorais, M., Antoun, H., and Rochette, P. (2012). "Optimisation des marais filtrants artificiels à traiter les eaux usées d'une production sericole par l'ajout de biochar.", Journée du 100e anniversaire de la FSAA, Université Laval, Québec City, QC, Canada, Novembr 28, 2012.

Gravel, C., Dorais, M., and Ménard, C. (2012). "Biochar Used in Combination with Organic Fertilization for Potted Plants: its Effect on Growth and Pythium Colonization.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012.

Bolduc, M., Dorais, M., Antoun, H., and Rochette, P. (2012). "Optimisation des marais filtrants artificiels à traiter les eaux usées d'une production sericole par l'ajout de biochar.", Journée annuel du Centre de recherche en Horticulture 2012, Université Laval, Sainte-Foy, QC, Canada, June 12, 2012.

Gravel, V., Dorais, M., Ménard, C., and Pépin, S. (2012). "Soil Oxygen Enrichment in Organically-grown Greenhouse Tomato.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012, G8, pp. 97. (Poster)

Dorais, M., Pepin, S., Rochette, P., and Ménard, C. (2012). "Effect of biochar amendment to six types of organic soil on soil activity and plant productivity.", 2nd ISHS Symposium on Organic Greenhouse Horticulture, Avignon, France, October 28-31, 2013.

## 2011

Dorais, M. and Dubé, Y. (2011). "Closed greenhouse systems: Multiphase recycling of solid and liquid organic waste.", *Chronica Horticulturae*, 51, pp. 72-79.

Dorais, M., Jean-Paul, C., Gravel, V., Rochette, P., Antoun, H., and Ménard, C. (2011). "Oxygen enrichment for organic greenhouse crops.", 17th IFOAM Organic is Life, pp. 1:410-413.

Gravel, V., Dorais, M., Ménard, C., and Pépin, S. (2011). "Soil salinization of organically-grown greenhouse tomato.", 3rd Scientific Conference of International Society of Organic Agriculture Research (ISO FAR) and 3rd Scientific Conference at the IFOAM Organic World Congress (OWC), Namyangju, South Korea, September 28-October 1, 2011, Published in: *ISO FAR Organic Crop production 1*, pp. 436-440.

- Bordeleau, M., Dorais, M., Gosselin, A., Gauthier, A., Desjardins, Y., and Khanizadeh, S. (2011). "High tunnel production of organic raspberries.", 3rd ISOFAR Scientific Conference in the frame of the 17th IFOAM Organic World Congress, Gyeonggi Paldang, South Korea, September 27-October 1 2011, Organic isLife: Knowledge for tomorrow. Vol. 1 Organic Crop production, pp. 459-462.
- Gravel, C., Ménard, C., Dorais, M., and Pépin, S. (2011). "Organic greenhouse tomato production in raised bed containers under commercial conditions: conclusion of a 3-year study.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.
- Vallières, M., de Halleux, D., and Dorais, M. (2011). "Caractérisation de systèmes de déshumidification et de refroidissement pour une production en serre de tomates biologiques.", 79e Congrès de l'ACFAS: Curiosité, diversité, responsabilité, Université de Sherbrooke & Université Bishop's, Sherbrooke, QC, Canada, May 9-10, 2011, D4-2021.
- Dorais, M., Pépin, S., Gaudreau, L., Ménard, C., Bacon, R., and Lemieux, M. (2011). "Organically-grown greenhouse tomato under supplemental lighting – optimization of the light distribution.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.
- Gruyer, N., Dorais, M., Zagury, G.J., and Alsanius, B.W. (2011). "Benefits of greenhouse effluent treatment through artificial wetland.", 1st International Symposium on Microbial Horticulture, Alnarp, Sweden, May 15-19, 2011.
- Gruyer, N., Dorais, M., Alsanius, B.W., and Zagury, G.J. (2011). "Removal of sulphate and nitrate in recycled greenhouse effluent solution using artificial wetlands.", GreenSys 2011 - International Society of Horticulture Science Advanced Technologies and Management Towards Sustainable Greenhouse Ecosystems, Halkidiki, Greece, June 5-10, 2011.
- Gruyer, N., Dorais, M., Zagury, G.J., and Alsanius, B.W. (2011). "Removal of plant pathogens in recycled greenhouse effluent using artificial wetlands.", GreenSys 2011 - International Society of Horticulture Science Advanced Technologies and Management Towards Sustainable Greenhouse Ecosystems, Halkidiki, Greece, June 5-10, 2011.
- Gruyer, N., Dorais, M., Zagury, G.J., and Alsanius, B.W. (2011). "Removal of plant pathogens in recycled greenhouse effluent using artificial wetlands.", GreenSys 2011 - International Society of Horticulture Science Advanced Technologies and Management Towards Sustainable Greenhouse Ecosystems, Halkidiki, Greece, June 5-10, 2011, P64. (Poster)
- Gruyer, N., Dorais, M., Alsanius, B.W., and Zagury, G.J. (2011). "Effectiveness of passive bioreactors for treating greenhouse effluent contaminated by pathogens and nutrient pollutants.", GreenSys 2011 - International Society of Horticulture Science Advanced Technologies and Management Towards Sustainable Greenhouse Ecosystems, Halkidiki, Greece, June 5-10, 2011. (Poster)
- Dorais, M., Antón, A.A., Montero, J.I., and Torrellas, M. (2011). "Environmental assessment of an integrated organic greenhouse tomato crop grown under Northern conditions.", 32nd Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC) North America, Boston, MA, USA, November 13-17, 2011.
- Thiagarajan, A., Lada, R.R., Pépin, S., Fomey, C.F., Desjardins, Y., and Dorais, M. (2011). "Low temperature exposure increases the postharvest needle retention of balsam fir (*Abies balsamea*) genotypes.", 108th Annual Conference of the American Society for Horticultural Science (ASHS), Hilton, Waikoloa, HI, USA, September 25-28, 2011, Published in: HortScience, 46(9), pp. S394. (Abstract)

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## Research Publications:

2012

Caillet, S., Lorenzo, G., Côté, J., Doyon, G.J., Sylvain, J.F., and Lacroix, M. (2012). "Cancer chemopreventive effect of fractions from cranberry products.", *Food Research International*, 45(1), pp. 320-330. doi : 10.1016/j.foodres.2011.09.011

Vu, K.D., Carlettini, H., Bouvet, J., Côté, J., Doyon, G.J., Sylvain, J.F., and Lacroix, M. (2012). "Effect of different cranberry extracts and juices during cranberry juice processing on the antiproliferative activity against two colon cancer cell lines.", *Food Chemistry*, 132(2), pp. 959-967. doi : 10.1016/j.foodchem.2011.11.078

2011

Caillet, S., Côté, J., Doyon, G.J., Salmieri, S., Lorenzo, G., Sylvain, J.F., and Lacroix, M. (2011). "Effects of juice processing on cranberry antioxidant properties.", *Food Research International*, 44(9), pp. 2907-2914. doi : 10.1016/j.foodres.2011.06.052

Caillet, S., Côté, J., Doyon, G.J., Sylvain, J.F., and Lacroix, M. (2011). "Antioxidant and antiradical properties of cranberry juice and extracts.", *Food Research International*, 44(5), pp. 1408-1413. doi : 10.1016/j.foodres.2011.02.019

Côté, J., Caillet, S., Doyon, G.J., Dussault, D., Sylvain, J.F., and Lacroix, M. (2011). "Antimicrobial effect of cranberry juice and extracts.", *Food Control*, 22(8), pp. 1413-1418. doi : 10.1016/j.foodcont.2011.02.024

Caillet, S., Côté, J., Doyon, G.J., and Sylvain, J.F. (2011). "Effect of juice processing on the cancer chemopreventive effect of cranberry.", *Food Research International*, 44(4), pp. 902-910. doi : 10.1016/j.foodres.2011.01.055



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## Research Publications:

2015

Reynolds, W.D., Drury, C.F., Tan, C.S., and Yang, X.M. (2015). "Temporal effects of food waste compost on soil physical quality and productivity.", *Canadian Journal of Soil Science*, 95(3), pp. 251-268. doi : 10.4141/CJSS-2014-114

Miller, J.J., Beasley, B.W., Drury, C.F., Lamey, F.J., and Hao, X. (2015). "Influence of long-term manure application on mineral composition of irrigated barley silage.", *Canadian Journal of Plant Science*, 95(4), pp. 759-770. doi : 10.4141/cjps-2014-329

Miller, J.J., Beasley, B.W., Drury, C.F., Lamey, F.J., and Hao, X. (2015). "Influence of Long-Term (9 yr) Composted and Stockpiled Feedlot Manure Application on Selected Soil Physical Properties of a Clay Loam Soil in Southern Alberta.", *Compost Science & Utilization*, 23(1), pp. 1-10. doi : 10.1080/1065657X.2014.963741

Li, Z.T., Yang, J.Y., Drury, C.F., and Hoogenboom, G. (2015). "Evaluation of the DSSAT-CSM for simulating yield and soil organic C and N of a long-term maize and wheat rotation experiment in the Loess Plateau of Northwestern China.", *Agricultural Systems*, 135, pp. 90-104. doi : 10.1016/j.agsy.2014.12.006

Li, Z.T., Yang, J.Y., Smith, W.N., Drury, C.F., Lemke, R.L., Grant, B.B., and Li, X.-G. (2015). "Simulation of long-term spring wheat yield, soil C, N and water dynamics using DSSAT-CSM in a semi-arid region of the Canadian prairies.", *Nutrient Cycling in Agroecosystems*, 101(3), pp. 401-419. doi : 10.1007/s10705-015-9688-3

Zhang, T.Q., Tan, C.S., Zheng, Z.M., and Drury, C.F. (2015). "Tile Drainage Phosphorus Loss with Long-Term Consistent Cropping Systems and Fertilization.", *Journal of Environmental Quality*, 44(2), pp. 503-511. doi : 10.2134/jeq2014.04.0188

Miller, J.J., Beasley, B.W., Drury, C.F., Lamey, F.J., and Hao, X. (2015). "Influence of Long-Term Application of Manure Type and Bedding on Yield, Protein, Fiber, and Energy Value of Irrigated Feed Barley.", *Agronomy Journal*, 107(1), pp. 121-128. doi : 10.2134/agnonj14.0321

2014

Zhang, B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, X.D. (2014). "Effects of long-term and recently imposed tillage on the concentration and composition of amino sugars in a clay loam soil in Ontario, Canada.", *Soil & Tillage Research*, 135, pp. 9-17. doi : 10.1016/j.still.2013.08.011

Clair, T.A., Pelletier, N., Bittman, S., Leip, A., Arp, P., Moran, M.D., Dennis, I., Niemi, D., Sterling, S., Drury, C.F., and Yang, J.Y. (2014). "Interactions between reactive nitrogen and the Canadian landscape: a budget approach.", *Global Biogeochemical Cycles*, 28(11), pp. 1343-1357. doi : 10.1002/2014GB004880

Miller, J.J., Beasley, B.W., Drury, C.F., Lamey, F.J., and Hao, X. (2014). "Nitrogen budgets following land application of composted or stockpiled feedlot manure containing wood-chips or straw bedding to barley silage for 12 years.", *Compost Science & Utilization*, 22(2), pp. 57-67. doi : 10.1080/1065657X.2014.895453

Drury, C.F., Reynolds, W.D., Tan, C.S., McLaughlin, N.B., Yang, X.M., Calder, W., Oloya, T.O., and Yang, J.Y. (2014). "Impacts of 49-51 years of fertilization and crop rotation on growing season nitrous oxide emissions, nitrogen uptake and corn yields.", *Canadian Journal of Soil Science*, 94(3), pp. 421-433. doi : 10.4141/CJSS2013-101

Guo, X.-B., Drury, C.F., Yang, X.M., and Reynolds, W.D. (2014). "Water-Soluble carbon and the carbon dioxide pulse are regulated by the extent of soil drying and rewetting.", *Soil Science Society of America Journal*, 78(4), pp. 1267-1278. doi : 10.2136/sssaj2014.02.0059

Yang, X.M., Reynolds, W.D., Drury, C.F., Fleming, R., Tan, C.S., Denholm, K., and Yang, J.Y. (2014). "Organic carbon and nitrogen stocks in a clay loam soil 10 years after a single compost application.", *Canadian Journal of Soil Science*, 94(3), pp. 357-363. doi : 10.4141/CJSS2013-076

Drury, C.F., Tan, C.S., Welacky, T.W., Reynolds, W.D., Zhang, T.Q., Oloya, T.O., McLaughlin, N.B., and Gaynor, J.D. (2014). "Reducing nitrate loss in tile drainage water with cover crops and water-table management systems.", *Journal of Environmental Quality*, 43(2), pp. 587-598. doi : 10.2134/jeq2012.0495

Guo, X.-B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Fan, R.-Q. (2014). "The extent of soil drying and rewetting affects nitrous oxide emissions, denitrification, and nitrogen mineralization.", *Soil Science Society of America Journal*, 78(1), pp. 194-204. doi : 10.2136/sssaj2013.06.0219

Sunohara, M., Craiovan, E., Topp, E., Gottschall, N., Drury, C.F., and Lapen, D.R. (2014). "Comprehensive Nitrogen Budgets for Corn and Soybean Fields Under Controlled Tile Drainage for Wetter and Drier Cropping Seasons.", *Journal of Environmental Quality*, 43(2), pp. 617-630. doi: 10.2134/jeq2013.04.0117

Zhang, B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, X. (2014). "Crop rotation, red clover and cropping history influences microbial amino sugars of a clay loam soil.", *Soil Science Society of America Journal*, 78(3), pp. 818-824. doi: 10.2136/sssaj2013.03.0098

Miller, J.J., Beasley, B.W., Drury, C.F., Hao, X., and Lamey, F.J. (2014). "Soil properties following long-term application of stockpiled feedlot manure containing straw or wood-chip bedding to barley silage production.", *Canadian Journal of Soil Science*, 94(3), pp. 389-402. doi: 10.4141/CJSS2013-087

Reynolds, W.D., Drury, C.F., Yang, X.M., Tan, C.S., and Yang, J.Y. (2014). "Impacts of 48 years of consistent cropping, fertilization and land management on the physical quality of a clay loam soil.", *Canadian Journal of Soil Science*, 94(3), pp. 403-419. doi: 10.4141/CJSS2013-097

Drury, C.F., Reynolds, W.D., Yang, X.M., Tan, C.S., Guo, X.-B., McKenney, D.J., and Fleming, R. (2014). "Influence of compost source on corn grain yields, nitrous oxide and carbon dioxide emissions in southwestern Ontario.", *Canadian Journal of Soil Science*, 94(3), pp. 347-355. doi: 10.4141/CJSS2013-077

Liu, S.Q., Yang, J.Y., Drury, C.F., Liu, H.L., and Reynolds, W.D. (2014). "Simulating maize (*Zea mays* L.) growth and yield, soil nitrogen concentration, and soil water content for a long-term cropping experiment in Ontario, Canada.", *Canadian Journal of Soil Science*, 94(3), pp. 435-452. doi: 10.4141/CJSS2013-096

Reynolds, W.D., Schoenau, J.J., and Drury, C.F. (2014). "Scientific and practical benefits of long-term field studies.", *Canadian Journal of Soil Science*, 94(3), pp. 253-254. doi: 10.4141/CJSS-2014-501

Fan, R.-Q., Yang, X.M., Drury, C.F., Reynolds, W.D., and Zhang, X.-P. (2014). "Spatial distributions of soil chemical and physical properties prior to planting soybean in soil under ridge-, no- and conventional- tillage in a maize-soybean rotation.", *Soil Use and Management*, 30(3), pp. 414-442. doi: 10.1111/sum.12136

## 2013

Yang, J.Y., Drury, C.F., De Jong, R., Huffman, E.C., Yang, X.M., and Reid, D.K. (2013). "Sensitivity analysis for nitrogen in puts, nitrogen outputs, and changes in biofuel crop acreages for predicting residual soil nitrogen and nitrate leaching in Canadian agricultural soils.", *Ecological Modelling*, 267, pp. 26-38. doi: 10.1016/j.ecolmodel.2013.07.016

Miller, J.J., Beasley, B.W., and Drury, C.F. (2013). "Transport of Metals (Al, Fe) and Trace Elements (Cu, Mo, Ni, and Zn) through Intact Soil Cores Amended with Fresh or Composted Beef Cattle Manure for Nine Years.", *Compost Science & Utilization*, 21(2), pp. 99-109. doi: 10.1080/1065657X.2013.836067

Miller, J.J., Beasley, B.W., Drury, C.F., Hao, X., and Lamey, F.J. (2013). "Transport of Residual Nitrogen and Carbon through Intact Soil Cores Amended with Stockpiled Feedlot Manure with Wood-Chip or Straw Bedding.", *Journal of Environmental Quality*, 42(6), pp. 1881-1888. doi: 10.2134/jeq2013.02.0061

Zhang, B., Yang, X.M., Drury, C.F., and Zhang, X.D. (2013). "A Mid-Infrared Spectroscopy Method to Determine the Glucosamine, Galactosamine, and Muramic Acid Concentrations in Soil Hydrolysates.", *Soil Science Society of America Journal*, 77(3), pp. 842-849. doi: 10.2136/sssaj2012.0359

Yang, X.M., Drury, C.F., and Wander, M.M. (2013). "A wide view of no-tillage practices and soil organic carbon sequestration.", *Acta Agriculturae Scandinavica, Section B - Plant & Soil Science*, 63, pp. 523-530. doi: 10.1080/09064710.2013.816363

Miller, J.J., Beasley, B.W., and Drury, C.F. (2013). "Transport of Residual Soluble Salts and Total Sulfur through Intact Soil Cores Amended with Fresh or Composted Beef Cattle Feedlot Manure for Nine Years.", *Compost Science & Utilization*, 21, pp. 22-33. doi: 10.1080/1065657X.2013.785195

Smith, W.N., Grant, B.B., Desjardins, R.L., Kröbel, R., Qian, B., Worth, D.E., McConkey, B.G., and Drury, C.F. (2013). "Assessing the effects of climate change on crop production and GHG emissions in Canada.", *Agriculture, Ecosystems and Environment*, 179, pp. 139-150. doi: 10.1016/j.agee.2013.08.015

Guo, X.-B., Drury, C.F., Reynolds, W.D., Yang, X.M., and Fan, R.-Q. (2013). "Nitrous oxide and carbon dioxide from aerobic and anaerobic incubations: Effect of core length.", *Soil Science Society of America Journal*, 77(3), pp. 817-829. doi: 10.2136/sssaj2012.0292

Nangia, V., Sunohara, M., Topp, E., Gregorich, E.G., Drury, C.F., Gottschall, N., and Lapen, D.R. (2013). "Measuring and Modeling the Effects of Drainage Water Management on Soil Greenhouse Gas Fluxes from Corn and Soybean Fields.", *Journal of Environmental Management*, 129, pp. 652-664. doi: 10.1016/j.jenvman.2013.05.040

Liu, S., Yang, J.Y., Zhang, X.Y., Drury, C.F., Reynolds, W.D., and Hoogenboom, G. (2013). "Modelling crop yield, soil water content and soil temperature for a soybean-maize rotation under conventional and conservation tillage systems in Northeast China.", *Agricultural Water Management*, 123, pp. 32-44. doi: 10.1016/j.agwat.2013.03.001

Li, S., Zhang, X., Yang, J.Y., and Drury, C.F. (2013). "Effect of conservational and conventional tillage on soil water storage, water use efficiency and productivity of corn and soybean in Northeast China.", *Acta Agriculturae Scandinavica, Section B - Plant Soil Science*, 63(5), pp. 383-394. doi: 10.1080/09064710.2012.762803

Fan, R.-Q., Yang, X.M., Drury, C.F., Guo, X.-B., and Zhang, X.-P. (2013). "Distribution and stability of organic carbon in soil aggregate external and internal layers under three different land use systems.", *Soil Science Society of America Journal*, 77(5), pp. 1625-1635. doi: 10.2136/sssaj2013.03.0086

## 2012

Yang, J.Y., Huffman, E.C., Drury, C.F., Yang, X.M., DeJong, R., and Campbell, C.A. (2012). "Estimating changes of residual soil nitrogen in Chernozemic soils in Canada.", *Canadian Journal of Soil Science*, 92(3), pp. 481-491. doi: 10.4141/CJSS2010-37

Yang, X.M., Xie, H.T., Drury, C.F., Reynolds, W.D., Yang, J.Y., and Zhang, X.D. (2012). "Determination of organic carbon and nitrogen in particulate organic matter and particle size fractions of Brookston clay loam soil using infrared spectroscopy.", *European Journal of Soil Science*, 63(2), pp. 177-188. doi: 10.1111/j.1365-2389.2011.01421.x

Nyiraneza, J., Zebarth, B.J., Ziadi, N., Burton, D.L., Drury, C.F., Bittman, S., and Grant, C.A. (2012). "Prediction of soil nitrogen supply in corn production using soil chemical and biological indices.", *Soil Science Society of America Journal*, 76(3), pp. 925-935. doi: 10.2136/sssaj2011.0318

Shi, X.H., Yang, X.M., Drury, C.F., Reynolds, W.D., McLaughlin, N.B., and Zhang, X.-P. (2012). "Impact of ridge tillage on soil organic carbon and selected physical properties of a clay loam in southwestern Ontario.", *Soil & Tillage Research*, 120, pp. 1-7. doi: 10.1016/j.still.2012.01.003

Saso, J.K., Parkin, G.W., Drury, C.F., Lauzon, J.D., and Reynolds, W.D. (2012). "Chloride leaching in two Ontario soils: Measurement and prediction using HYDRUS-1D.", *Canadian Journal of Soil Science*, 92(2), pp. 285-296. doi: 10.4141/CJSS2011-046

Miller, J.J., Bremer, E., Beasley, B.W., Drury, C.F., Zebarth, B.J., and Lamey, F.J. (2012). "Long-term effect of fresh and composted cattle manure on the size and nutrient composition of dry-sieved soil aggregates.", *Canadian Journal of Soil Science*, 92(4), pp. 673-683. doi: 10.4141/CJSS2011-056

Shi, X.H., Zhang, X.-P., Yang, X.M., Drury, C.F., McLaughlin, N.B., Liang, A.-Z., Fan, R.-Q., and Jia, S. (2012). "Contribution of winter soil respiration to annual soil CO<sub>2</sub> emission in a Mollisol under different tillage practices in northeast China.", *Global Biogeochemical Cycles*, 26(2, Article No. GB2007). doi: 10.1029/2011GB004054

Georgallas, A., Dessureault-Rompré, J., Zebarth, B.J., Burton, D.L., Drury, C.F., and Grant, C.A. (2012). "Modification of the biophysical water function to predict the change in soil mineral nitrogen concentration resulting from concurrent mineralization and denitrification.", *Canadian Journal of Soil Science*, 92(5), pp. 695-710. doi: 10.4141/CJSS2012-020

Liu, H.L., Yang, J.Y., He, P., Bai, Y.L., Jin, J.Y., Drury, C.F., Zhu, Y.P., Yang, X.M., Li, W.J., Xie, J.G., Yang, J.M., and Hoogenboom, G. (2012). "Optimizing parameters of CSM-CERES-Maize model to improve simulation performance of maize growth and nitrogen uptake in northeast China.", *Journal of Integrative Agriculture*, 11(11), pp. 1898-1913. doi: 10.1016/S2095-3119(12)60196-8

Drury, C.F., Reynolds, W.D., Yang, X.M., McLaughlin, N.B., Welacky, T.W., Calder, W., and Grant, C.A. (2012). "Nitrogen source, application time and tillage effects on soil nitrous oxide emissions and corn grain yields.", *Soil Science Society of America Journal*, 76(4), pp. 1268-1279. doi: 10.2136/sssaj2011.0249

Zhang, B., Yang, X.M., Drury, C.F., Reynolds, W.D., He, H., and Zhang, X. (2012). "Effects of 49 years of fertilization on the distribution and accumulation of soil carbon under corn cultivation.", *Canadian Journal of Soil Science*, 92(6), pp. 835-839. doi: 10.4141/cjss2011-117

Miller, J.J., Beasley, B.W., Drury, C.F., and Zebarth, B.J. (2012). "Denitrification during the growing season as influenced by long-term application of composted versus fresh feedlot manure.", *Canadian Journal of Soil Science*, 92(6), pp. 865-882. doi: 10.4141/CJSS2011-107

Sharifi, M., Zebarth, B.J., Burton, D.L., Drury, C.F., and Grant, C.A. (2012). "Mineralization of Carbon-14-Labeled Plant Residues in Conventional Tillage and No-Till Systems.", *Soil Science Society of America Journal*, 77(1), pp. 123-132. doi: 10.2136/sssaj2011.0064

Guo, X.-B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, R. (2012). "Impacts of Wet-Dry Cycles and a Range of Constant Water Contents on Carbon Mineralization in Soils under Three Cropping Treatments.", *Soil Science Society of America Journal*, 76(2), pp. 485-493. doi: 10.2136/sssaj2011.0315

## 2011

Guo, X.-B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, R. (2011). "Influence of current and previous crops on soil basal and potential denitrification rates.", *Biology and Fertility of Soils*, 47(8), pp. 937-947. doi: 10.1007/s00374-011-0588-7

Jégo, G., Pattey, E., Bourgeois, G., Tremblay, N., and Drury, C.F. (2011). "Evaluation of the STICS crop growth model with maize cultivar parameters calibrated for Eastern Canada.", *Agronomy for Sustainable Development*, 31(3), pp. 557-570. doi: 10.1007/s13593-011-0014-4

Yang, J.Y., Huffman, E.C., Drury, C.F., Yang, X.M., DeJong, R., Jin, J.Y., He, P., Bai, Y.L. (2011). "Estimating the impact of manure nitrogen losses on total nitrogen application on agricultural land in Canada.", *Canadian Journal of Soil Science*, 91(1), pp. 107-122. doi: 10.4141/CJSS10052

Xie, H.T., Yang, X.M., Drury, C.F., Yang, J.Y., and Zhang, X.D. (2011). "Predicting soil organic carbon and total nitrogen using mid- and near-infrared spectra for Brookston clay loam soil in Southwestern Ontario, Canada.", *Canadian Journal of Soil Science*, 91(1), pp. 53-63. doi: 10.4141/CJSS10029

Liu, H.L., Yang, J.Y., Tan, C.S., Drury, C.F., Reynolds, W.D., Zhang, T.Q., Bai, Y.L., Jin, J.Y., He, P., and Hoogenboom, G. (2011). "Simulating water content, crop yield and nitrate-N loss under free and controlled tile drainage with subsurface irrigation using the DSSAT model.", *Agricultural Water Management*, 98(6), pp. 1105-1111. doi: 10.1016/j.agwat.2011.01.017

Liu, K., Hammermeister, A.M., Warman, P.R., Drury, C.F., and Martin, R.C. (2011). "Assessing soil nitrogen availability in contrasting cropping systems at the end of transition to organic production.", *Canadian Journal of Soil Science*, 91(4), pp. 493-501. doi: 10.4141/cjss2010-039

Miller, J.J., Beasley, B.W., Drury, C.F., and Zebarth, B.J. (2011). "Accumulation and redistribution of residual chloride, nitrate, and soil test P in soil profiles amended with fresh and composted cattle manure containing straw or wood-chip bedding.", *Canadian Journal of Soil Science*, 91(6), pp. 969-984. doi: 10.4141/cjss2011-048

Shi, X.H., Yang, X.M., Drury, C.F., Reynolds, W.D., McLaughlin, N.B., Welacky, T.W., and Zhang, X.-P. (2011). "Zone Tillage Impact on Organic Carbon of a Clay Loam in Southwestern Ontario.", *Soil Science Society of America Journal*, 75(3), pp. 1083-1089. doi: 10.2136/sssaj2010.0319

Miller, J.J., Beasley, B.W., Drury, C.F., and Zebarth, B.J. (2011). "Transport of residual nutrients through intact soil cores amended with fresh or composted beef cattle manure for nine years.", *Compost Science & Utilization*, 19(4), pp. 267-278.

van Bochove, É., Denault, J.-T., Leclerc, M.-L., Thériault, G., Dechmi, F., Allaire, S.E., Rousseau, A.N., and Drury, C.F. (2011). "Temporal trends of risk of water contamination by phosphorus from agricultural land in the Great Lakes Watersheds of Canada.", *Canadian Journal of Soil Science*, 91(3), pp. 443-453. doi: 10.4141/cjss09122

Liu, H.L., Yang, J.Y., Drury, C.F., Reynolds, W.D., Tan, C.S., Bai, Y.L., He, P., Jin, J.Y., and Hoogenboom, G. (2011). "Using the DSSAT-CERES-Maize model to simulate crop yield and nitrogen cycling in fields under long-term continuous maize production.", *Nutrient Cycling in Agroecosystems*, 89(3), pp. 313-328. doi: 10.1007/s10705-010-9396-y

## Other Science Related Publications:

2015

Wagner-Riddle, C., Dunfield, K.E., Drury, C.F., Gordon, R.J., Lauzon, J.D., Van Heyst, B.J., and VanderZaag, A.C. (2015). "Farmscale assessment of greenhouse gas mitigation strategies in dairy livestock-cropping systems.", *Canadian Soil Science Society Conference, Montreal, QC, Canada, July 5-10, 2015, Presentation.*

2014

Miller, J.J., Beasley, B.W., Drury, C.F., Zebarth, B.J., Bremer, E., Hao, X., and Lamey, F.J. (2014). "Influence of long-term composted or stockpiled feedlot manure application on crop and soil.", *Canadian Geophysical Union-Canadian Society of Soil Science (CGU/CSSS) Joint Annual Meeting, Banff, AB, Canada, May 4-8, 2014. (Abstract)*

Zhang, B.L., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, X. (2014). "Crop Rotation, Cover Crops and Cropping History Influences Microbial Amino Sugars of a Clay Loam Soil.", *CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.*

Yang, X.M., Drury, C.F., Reynolds, W.D., Yang, J.Y., and Reeb, M.A. (2014). "Preliminary results of Nitro Radish on N scavenging in fall and mineral N dynamics in early spring in SW Ontario, Canada.", *Lombard, IL, USA, July 27-30, 2014.*

Yang, X.M., Drury, C.F., Reynolds, W.D., and Yang, J.Y. (2014). "Crop rotation: an effective way to preserve organic carbon in a soil converted from forest to agricultural use.", *University of Chinese Academy of Sciences, Beijing, China, June 10-16, 2014. (Presentation)*

Zhang, T.Q., Tan, C.S., Drury, C.F., and Welacky, T.W. (2014). "Phosphorus loss from yiled drained agricultural lands in Canada, an Overview on Research Progress.", *20th World Congress of Soil Science, Jeju, South Korea, June 8-13, 2014.*

Clair, T.A., Leip, A., Pelletier, N., Bittman, S., Arp, P., Moran, M.D., Dennis, I., Niemi, D., Sterling, S., Drury, C.F., and Yang, J. (2014). "Interactions between reactive nitrogen and the Canadian landscape: a budget approach.", *UNECE – Task Force on Reactive Nitrogen, Madrid, Spain, March 2014, Presentation.*

Yang, X.M., Drury, C.F., Reynolds, W.D., and Yang, J.Y. (2014). "Crop rotation: an effective way to preserve organic carbon in a soil converted from forest to agricultural use.", *International Symposium on resources, environment and sustainable development in Northeast Asia, Changchung, China, June 10-15, 2014.*

Guo, X.-B., Drury, C.F., Yang, X.M., and Reynolds, W.D. (2014). "Water-Soluble Carbon Controls the Size of Carbon Mineralization Pulse in an Agricultural Soil Following Drying and Rewetting Processes.", CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.

Drury, C.F., Reynolds, W.D., Tan, C.S., McLaughlin, N.B., Yang, X.M., Calder, W., Oloya, T.O., and Yang, J.Y. (2014). "Long-Term Fertilization and Crop Rotation Impacts on Growing Season Nitrous Oxide Emissions, Nitrogen Uptake and Corn Grain Yields.", CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.

Miller, J.J., Beasley, B.W., Hao, X., Lamey, F.J., and Drury, C.F. (2014). "Transport of chemicals through intact soil cores amended with composted or stockpiled feedlot manure with wood-chip or straw bedding.", 51st Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 12-14, 2014, pp. 31. (Abstract)

Zhang, T.Q., Tan, C.S., Zheng, Z.M., and Drury, C.F. (2014). "Phosphorus fate in a clay loam soil under natural and long-term ( $\geq 43$  years) managed agricultural eco-systems.", 5th International Symposium on Phosphorus in Soil and Plant, Montpellier, France, August 26-29, 2014.

Yang, J.Y., Huffman, E.C., Drury, C.F., Yang, X.M., De Jong, R., and Campbell, C.A. (2014). "Estimating Changes of Residual Soil Nitrogen in Chemozemic Soils in Canada.", CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.

Yang, X.M., Zhang, X.-P., Drury, C.F., Reynolds, W.D., and Fan, R.-Q. (2014). "Profile Illustration of Soil Characteristics under Different Tillage Practices Using Surface Electrical Resistivity Tomography.", CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.

Yang, X.M., Drury, C.F., Gregorich, E.G., Hao, X., Geng, X.Y., Reid, K., Fox, C.A., and VandenBygaart, A.J. (2014). "Mid-Infrared Spectral Characteristics of Different Agricultural Soils across Canada.", CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.

Stoeckli, J., Sharifi, M., Ponce-Hernandez, R., Eimers, C., Hooker, D.C., Drury, C.F., Stewart, G., MacDonald, I.K., Zebarth, B.J., Sahota, T.S., and Reid, K. (2014). "Predicting the soil nitrogen supply (SNS) for corn production in the cool-humid temperate climate of Ontario.", Annual meeting of the Canadian Soil Science Society, Banff, Alberta, Canada, May 4-7, 2014.

Reynolds, W.D., Drury, C.F., Yang, X.M., Tan, C.S., and Fleming, R.J. (2014). "Immediate and Long-Term Impacts of Compost on the Physical Quality and productivity of a Clay Loam Soil.", CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.

## 2013

Miller, J.J., Beasley, B.W., Lamey, F.J., Drury, C.F., Zebarth, B.J., and Bremer, E. (2013). "Long-term effect of fresh and composted cattle manure on the size and nutrient composition of dry-sieved soil aggregates.", 50th Annual Alberta Soil Science Workshop, Lethbridge, AB, Canada, February 19-21, 2013. (Abstract)

Zhang, T.Q., Tan, C.S., Zheng, Z.M., and Drury, C.F. (2013). "Tile drainage phosphorus losses from agricultural soils: case studies in Canada.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013, Invited speech.

Zhang, T.Q., Tan, C.S., Welacky, T.W., Reynolds, C.K., and Drury, C.F. (2013). Phosphorus cycling in agro-eco-systems and development for risk assessment tools and BMPs to improve water quality while maximizing crop productivity. AAFC, NOI-292 Project final report. (Report)

Kuropatwa, R. and Drury, C.F. (2013). "It's raining nitrogen.", Grain News, October(13).

Kuropatwa, R. and Drury, C.F. (2013). "Zone till is great for wet clay soils.", Grain News, November(12).

Guo, X.-B., Drury, C.F., Chen, C., Crolla, A., Whalen, J.K., VanderZaag, A.C., Yang, X.M., and Wagner-Riddle, C. (2013). "Effect of anaerobically digested manures on nitrous oxide emissions, soil denitrification rates, and denitrifier abundance in short-term incubations.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013. (Poster)

Fuller, K.D., Drury, C.F., Grimmett, M.G., Burton, D.L., Franklin, J.L., Zebarth, B.J., Gordon, R.J., Van Roestel, J., and George, E. (2013). "Nitrogen leaching losses in manure amended perennial hayfield and corn-soybean-wheat rotations in Atlantic Canada.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013. (Poster)

Fuller, K.D., Burton, D.L., Drury, C.F., Grimmett, M.G., Zebarth, B.J., Franklin, J.L., Rodd, A.V., Van Roestel, J., and George, E. (2013). "Growing season denitrification losses impacted by land management practices, soil properties, and weather conditions in manure-amended perennial hayfield and corn-soybean-wheat rotations in Atlantic Canada.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013. (Poster)

Wagner-Riddle, C., Dunfield, K.E., Drury, C.F., Gordon, R.J., Lauzon, J.D., Van Heyst, B.J., and VanderZaag, A.C. (2013). "Farm-scale assessment of greenhouse gas mitigation strategies in dairy-livestock cropping systems.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Yang, X.M., Drury, C.F., and Yang, J.Y. (2013). "Potential of using mid-infrared spectroscopy in study of soil and solution samples in Canada.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Yang, X.M., Drury, C.F., Reynolds, W.D., and Yang, J.Y. (2013). "Fall accumulation and spring release of soil mineral nitrogen following winter wheat and before corn planting on a Brookston clay loam in SW Ontario.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Zhang, B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, X. (2013). "Effects of long-term and recently imposed tillage on the concentration and composition of amino sugars in a clay loam soil.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Reynolds, W.D., Drury, C.F., Yang, X.M., and Yang, J.Y. (2013). "A generalized analysis for the variable-head borehole permeameter test.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Guo, X.-B., Drury, C.F., Reynolds, W.D., Yang, X.M., and Fan, R.-Q. (2013). "Nitrous oxide and carbon dioxide emissions from aerobic and anaerobic incubations: effect of core length.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Drury, C.F., Reynolds, W.D., Yang, X.M., Tan, C.S., and McLaughlin, N.B. (2013). "Agronomic and soil quality benefits of cover crops.", Middle West Cover Crop Council Meeting - Making Sense with Cover Crops Workshop, London, ON, Canada, February 28 - March 1, 2013. (Workshop)

Perron, I., Cambouris, A.N., Rochette, P., Zebarth, B.J., and Drury, C.F. (2013). "Effect of three N Fertilizers on Denitrification Rate under Potato Crop.", ASA/CSSA/SSSA International annual meeting: Water, Food, Energy and Innovation for a Sustainable World, Tampa, Florida, USA, November 3-6, 2013. (Poster)

Zhang, B.L., Drury, C.F., Yang, X., Reynolds, W.D., and Zhang, X. (2013). "Effects of long-term and recently imposed tillage on the concentration and composition of amino sugars in a clay loam soil.", Joint annual meetings of the Canadian Society of Soil Science, Manitoba Soil Science Society, and Canadian Society of Agricultural and Forest Meteorology, Fort Garry Hotel, Winnipeg, MB, Canada, July 22-25, 2013, Oral presentation.

Reynolds, W.D., Drury, C.F., Yang, X., and Yang, J. (2013). "A generalized analysis for the variable-head borehole permeameter test.", Joint annual meetings of the Canadian Society of Soil Science, Manitoba Soil Science Society, and Canadian Society of Agricultural and Forest Meteorology, Fort Garry Hotel, Winnipeg, MB, Canada, July 22-25, 2013, Oral presentation.

Guo, X.-B., Drury, C.F., Reynolds, W.D., Yang, X., and Fan, R.-Q. (2013). "Nitrous oxide and carbon dioxide emissions from aerobic and anaerobic incubations: effect of core length.", Joint annual meetings of the Canadian Society of Soil Science, Manitoba Soil Science Society, and Canadian Society of Agricultural and Forest Meteorology, Fort Garry Hotel, Winnipeg, MB, Canada, July 22-25, 2013, Oral presentation.

McLaughlin, N.B., Drury, C.F., Reynolds, W.D., Yang, X., Tan, C.S., and Yang, J. (2013). "Effect of long term crop rotation and fertilization on mouldboard plough draft in a clay loam soil.", 67th Northeastern Corn Improvement Conference, Lord Elgin Hotel, Ottawa, ON, Canada, February 14-15, 2013. (Presentation)

Yang, X.M., Drury, C.F., Yang, J.Y., and Reynolds, W.D. (2013). "Is Mid-Infrared Spectral Subtraction a Practical Approach for Accurate Study of Soil Organic Matter?", the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America 2013 International Annual Meetings, Tampa, FL, USA, November 3-6, 2013.

## 2012

Tan, C.S., Zhang, T.Q., Welacky, T.W., and Drury, C.F. (2012). "Integration of Organic Amendments with Water Table Management Recycling System on Water Quality and Crop Production.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012, #166-11. (Abstract)

Shi, X.H., Zhang, X.-P., Yang, X.M., Drury, C.F., McLaughlin, N.B., Liang, A.-Z., Fan, R.-Q., and Jia, S. (2012). "Contribution of winter soil respiration to annual soil CO<sub>2</sub> emission in a Mollisol under different tillage practices in northeast China [Global Biogeochemical Cycles 26 (GB3020)] (Erratum).", *Global Biogeochemical Cycles*, 26(3), pp. 1.

Guo, X.-B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Fan, R.-Q. (2012). "The Impact of the Degree of Soil Wetting and Drying on Nitrous Oxide Emissions.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012, pp. 85.

Miller, J.J., Bremer, E., Beasley, B.W., Drury, C.F., Zebarth, B.J., and Lamey, F.J. (2012). "Long-term effect of fresh and composted cattle manure on the size and nutrient composition of dry-sieved soil aggregates.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012, pp. 110. (Abstract)

Yang, J.Y., Drury, C.F., DeJong, R., Huffman, E.C., Yang, X.M., and Reid, K. (2012). "Sensitivity and scenario analysis of Canadian Agricultural Nitrogen Budget model (CANB v3.0) for estimating residual soil nitrogen and N leaching across Canadian farmland.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012.

Drury, C.F. (2012). "Residual Soil Nitrogen and N leaching losses in Soil Landscapes of Canada from 1981 to 2006.", Department of Geography, University of Guelph, Guelph, ON, Canada, November 1, 2012. (Presentation)

Zhang, T.Q., Tan, K.C.B., Drury, C.F., and Reynolds, W.D. (2012). "Changes of soil phosphorus fractions induced by fertilization and crop rotation in comparison with virgin forest.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012. (Abstract)

Zhang, T.Q., Tan, C.S., Welacky, T.W., Reynolds, W.D., Drury, C.F., Yang, J.Y., O'Halloran, I.P., Hua, Y.F., Prasher, S.O., and Lin, Z. (2012). Managing phosphorus and water in soils long-term continuously added with animal manures and inorganic fertilizers to increase crop use efficiency and to reduce adverse impacts on water quality in Great Lakes region. Report to AAFC. (Report)

Fan, R.-Q., Yang, X.M., Drury, C.F., Reynolds, W.D., and Zhang, X.-P. (2012). "Characterizing Organic Carbon in Aggregate Inner- and Outer-Core Fractions of Soils Under Different Land Use Systems.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012, pp. 74.

Sansoulet, J.B., Pattey, E., Jégo, G., Tremblay, N., Drury, C.F., and Ma, C. (2012). "Performance evaluation of STICS crop model to simulate corn growth attributes in response to N rate and climate variations.", 11th International Conference on Precision Agriculture (ICPA), Indianapolis, IN, USA, July 15-18, 2012, pp. 12.

Drury, C.F., Reynolds, W.D., Tan, C.S., McLaughlin, N.B., Yang, X.M., and Calder, W. (2012). "Long-Term Effects of Fertilization and Crop Rotation on Nitrous Oxide Emissions From Soils.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012, pp. 72.

Yang, X.M., Drury, C.F., Reynolds, W.D., McLaughlin, N.B., and Yang, J.Y. (2012). "Impacts of Fifty-Years of Crop Rotation and Fertilization on SOC and N of a Brookston Clay Loam in Southwestern Ontario.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012, pp. 127.

Yang, X.M., Drury, C.F., and Reynolds, W.D. (2012). "Soil organic carbon and total nitrogen stocks 10 years after a single compost addition to brookston clay loam soil.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012, pp. 151.

Nyiraneza, J., Zebarth, B.J., Ziadi, N., Sharifi, M., Burton, D.L., Drury, C.F., Bittman, S., and Grant, C.A. (2012). "The ability of soil chemical and biological N availability indices to predict soil nitrogen supply of contrasting soils under corn.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012. (Poster)

2011

Fan, R.-Q., Yang, X.M., and Drury, C.F. (2011). "Mid-IR Spectroscopic Assessment of Structural Features of Organic Carbon In Particle Size Fractions of a Clay Loam Soil.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Nangia, V., Sunohara, M., Topp, E., Gregorich, E.G., Gottschall, N., Drury, C.F., Toussef, M.A., and Lapen, D.R. (2011). "Assessing field-scale effects of controlled tile drainage on N mass balance from corn and soybean fields in Eastern Ontario, Canada.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Drury, C.F., Yang, J., De Jong, R., Huffman, E.C., Yang, X.Q., and Reid, D.K. (2011). "The development of environmental indicators for nitrogen: Residual Soil Nitrogen and the Indicator of Risk of Water Contamination by Nitrate.", ASA/CSSA/SSSA/CSSS International Annual Meetings 2011, San Antonio, TX, USA, October 16-19, 2011.

Yang, J.Y. and Drury, C.F. (2011). "CANB v3.0-policy version. Instruction Manual." (Technology transfer)

Nangia, V., Sunohara, M., Topp, E., Gregorich, E.G., Gottschall, N., Drury, C.F., and Lapen, D.R. (2011). "Measuring the effects of water table management on soil greenhouse gas emissions from corn and soybean fields in Eastern Canada.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Miller, J.J., Bremer, E., Beasley, B.W., Drury, C.F., Zebarth, B.J., and Lamey, F.J. (2011). "Macroaggregate characteristics in soil amended with fresh or composted cattle manure containing straw or wood-chip bedding.", 48th Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 15-17, 2011.

Drury, C.F. (2011). "Development of soil, crop and water management systems to reduce nutrient losses from agricultural soils.", The International Workshop on Eutrophication Control in the Three Gorges Reservoir Basin, Beibei, Chongqing, China, January 8-16, 2011.

Zhang, T.Q., Tan, C.S., Hu, Q.C., Drury, C.F., and Zheng, Z.M. (2011). "Long-term ( $\geq 45$  yrs) cumulative effects of fertilization and cropping systems on soil phosphorus forms and losses in field water discharge.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Zhang, T.Q., Tan, C.S., Drury, C.F., MacLeod, J.A., Grimmett, M.G., Welacky, T.W., and Reynolds, W.D. (2011). Phosphorus cycling in agro-eco-systems and development for risk assessment tools and BMPs to improve water quality while maximizing crop productivity. Final Report, Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC). (Report)

Yang, X.M., Drury, C.F., Reynolds, W.D., and Xie, H.T. (2011). "Determination of Organic Carbon and Nitrogen In Particulate and Particle Size Fractions of Brookston Clay Loam Soils Using Soil Infrared Spectroscopy.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Guo, X.-B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, R. (2011). "Impacts of constant versus fluctuating water-filled pore space on carbon mineralization in soils.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Cambouris, A.N., Zebarth, B.J., Ziadi, N., Grant, C.A., and Drury, C.F. (2011). "Impacts agro-environnementaux de divers fertilisants azotés sur la production de pomme de terre. Association québécoise de spécialistes en sciences du sol.", 25<sup>ème</sup> congrès annuel de l'AQSSS, Wendake, QC, Canada, May 25-27, 2011.

Yang, J.Y., Drury, C.F., DeJong, R., Huffman, E.C., and Yang, X.M. (2011). "Developing a Canadian Agricultural Nitrogen Budget (CANB v3.0) Model to Predict Residual Soil Nitrogen and Nitrate Leaching Across Canadian Farmland.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Shi, X.H., Yang, X.M., Drury, C.F., Reynolds, W.D., McLaughlin, N.B., and Zhang, X.-P. (2011). "Impact of Ridge Tillage on Organic Carbon Sequestration in a Clay Loam Soil in Southwestern Ontario.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Drury, C.F., Yang, J.Y., DeJong, R., Huffman, E.C., Yang, X.M., Reynolds, W.D., and Reid, D.K. (2011). "Validating the Residual Soil Nitrogen Indicator.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Reynolds, W.D., Drury, C.F., Yang, X.M., Tan, C.S., Zhang, T.Q., and Yang, J.Y. (2011). "Measuring Soil Hydraulic Properties Using a Falling-Head Borehole Permeameter.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Drury, C.F., Reynolds, W.D., Yang, X.M., Welacky, T.W., McLaughlin, N.B., Calder, W., and Grant, C.A. (2011). "Tillage and N source effects on nitrous oxide emissions from soils.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Drury, C.F., Reynolds, W.D., Yang, X.M., and Yang, J.Y. (2011). "Challenges and Opportunities for Agriculture over the Next 50 Years. Future of Food: bioCEP3.", Biotechnology, Crops, Education, Policy, Production and Perception, London, ON, Canada, September 20, 2011. (Presentation)

Fuller, K.D., Burton, D.L., Drury, C.F., Grimmett, M.G., Zebarth, B.J., Fillmore, S.A.E., Girton, R.J., and St George, E. (2011). "Denitrification, losses in manure amended, permanent forage, and corn-soybean-wheat rotations in Atlantic Canada.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Cambouris, A.N., Zebarth, B.J., Ziadi, N., Grant, C.A., Hu, Z., Gagnon, B., Drury, C.F. (2011). "Agri-environmental effect of N fertilizer on potato production.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Guo, X.-B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, R. (2011). "Influence of current and previous crop on soil basal and potential denitrification rates.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.



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## Research Publications:

2015

Turner, T.D., Jensen, J., Pilfold, J.L., Prema, D., Donkor, K.K., Cinel, B., Thompson, D.J., Dugan, M.E.R, and Church, J.S. (2015). "Comparison of fatty acids in beef tissues from conventional, organic and natural feeding systems in Western Canada.", *Canadian Journal of Animal Science*, 95(1), pp. 49-58. doi : 10.4141/CJAS-2014-113

Turner, T.D., Meadus, W.J., Mapiye, C., Vahmani, P., López-Campos, Ó., Duff, P., Rolland, D.C., Church, J.S., and Dugan, M.E.R (2015). "Isolation of  $\alpha$ -linolenic acid biohydrogenation products by combined silver ion solid phase extraction and semi-preparative high performance liquid chromatography.", *Journal of Chromatography B*, 980, pp. 34-40. doi : 10.1016/j.jchromb.2014.11.038

Mapiye, C., Vahmani, P., Mlambo, V., Muchenje, V., Dzama, K., Hoffman, L.C., and Dugan, M.E.R (2015). "The trans-octadecenoic fatty acid profile of beef: Implications for global food and nutrition security.", *Food Research International*, 76(P4), pp. 992-1000. doi : 10.1016/j.foodres.2015.05.001

Vahmani, P., Mapiye, C., Prieto, N., Rolland, D.C., McAllister, T.A., Aalhus, J.L., and Dugan, M.E.R (2015). "The scope for manipulating the polyunsaturated fatty acid content of beef: A review.", *Journal of Animal Science and Biotechnology*, 6(1: Article number 29), pp. 1-13. doi : 10.1186/s40104-015-0026-z

Henderson, G., Cox, F., Dugan, M.E.R, McAllister, T.A., and others (2015). "Rumen microbial community composition varies with diet and host, but a core microbiome is found across a wide geographical range.", *Scientific Reports*, 5(Article number 14567). doi : 10.1038/srep14567

Mapiye, C., Vahmani, P., Aalhus, J.L., Rolland, D.C., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R (2015). "Fatty acid composition of beef steers as affected by diet and fat depot.", *South African Journal of Animal Sciences*, 45(4), pp. 386-394.

Vahmani, P., Meadus, W.J., Mapiye, C., Duff, P., Rolland, D.C., and Dugan, M.E.R (2015). "Double Bond Position Plays an Important Role in Delta-9 Desaturation and Lipogenic Properties of Trans 18:1 Isomers in Mouse Adipocytes.", *Lipids*, 50(12), pp. 1253-1258. doi : 10.1007/s11745-015-4080-2

Chen, L., Ekine-Dzivenu, C., Vinsky, M.D., Basarab, J.A., Aalhus, J.L., Dugan, M.E.R, Fitzsimmons, C.J., Stothard, P., and Li, C. (2015). "Genome-wide association and genomic prediction of breeding values for fatty acid composition in subcutaneous adipose and longissimus lumborum muscle of beef cattle.", *BMC Genetics*, 16(1: Article number 135), pp. 1-15. doi : 10.1186/s12863-015-0290-0

Turner, T.D., Aalhus, J.L., Mapiye, C., Rolland, D.C., Larsen, I.L., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R (2015). "Effects of diets supplemented with sunflower or flax seeds on quality and fatty acid profile of hamburgers made with perirenal or subcutaneous fat.", *Meat Science*, 99, pp. 123-131. doi : 10.1016/j.meatsci.2014.08.006

Vahmani, P., Meadus, W.J., Turner, T.D., Duff, P., Rolland, D.C., Mapiye, C., and Dugan, M.E.R (2015). "Individual trans 18:1 Isomers are Metabolised Differently and Have Distinct Effects on Lipogenesis in 3T3-L1 Adipocytes.", *Lipids*, 50(2), pp. 195-204. doi : 10.1007/s11745-014-3982-8

2014

Ruan, E.D., Juárez, M., Thacker, R., Yang, X.Q., Dugan, M.E.R, and Aalhus, J.L. (2014). "Dietary vitamin E effects on the formation of heterocyclic amines in grilled lean beef.", *Meat Science*, 96(2, Part A), pp. 849-853. doi : 10.1016/j.meatsci.2013.09.016

Mapiye, C., Turner, T.D., Basarab, J.A., Baron, V.S., Aalhus, J.L., and Dugan, M.E.R (2014). "Subcutaneous fatty acid composition of steers finished as weanlings or yearlings with and without growth promotants.", *Journal of Animal Science and Biotechnology*, 4(41: Article 41). doi : 10.1186/2049-1891-4-41

González, L., Moreno, T., Bispo, E., Dugan, M.E.R, and Franco, D. (2014). "Effect of supplementing different oils: linseed, sunflower and soybean, on animal performance, carcass characteristics, meat quality and fatty acid profile of veal from "Rubia Gallega" calves.", *Meat Science*, 96(2), pp. 829-836. doi : 10.1016/j.meatsci.2013.09.027

Durruna, O.N., Block, H.C., Iwaasa, A.D., Scott, S.L., Robins, C.D., Khakbazan, M., Dugan, M.E.R, Aalhus, J.L., Aliani, M., and Lardner, H.A. (2014). "Impact of calving seasons and feeding systems in western Canada. II. Meat composition and organoleptic quality of steaks.", *Canadian Journal of Animal Science*, 94(4), pp. 583-593. doi : 10.4141/CJAS-2014-034

Ekine-Dzivenu, C., Chen, L., Vinsky, M.D., Aldai, N., Dugan, M.E.R, McAllister, T.A., Wang, Z., Okine, E.K., and Li, C. (2014). "Estimates of genetic parameters for fatty acids in brisket adipose tissue of Canadian commercial crossbred beef steers.", *Meat Science*, 96(4), pp. 1517-1526. doi: 10.1016/j.meatsci.2013.10.011

Meale, S.J., Ding, S., He, M.L., Dugan, M.E.R, Ribeiro Jr, G.O., Alazzez, A.Y., Holo, H., Harstad, O.M., McAllister, T.A., and Chaves, A.V. (2014). "Effect of *Propionibacterium freudenreichii* on ruminal fermentation patterns, methane production and lipid biohydrogenation of beef finishing diets containing flaxseed oil in a rumen simulation technique.", *Canadian Journal of Animal Science*, 94(4), pp. 685-695. doi: 10.4141/CJAS-2014-051

Chikumba, N., Chimonyo, M., Mapiye, C., and Dugan, M.E.R (2014). "Physicochemical properties of breast meat from water-stressed naked-neck and Ovambo chickens.", *British Poultry Science*, 55(2), pp. 197-206. doi: 10.1080/00071668.2014.888396

Mapiye, C., Aalhus, J.L., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, G.S., Proctor, S.D., and Dugan, M.E.R (2014). "Types of oilseed and adipose tissue influence the composition and relationships of polyunsaturated fatty acid biohydrogenation products in steers fed a grass hay diet.", *Lipids*, 49(3), pp. 275-286. doi: 10.1007/s11745-013-3876-1

Prieto, N., López-Campos, Ó., Aalhus, J.L., Dugan, M.E.R, Juárez, M., and Uttaro, B. (2014). "Use of near infrared spectroscopy for estimating meat chemical composition, quality traits and fatty acid content from cattle fed sunflower or flaxseed.", *Meat Science*, 98(2), pp. 279-288. doi: 10.1016/j.meatsci.2014.06.005

Mapiye, C., Aalhus, J.L., Turner, T.D., Vahmani, P., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R (2014). "Inclusion of sunflower seed and wheat dried distillers' grains with solubles in a red clover silage-based diet enhances steers performance, meat quality and fatty acid profiles.", *Animal*, 8(12), pp. 1999-2010. doi: 10.1017/S1751731114001955

Aalhus, J.L., López-Campos, Ó., Prieto, N., Rodas-Gonzalez, A., Dugan, M.E.R, Uttaro, B., and Juárez, M. (2014). "Review: Canadian beef grading – opportunities to identify carcass and meat quality traits valued by consumers.", *Canadian Journal of Animal Science*, 94(4), pp. 545-556.

Prieto, N., Uttaro, B., Mapiye, C., Turner, T.D., Dugan, M.E.R, Zamora, V., Young, M., and Beltranena, E. (2014). "Predicting fat quality from pigs fed reduced-oil corn dried distillers grains with solubles by near infrared reflectance spectroscopy: Fatty acid composition and iodine value.", *Meat Science*, 98(4), pp. 585-590. doi: 10.1016/j.meatsci.2014.06.009

Petri, R.M., Mapiye, C., Dugan, M.E.R, and McAllister, T.A. (2014). "Subcutaneous adipose fatty acid profiles and related rumen bacterial populations of steers fed red clover or grass hay diets containing flax or sunflower seed.", *PLoS ONE*, 9(8): e104167. doi: 10.1371/journal.pone.0104167

Turner, T.D., Mapiye, C., Aalhus, J.L., Beaulieu, A.D., Patience, J.F., Zijlstra, R.T., and Dugan, M.E.R (2014). "Flaxseed fed pork N-3 Fatty acid enrichment and contribution to dietary recommendations.", *Meat Science*, 96(1), pp. 541-547. doi: 10.1016/j.meatsci.2013.08.021

He, M.L., McAllister, T.A., Hernandez-Calva, L.M., Aalhus, J.L., Dugan, M.E.R, and McKinnon, J.J. (2014). "Effect of dietary inclusion of triticale dried distillers' grain and oilseed on quality and fatty acid profile of meat from feedlot steers.", *Meat Science*, 97(1), pp. 76-82. doi: 10.1016/j.meatsci.2014.01.008

Mapiye, C., Aalhus, J.L., Vahmani, P., Rolland, D.C., McAllister, T.A., Block, H.C., Uttaro, B., Proctor, S.D., and Dugan, M.E.R (2014). "Improving beef hamburger quality and fatty acid profiles through dietary manipulation and exploitation of fat depot heterogeneity.", *Journal of Animal Science and Biotechnology*, 5(54). doi: 10.1186/2049-1891-5-54

## 2013

Meadus, W.J., Turner, T.D., Dugan, M.E.R, Aalhus, J.L., Duff, P., Rolland, D.C., Uttaro, B., and Gibson, L. (2013). "Fortification of pork loins with docosahexaenoic acid (DHA) and its effect on flavour.", *Journal of Animal Science and Biotechnology*, 4(1: Article number 46), pp. 1-9. doi: 10.1186/2049-1891-4-46

Mapiye, C., Dugan, M.E.R, Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Aalhus, J.L. (2013). "Erythrocytes assayed early ante mortem can predict adipose tissue and muscle trans-18:1 isomeric profiles of steers fed red clover silage supplemented with flaxseed.", *Canadian Journal of Animal Science*, 93(1), pp. 149-153. doi: 10.4141/CJAS2012-054

Han, C., Vinsky, M.D., Aldai, N., Dugan, M.E.R, McAllister, T.A., and Li, C. (2013). "Association analyses of DNA polymorphisms in bovine SREBP-1, LXR $\alpha$ , FADS1 genes with fatty acid composition in Canadian commercial crossbred beef steers.", *Meat Science*, 93(3), pp. 429-436. doi: 10.1016/j.meatsci.2012.10.006

Aalhus, J.L. and Dugan, M.E.R (2013). "Spoilage, factors affecting (b) Oxidative and enzymatic.", in Jensen, W. K., Devine, C. and Dikeman, M. (eds) - *Encyclopedia of Meat Sciences*, 2nd Edition, Elsevier, pp. 394-400.

Prieto, N., Dugan, M.E.R, López-Campos, Ó., Aalhus, J.L., and Uttaro, B. (2013). "At line prediction of PUFA and biohydrogenation intermediates in perirenal and subcutaneous fat from cattle fed sunflower or flaxseed by near infrared spectroscopy.", *Meat Science*, 94(1), pp. 27-33. doi: 10.1016/j.meatsci.2012.12.014

Mapiye, C., Turner, T.D., Rolland, D., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Adipose tissue and muscle fatty acid profiles of steers fed red clover silage with and without flaxseed.", *Livestock Science*, 151(1), pp. 11-20. doi : 10.1016/j.livsci.2012.10.021

Mapiye, C., Aalhus, J.L., Turner, T.D., Rolland, D.C., Basarab, J.A., McAllister, T.A., Block, H.C., Uttaro, B., López-Campos, Ó., Proctor, S.D., and Dugan, M.E.R (2013). "Effects of feeding flaxseed or sunflower-seed in high-forage diets on beef production, quality and fatty acid composition.", *Meat Science*, 95(1), pp. 98-109. doi : 10.1016/j.meatsci.2013.03.033

Soliman, L.C., Donkor, K.K., Church, J.S., Cinel, B., Prema, D., and Dugan, M.E.R (2013). "Separation of Dietary Omega-3 and Omega-6 Fatty Acids in Food by Capillary Electrophoresis.", *Journal of Separation Science*, 36(20), pp. 3440-3448. doi : 10.1002/jssc.201300738

## 2012

Humada, M.J., Serrano, E., Sañudo, C., Rolland, D.C., and Dugan, M.E.R (2012). "Production system and slaughter age effects on intramuscular fatty acids from young Tudaanca bulls.", *Meat Science*, 90(3), pp. 678-685. doi : 10.1016/j.meatsci.2011.10.013

Juárez, M., Dugan, M.E.R, Aldai, N., Basarab, J.A., Baron, V.S., McAllister, T.A., and Aalhus, J.L. (2012). "Beef quality attributes as affected by increasing the intramuscular levels of vitamin E and omega-3 fatty acids.", *Meat Science*, 90(3), pp. 764-769. doi : 10.1016/j.meatsci.2011.11.010

Prieto, N., Dugan, M.E.R, López-Campos, Ó., McAllister, T.A., Aalhus, J.L., and Uttaro, B. (2012). "Near infrared reflectance spectroscopy predicts the content of polyunsaturated fatty acids and biohydrogenation products in the subcutaneous fat of beef cows fed flaxseed.", *Meat Science*, 90(1), pp. 43-51. doi : 10.1016/j.meatsci.2011.05.025

He, M.L., McAllister, T.A., Kastelic, J.P., Mir, P.S., Aalhus, J.L., Dugan, M.E.R, Aldai, N., and McKinnon, J.J. (2012). "Feeding flaxseed in grass hay and barley silage diets to beef cows increases alpha-linolenic acid and its biohydrogenation intermediates in subcutaneous fat.", *Journal of Animal Science*, 90(2), pp. 592-604. doi : 10.2527/jas.2011-4281

Aldai, N., Dugan, M.E.R, Rolland, D.C., and Aalhus, J.L. (2012). "Red blood cell trans-18:1 isomeric profile correlates with subcutaneous fat and muscle profiles in beef cattle.", *Meat Science*, 91(2), pp. 203-206. doi : 10.1016/j.meatsci.2012.01.011

Juárez, M., Aldai, N., López-Campos, Ó., Dugan, M.E.R, Uttaro, B., and Aalhus, J.L. (2012). "Beef Texture and Juiciness.", in Hui, Y.H. (ed.) - *Handbook of Meat and Meat Processing*. 2nd Edition, CRC Press Taylor & Francis, Boca Raton, FL, USA, Chapter 9, pp. 177-206.

Turner, T.D., Karlsson, L., Mapiye, C., Rolland, D.C., Martinsson, K., and Dugan, M.E.R (2012). "Dietary influence on the m. longissimus dorsi fatty acid composition of lambs in relation to protein source.", *Meat Science*, 91(4), pp. 472-477. doi : 10.1016/j.meatsci.2012.02.034

He, M.L., Sultana, H., Oba, M., Kastelic, J.P., Dugan, M.E.R, McKinnon, J.J., and McAllister, T.A. (2012). "Triticale Dried Distillers' Grain Increases Alpha-Linolenic Acid in Subcutaneous Fat of Beef Cattle Fed Oilseeds.", *Lipids*, 47(12), pp. 1209-1220. doi : 10.1007/s11745-012-3720-z

Mapiye, C., Aldai, N., Turner, T.D., Aalhus, J.L., Rolland, D.C., Kramer, J.K.G., and Dugan, M.E.R (2012). "The labile lipid fraction of meat: From perceived disease and waste to health and opportunity. (Review).", *Meat Science*, 92(3), pp. 210-220. doi : 10.1016/j.meatsci.2012.03.016

Li, C., Aldai, N., Vinsky, M.D., Dugan, M.E.R, and McAllister, T.A. (2012). "Association analyses of single nucleotide polymorphisms in bovine stearoyl-CoA desaturase and fatty acid synthase genes with fatty acid composition in commercial crossbred beef steers.", *Animal Genetics*, 43(1), pp. 93-97. doi : 10.1111/j.1365-2052.2011.02217.x

Nassu, R.T., Uttaro, B., Aalhus, J.L., Zawadzki, S.M., Juárez, M., and Dugan, M.E.R (2012). "Type of packaging affects the colour stability of vitamin E enriched beef.", *Food Chemistry*, 135(3), pp. 1868-1872. doi : 10.1016/j.foodchem.2012.06.055

Turner, T.D., Rolland, D.C., Aldai, N., and Dugan, M.E.R (2012). "Rapid separation of cis9, trans11- and trans7, cis9-18:2 (CLA) isomers from ruminant tissue using a 30 m SLB-IL111 ionic column.", *Canadian Journal of Animal Science*, 91(4), pp. 711-713. doi : 10.4141/CJAS2011-071

Wang, Y., Jacome-Sosa, M.M., Ruth, M.R., Lu, Y., Shen, J.-H., Reaney, M.J.T., Scott, S.L., Dugan, M.E.R, Anderson, H.D., Field, C.J., and Vine, D.F. (2012). "The intestinal bioavailability of vaccenic acid and activation of peroxisome proliferator-activated receptor- $\alpha$  and - $\gamma$  in a rodent model of dyslipidemia and the metabolic syndrome.", *Molecular Nutrition and Food Research*, 56(8), pp. 1234-1246. doi : 10.1002/mnfr.201100517

Aldai, N., Klieve, A.V., Dugan, M.E.R, Kramer, J.K.G., Ouwerekerk, D., Aalhus, J.L., McKinnon, J.J., and McAllister, T.A. (2012). "Evaluation of rumen fatty acid hydrogenation intermediates and differences in bacterial communities after feeding wheat or corn-based dried distillers grains to feedlot cattle.", *Journal of Animal Science*, 90(8), pp. 2699-2709. doi : 10.2527/jas.2010-3671

Mello Jr., A.S., Calkins, C.R., Jenschke, B.E., Carr, T.P., Dugan, M.E.R, and Erickson, G.E. (2012). "Beef quality of calf-fed steers finished on varying levels of corn-based wet distillers grains plus solubles.", *Journal of Animal Science*, 90(12), pp. 4625-4633. doi: 10.2527/jas.2010-3239

Mapiye, C., Dugan, M.E.R, Juárez, M., Basarab, J.A., Baron, V.S., Turner, T.D., Yang, X.Q., Aldai, N., and Aalhus, J.L. (2012). "Influence of  $\alpha$ -tocopherol supplementation on trans-18:1 and conjugated linoleic acid profiles in beef from steers fed a barley-based diet.", *Animal*, 6(11), pp. 1888-1896. doi: 10.1017/S1751731112000730

He, M.L., Yang, W.-Z., Dugan, M.E.R, Beauchemin, K.A., McKinnon, J.J., and McAllister, T.A. (2012). "Substitution of wheat dried distillers grains with solubles for barley silage and barley grain in a finishing diet increases polyunsaturated fatty acids including linoleic and alpha-linolenic acids in beef.", *Animal Feed Science and Technology*, 175(3-4), pp. 114-120. doi: 10.1016/j.anifeedsci.2012.05.009

Mir, P.S., He, M.L., Schwartzkopf-Genswein, K.S.G., Sharma, R., Brown, F.A., Travis, G.R., Entz, T., Lemieux, R.O., Dugan, M.E.R, Okine, E.K., and Dodson, M.V. (2012). "Effect of supplementation of beef steer diets with oil containing n6 and n3 fatty acids and 48 h feed withdrawal treatments on plasma hormone profiles and adipose tissue cellularity.", *Livestock Science*, 146(2-3), pp. 140-148. doi: 10.1016/j.livsci.2012.03.001

2011

Juárez, M., Dugan, M.E.R, Aldai, N., Aalhus, J.L., Patience, J.F., Zijlstra, R.T., and Beaulieu, A.D. (2011). "Increasing omega-3 levels through dietary co-extruded flaxseed supplementation negatively affects pork palatability.", *Food Chemistry*, 126(4), pp. 1716-1723. doi: 10.1016/j.foodchem.2010.12.065

Dugan, M.E.R, Aldai, N., Aalhus, J.L., Rolland, D.C., and Kramer, J.K.G. (2011). "Trans-forming beef to provide healthier fatty acid profiles.", *Canadian Journal of Animal Science*, 91(4), pp. 545-556. doi: 10.4141/CJAS2011-044

Meadus, W.J., Duff, P., Rolland, D.C., Aalhus, J.L., Uttaro, B., and Dugan, M.E.R (2011). "Feeding docosahexaenoic acid to pigs reduces blood triglycerides and induces gene expression for fat oxidation.", *Canadian Journal of Animal Science*, 91(4), pp. 601-612. doi: 10.4141/cjas2011-055

He, M.L., Mir, P.S., Sharma, R., Schwartzkopf-Genswein, K.S.G., Entz, T., Travis, G.R., Dugan, M.E.R, Rolland, D.C., Okine, E.K., and Dodson, M.V. (2011). "Effect of supplementation of beef steer diets with oil containing n6 and n3 fatty acids and 48 h feed withdrawal treatments on animal productivity, carcass characteristics and fatty acid composition.", *Livestock Science*, 142(1-3), pp. 253-263. doi: 10.1016/j.livsci.2011.08.002

Nassu, R.T., Dugan, M.E.R, Juárez, M., Basarab, J.A., Baron, V.S., and Aalhus, J.L. (2011). "Effect of  $\alpha$ -tocopherol tissue levels on beef quality.", *Animal*, 5(12), pp. 2010-2018. doi: 10.1017/S1751731111001182

Hernandez-Calva, L.M., He, M.L., Juárez, M., Aalhus, J.L., Dugan, M.E.R, and McAllister, T.A. (2011). "Effect of flaxseed and forage type on carcass and meat quality of finishing cull cows.", *Canadian Journal of Animal Science*, 91(4), pp. 613-622. doi: 10.4141/CJAS2011-030

Juárez, M., Dugan, M.E.R, Larsen, I.L., Thacker, R., Rolland, D.C., and Aalhus, J.L. (2011). "Oxidative stability in grinds from omega-3 enhanced pork", *Canadian Journal of Animal Science*, 91(4), pp. 623-634. doi: 10.4141/cjas2011-059

Chaves, A.V., Dugan, M.E.R, Stanford, K.I.M., Gibson, L.L., Bystrom, J.M., McAllister, T.A., Van Herk, F.H., and Benchaar, C. (2011). "A dose-response of cinnamaldehyde supplementation on intake, ruminal fermentation, blood metabolites, growth performance, and carcass characteristics of growing lambs.", *Livestock Science*, 141(2-3), pp. 213-220. doi: 10.1016/j.livsci.2011.06.006

Nassu, R.T., Dugan, M.E.R, He, M.L., McAllister, T.A., Aalhus, J.L., Aldai, N., and Kramer, J.K.G. (2011). "The effects of feeding flaxseed to beef cows given forage based diets on fatty acids of longissimus thoracis muscle and backfat.", *Meat Science*, 89(4), pp. 469-477. doi: 10.1016/j.meatsci.2011.05.016

He, M.L., Chung, Y.-H., McAllister, T.A., Beauchemin, K.A., Mir, P.S., Aalhus, J.L., and Dugan, M.E.R (2011). "Inclusion of Flaxseed in Hay- and Barley Silage Diets Increases Alpha-Linolenic Acid in Cow Plasma Independent of Forage Type.", *Lipids*, 46(7), pp. 577-585. doi: 10.1007/s11745-011-3534-4

Juárez, M., Dugan, M.E.R, Aalhus, J.L., Aldai, N., Basarab, J.A., Baron, V.S., and McAllister, T.A. (2011). "Effects of vitamin E and flaxseed on rumen-derived fatty acid intermediates in beef intramuscular fat.", *Meat Science*, 88(3), pp. 434-440. doi: 10.1016/j.meatsci.2011.01.023

Aldai, N., Dugan, M.E.R, Kramer, J.K.G., Martínez, A., López-Campos, Ó., Mantecón, A.R., and Osoro, K. (2011). "Length of concentrate finishing affects the fatty acid composition of grass-fed and genetically lean beef: an emphasis on trans-18:1 and conjugated linoleic acid profiles.", *Animal*, 5(10), pp. 1643-1652. doi: 10.1017/S1751731111000607

Juárez, M., Caine, W.R., Dugan, M.E.R, Hidioglou, N., Larsen, I.L., Uttaro, B., and Aalhus, J.L. (2011). "Effects of dry-ageing on pork quality characteristics in different genotypes.", *Meat Science*, 88(1), pp. 117-121. doi: 10.1016/j.meatsci.2010.12.011

## Other Science Related Publications:

2016

Foroutan, A., Dugan, M.E.R, Stothard, P., Grant, J., Paradis, F., Guan, L.L., McAllister, T.A., Basu, U., Li, C., and Fitzsimmons, C.J. (2016). "Gene expression differences associated with fatty-acid deposition in beef cattle fed diets with supplemental flaxseed.", XXIV Plant and Animal Genomics Conference, San Diego, CA, USA, January 2016. (Abstract)

2015

Prieto, N., Juárez, M., Dugan, M.E.R, Zijlstra, R.T., and Aalhus, J.L. (2015). "The potential for near infrared spectroscopy on ears to predict body and fat composition post-slaughter.", Banff Pork Seminar, Banff, Canada, January, 2015. (Presentation)

Li, C., Ekine-Dzivenu, C., Chen, L., Vinsky, M.D., Basarab, J.A., Aalhus, J.L., Dugan, M.E.R, and Fitzsimmons, C.J. (2015). "Heritability estimates and accuracy of predicting direct genomic breeding values for fatty acid composition of beef cattle.", CASA. (Abstract)

Vahmani, P., Meadus, W.J., Mapiye, C., Pachio, M., Duff, P., Rolland, D.C., and Dugan, M.E.R (2015). "Effects of trans 18:1 from conventional versus flax/hay fed cattle on transcriptional networks (global gene expression) in HepG2 cells.", International Conference on Lipid Science & Technology, San Francisco, USA, November 30-December 02, 2015. (Abstract)

Vahmani, P., Meadus, W.J., Mapiye, C., Duff, P., Rolland, D.C., and Dugan, M.E.R (2015). "Delta-9 Desaturation Rate of Individual Trans 18:1 Isomers in 3T3-L1 Cells depends on the Location of Trans Double Bond.", Eurofed Lipid, Florence, Italy, September, 2015. (Abstract)

Prieto, N., Juárez, M., Dugan, M.E.R, Zijlstra, R.T., and Aalhus, J.L. (2015). "Near Infra-red spectroscopy on ears to classify pigs based on carcass and meat composition.", 61st International Congress of Meat Science and Technology, Clermont-Ferrand, France, August 23-28, 2015.

Vahmani, P., Meadus, W.J., Uttaro, B., López-Campos, Ó., Mapiye, C., Rolland, D.C., Caine, W.R., Aalhus, J.L., and Dugan, M.E.R (2015). "Effects of feeding beef fat from different body locations, and with different enrichments of biohydrogenation products on barrow performance, meat quality and body composition.", Banff Pork Seminar, Banff, Canada, January, 2015. (Presentation)

López-Campos, Ó., Larsen, I.L., Prieto, N., Juárez, M.L., Juárez, M., Dugan, M.E.R, Uttaro, B., and Aalhus, J.L. (2015). "Evaluation of the Canadian and U.S. beef yield equations.", CMSA, Ottawa, Canada, May, 2015. (Abstract)

Prieto, N., Juárez, M., Dugan, M.E.R, Zijlstra, R.T., and Aalhus, J.L. (2015). "Near infrared spectroscopy on ears to classify pigs based on carcass and fat composition.", 2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council, Ottawa, Canada, May 6-8, 2015. (Abstract)

Prieto, N., Juárez, M., Dugan, M.E.R, Zijlstra, R.T., and Aalhus, J.L. (2015). "The potential for near infrared spectroscopy on ears to predict body and fat composition post-slaughter.", Banff Pork Seminar 2015, Banff, AB, Canada, January 20-22, 2015.

López-Campos, Ó., Larsen, I.L., Prieto, N., Juárez, M.L., Dugan, M.E.R, and Aalhus, J.L. (2015). "Evaluation of total and saleable meat yield prediction equations in beef.", Meat Science. (Abstract)

López-Campos, Ó., Larsen, I.L., Prieto, N., Juárez, M.L., Dugan, M.E.R, and Aalhus, J.L. (2015). "Evaluation of the total and saleable beef yield prediction equations and dual energy x-ray absorptiometry for a rapid, non-invasive yield prediction in beef.", 61st International Congress of Meat Science and Technology, Clermont-Ferrand, France, August 23-28, 2015. (Abstract)

Soladoye, P.O., Aalhus, J.L., López-Campos, Ó., Prieto, N., Uttaro, B., Dugan, M.E.R, Gariépy, C., Zhang, H., Ye, J., Shand, P.J., and Juárez, M. (2015). "Alternative management strategies for pork differentiation in Canada.", Banff Pork Seminar 2015, Banff, AB, Canada, January 20-22, 2015.

2014

Tullio, R.R., Aalhus, J.L., Nassu, R.T., Juárez, M., Berndt, A., da Silva, M.L.P., Rolland, D.C., de Alencar, M.M., and Dugan, M.E.R (2014). "Effects of finishing system, gender and breed on transvaccenic and conjugated linoleic acids in beef.", ICoMST, Uruguay, August, 2014. (Abstract)

Turner, T.D., Jenson, J., Pilfold, J.L., Prema, D., Donkor, K.K., Cinel, B., Dugan, M.E.R, and Church, J.S. (2014). "Fatty acid profiles of North American beef produced using organic and natural systems.", ICoMST, Uruguay, August, 2014. (Abstract)

Vahmani, P., Turner, T.D., Duff, P., Rolland, D.C., Mapiye, C., Meadus, W.J., and Dugan, M.E.R (2014). "Individual trans monounsaturated fatty acids have distinct effects on lipogenesis in 3T3-L1 adipocytes.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014. (Abstract)

Zhang, H.M., Aalhus, J.L., Larsen, I.L., Dugan, M.E.R, Uttaro, B., López-Campos, Ó., Prieto, N., Soladoye, O.P., Ye, J., and Juárez, M. (2014). "Optimizing Canadian pork chemical composition and eating quality through integrated management strategies.", 2014 Banff Pork Seminar, Banff, Alberta, Canada. (Abstract)

Soladoye, O.P., Juárez, M., Shand, P.J., Dugan, M.E.R, Uttaro, B., López-Campos, Ó., Prieto, N., Zhang, H.M., Larsen, I.L., and Aalhus, J.L. (2014). "Effects of selected pre- and post-slaughter factors on pork carcass quality traits.", 2014 Banff Pork Seminar, Banff, Alberta, Canada. (Abstract)

Li, C., Dugan, M.E.R, Aalhus, J.L., Fitzsimmons, C.J., Basarab, J.A., Buchanan, F.C., Chen, L., Ekine-Dzivenu, C., Stothard, P., Curtis, J., Bruce, H.L., Wang, Z., and Okine, E.K. (2014). "Genetic Influence of Host Animal on Fatty Acid Profile in Beef.", University of Alberta Kinsella Day, Kinsella, AB, Canada, August 13, 2014. (Poster)

Chen, L., Vinsky, M.D., Ekine, C., Basarab, J.A., Aalhus, J.L., Dugan, M.E.R, Curtis, J., Fitzsimmons, C.J., Stothard, P., and Li, C. (2014). "Genomic prediction of direct genomic breeding values for fatty acid concentrations in subcutaneous adipose and longissimus lumborum muscle of beef cattle.", Livestock Gentec 5th Annual conference, Edmonton, AB, Canada, August 12-14, 2014. (Poster)

Li, C., Aalhus, J.L., Dugan, M.E.R, Fitzsimmons, C.J., Basarab, J.A., Curtis, J., Stothard, P., Okine, E.K., Wang, Z., Bruce, H.L., and Buchanan, F.C. (2014). Identifying DNA markers for enhancing beneficial fatty acids in beef, Final project report, 33 pages to Alberta Livestock and Meat Agency (ALMA). (Report)

Li, C., Dugan, M.E.R, Aalhus, J.L., Fitzsimmons, C.J., Basarab, J.A., Buchanan, F.C., Chen, L., Ekine-Dzivenu, C., Stothard, P., Curtis, J.M., Bruce, H.L., Wang, Z., and Okine, E.K. (2014). "Genetic Influence of Host Animal on Fatty Acid Profile in Beef.", Beef and Ranch Report, pp. 34-35.

Li, C., Ekine-Dzivenu, C., Chen, L., Vinsky, M.D., Aldai, N., Dugan, M.E.R, and McAllister, T.A. (2014). "Heritability Estimates of Conjugated Linoleic Acid Isomers in Brisket Adipose Tissue of Canadian Crossbred Beef Steers.", 10th World Congress on Genetics Applied to Livestock Production (WCGALP), Vancouver, Canada, August 17-22, 2014, Paper 588 & Poster.

Foroutan, A., Stothard, P., Grant, J., Paradis, F., Guan, L.L., Dugan, M.E.R, McAllister, T.A., Basu, U., McLean, K.L., and Fitzsimmons, C.J. (2014). "Transcriptional analysis in Longissimus thoracis muscle, subcutaneous and kidney fat of cattle fed diets with supplemental flaxseed.", XXII Plant & Animal Genome Conference, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014.

Mapiye, C., Aalhus, J.L., Vahmani, P., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Procor, S.D., and Dugan, M.E.R (2014). "Subcutaneous biohydrogenation product profiles of steers fed forage-based diets with sunflower-seed and wheat dried distillers' grains with sables.", ICoMST, Uruguay, August, 2015. (Abstract)

## 2013

Mapiye, C., Turner, T.D., Basarab, J.A., Baron, V.S., Aalhus, J.L., and Dugan, M.E.R (2013). "Subcutaneous fatty acid composition of calf- and yearling-fed steers with and without growth promotants.", World Conference on Animal Production (11th WCAP), Beijing, China, October 15-20, 2013. (Abstract)

Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Beef production and quality of yearling steers fed high-forage diets with flaxseed or sunflower-seed.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P29, pp. 37. (Poster)

Turner, T.D., Aalhus, J.L., Mapiye, C., Rolland, D.C., Larsen, I.L., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R (2013). "Enriching hamburger with PUFA biohydrogenation products by supplementing steers fed high forage diets with either flaxseed or sunflower seed: Effects of adipose tissue source on palatability and fatty acid composition.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P20, pp. 32. (Poster)

Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Composition of biohydrogenation intermediates in intramuscular fat of yearling steers fed forage-based diets with supplemental flaxseed or sunflower-seed.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P28, pp. 36. (Poster)

Aalhus, J.L., Basarab, J.A., Larsen, I.L., López-Campos, Ó., Dugan, M.E.R, Prieto, N., Uttaro, B., Schaefer, A.L., Cook, N.J., Plastow, G., Li, C., Calkins, C.R., and Juárez, M. (2013). "The Phenomic Challenge – Integrating performance, carcass and meat quality data with genomics.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O44, pp. 20.

Meadus, W.J., Turner, T.D., Dugan, M.E.R, Aalhus, J.L., Duff, P., Rolland, D., Uttaro, B., and Gibson, L.L. (2013). "Injection of Pork Loins with The Long Chain Fatty Acid Docosahexaenoic Acid (dha) and Its Effect on Flavour", 59th International Congress of Meat Science and Technology (ICoMST2013), Izmir, Turkey, August 18-23, 2013, Poster ID: S10B-9. (Poster)

Aalhus, J.L., López-Campos, Ó., Prieto, N., Rodas-Gonzalez, A., Dugan, M.E.R, Uttaro, B., Juárez, M., and Juárez, M. (2013). "Meat quality and improving carcass value.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013. (Abstract)

Ekine, C., Chen, L., Vinsky, M.D., Basarab, J.A., Aalhus, J.L., Dugan, M.E.R, Curtis, J., Fitzsimmons, C.J., Wang, Z., Okine, E.K., and Li, C. (2013). "Heritability of fatty acids in longissimus dorsi muscle and subcutaneous adipose tissue of beef cattle.", Livestock Gentec Conference, Edmonton, Canada, October, 2013. (Abstract)

Foroutan, A., Stothard, P., Grant, J., Paradis, F., Guan, L.L., Dugan, M.E.R, Basu, U., McLean, K.L., and Fitzsimmons, C.J. (2013). "Transcriptional analysis in Longissimus dorsi muscle and subcutaneous fat of the cattle fed diets with supplemental flaxseed.", Livestock Gentec Conference, Edmonton, Canada, October, 2013. (Abstract)

Donkor, K.K., Soliman, L.C., Church, J.S., Cinel, B., Prema, D., and Dugan, M.E.R (2013). "Determination of Dietary Omega-3 and Omega-6 Fatty Acids in Food by Capillary Electrophoresis.", 96th Canadian Chemistry Conference and Exhibition, Quebec City, Quebec, Canada, May 2013. (Abstract)

Ekine, C., Chen, L., Vinsky, M.D., Wang, Z., Stothard, P., Okine, E.K., Aldai, N., Dugan, M.E.R, McAllister, T.A., and Li, C. (2013). "Genetic influence of host animals on fatty acid composition in beef cattle tissues.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O18-GS, pp. 10.

Chen, L., Vinsky, M.D., Ekine, C., Basarab, J.A., Aalhus, J.L., Dugan, M.E.R, Curtis, J.M., Fitzsimmons, C.J., Buchanan, F.C., Stothard, P., Liao, X.J., Wang, Z., Okine, E.K., and Li, C. (2013). "Genome-wide identification of single nucleotide polymorphisms associated with fatty acids in beef cattle.", Livestock Gentec Conference, Edmonton, Canada, October, 2013. (Abstract)

Prieto, N., Uttaro, B., Mapiye, C., Dugan, M.E.R, Young, M.G., Zamora, A.M.V., Zijlstra, R.T., Aalhus, J.L., and Beltranena, E. (2013). "Near infrared spectroscopy predicting fatty acid content in backfat from pigs fed reduced-oil corn dried distillers grains with solubles.", 59th International Congress of Meat Science and Technology (ICoMST2013), Izmir, Turkey, August 18-23, 2013.

Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Effects of feeding flaxseed and sunflower seed diets in high forage diets on biohydrogenation intermediates in adipose tissues of yearling steers.", ADSA-ASAS Joint Annual Meeting, Indianapolis, USA, July 2013. (Abstract)

Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Effects of feeding flaxseed or sunflower seed in high forage diets on biohydrogenation intermediates in adipose tissues of yearling steers.", ADSA-ASAS Joint Annual Meeting, Indianapolis, USA, July 2013. (Abstract)

Meadus, W.J., Turner, T.D., Dugan, M.E.R, Aalhus, J.L., Duff, P., Rolland, D., Uttaro, B., and Gibson, L.L. (2013). "Injection of pork loins with the long chain fatty acid, docosahexaenoic acid (DHA) and its effect on flavour.", 59th International Congress of Meat Science and Technology (ICoMST2013), Izmir, Turkey, August 18-23, 2013.

Prieto, N., Uttaro, B., Mapiye, C., Dugan, M.E.R, Zamora, A.M.V., Young, M., and Beltranena, E. (2013). "Estimation of pork fatty acid composition from pigs fed reduced-oil corn dried distillers grains with solubles using near infrared spectroscopy and two sample treatments.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013.

Prieto, N., Uttaro, B., Mapiye, C., Dugan, M.E.R, Zamora, A.M.V., Young, M., and Beltranena, E. (2013). "Potential of near infrared spectroscopy to predict fatty acid composition in subcutaneous fat from pigs fed reduced-oil corn distillers dried grains with solubles.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013.

Prieto, N., Uttaro, B., Mapiye, C., Dugan, M.E.R, Zamora, A.M.V., Young, M.G., Zijlstra, R.T., Aalhus, J.L., and Beltranena, E. (2013). "Near infrared reflectance spectroscopy predicts fatty acid content in backfat from pigs fed reduced-oil corn dried distillers grains with solubles.", 59th International Congress of Meat Science and Technology (ICoMST2013), Izmir, Turkey, August 18-23, 2013.

Prieto, N., Dugan, M.E.R, Aalhus, J.L., and Uttaro, B. (2013). "Near infrared reflectance spectroscopy: an alternative technology to predict meat quality.", Prairie Post - Bull Breeders, February, pp. 14-15.

Turner, T.D., Meadus, W.J., Duff, P., Rolland, D.C., Mapiye, C., Church, J., and Dugan, M.E.R (2013). "Metabolism of c9,t11- and t10,c12- CLA in 3T3-L1 adipose cell culture: novel metabolites.", ASAS/ASN Joint Innovate 2013 Meeting, Braselton, GA, USA, September 2013.

Turner, T.D., Meadus, W.J., Duff, P., Rolland, D.C., Mapiye, C., Church, J., and Dugan, M.E.R (2013). "Effects of c9,t11- and t10,c12- conjugated linoleic acid on 3T3-L1 adipose cell culture: novel fatty acid metabolites and lipogenic gene expression.", International Conference on Animal Dairy Science, Las Vegas, USA, July 2013.

Aalhus, J.L., Dugan, M.E.R, Uttaro, B., and Zijlstra, R.T. (2013). "Development of on-line quantification of beef and pork fatty acid composition.", 2013 ALMA Future Fare. (Poster)

Donkor, K.K., Soliman, L.C., Church, J.S., Cinel, B., Prema, D., and Dugan, M.E.R (2013). "Determination of Dietary Omega-3 and Omega-6 Fatty Acids in Food by Capillary Electrophoresis.", 37th International Symposium on Capillary Chromatography, Palm Springs, California, USA, May 2013. (Poster)

- He, M.L., Hernandez-Calva, L.M., McAllister, T.A., Aalhus, J.L., Dugan, M.E.R, and McKinnon, J.J. (2012). "Inclusion of triticale dried distiller grains and flaxseed in feedlot cattle diets increases alpha-linolenic acid in beef without affecting carcass or meat quality traits.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.
- Prieto, N., López-Campos, Ó., Aalhus, J.L., Dugan, M.E.R, and Uttaro, B. (2012). "Predicting polyunsaturated fatty acids and biohydrogenation products in perirenal adipose tissue from cattle fed sunflower or flaxseed by near infrared spectroscopy.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012.
- Prieto, N., Dugan, M.E.R, López-Campos, Ó., Aalhus, J.L., and Uttaro, B. (2012). "Rapid prediction of PUFA and biohydrogenation intermediates in perirenal fat by near infrared spectroscopy from cattle fed sunflower or flaxseed.", Canadian Meat Science Association Newsletter (June 2012), pp. 23. (Newsletter)
- Prieto, N., Dugan, M.E.R, López-Campos, Ó., Aalhus, J.L., and Uttaro, B. (2012). "Rapid prediction of PUFA and biohydrogenation intermediates in perirenal fat by near infrared spectroscopy from cattle fed sunflower or flaxseed.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2012 Annual Conference and Technical Symposium, Québec City, QC, Canada, May 29-June 1, 2012, pp. 7. (Abstract)
- López-Campos, Ó., Aalhus, J.L., Uttaro, B., Dugan, M.E.R, and Juárez, M. (2012). "Ten year trends in the Canadian Beef Quality and Lean Meat Yield Grades.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2012 Annual Conference and Technical Symposium, Québec City, QC, Canada, May 29-June 1, 2012, pp. 9. (Abstract)
- Prieto, N., López-Campos, Ó., Juárez, M., Aalhus, J.L., Dugan, M.E.R, and Uttaro, B. (2012). "Using near infrared spectroscopy to estimate meat quality attributes from cattle fed sunflower or flaxseed.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2012 Annual Conference and Technical Symposium, Québec City, QC, Canada, May 29-June 1, 2012, pp. 11. (Abstract)
- Prieto, N., Dugan, M.E.R, López-Campos, Ó., Aalhus, J.L., and Uttaro, B. (2012). "Near infrared spectroscopy prediction of polyunsaturated fatty acids and biohydrogenation products in perirenal adipose tissue from cattle fed sunflower or flaxseed.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012, Paper 222.
- Turner, T.D., Mapiye, C., Aalhus, J.L., Beaulieu, A.D., Patience, J.F., Zijlstra, R.T., and Dugan, M.E.R (2012). "Flax-fed omega-3 pork: Assessing the long chain fatty acid value.", 41st Banff Pork Seminar, Banff Centre, Banff, AB, Canada, January 17-21, 2012, Advances in Pork Production Volume 23, Abstract No. 28.
- Prieto, N., López-Campos, Ó., Juárez, M., Aalhus, J.L., Dugan, M.E.R, and Uttaro, B. (2012). "Potential of near infrared spectroscopy to estimate meat quality attributes from cattle fed sunflower or flaxseed.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012, Paper 223.
- Meadus, W.J., Dugan, M.E.R, Aalhus, J.L., Duff, P., and Rolland, D. (2012). "Fortification of pork chops with omega-3 oil derived from microalgae *Schizochytrium*.", BIT's 1st Annual International Congress of Marine Algae (AICMA2012), Dalian, China, September 20-23, 2012.
- Mapiye, C., Dugan, M.E.R, Turner, T.D., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., and Aalhus, J.L. (2012). "Relationships of trans-18:1 isomers between red blood cells and beef tissues in steers fed red clover silage with/without flaxseed.", 58th International Congress of Meat Science and Technology, Montreal, Canada, August 12-17, 2012.
- Ekine, C., Aldai, N., Vinsky, M.D., Chen, L., Wang, Z., Stothard, P., Dugan, M.E.R, and McAllister, T.A. (2012). "Heritability and gene SNP associations with fatty acid composition in beef cattle.", 33rd Conference of the International Society of Animal Science, Cairns, Australia, July 15-20, 2012.
- Mapiye, C., Dugan, M.E.R, Juárez, M., Basarab, J.A., Baron, V.S., Turner, T.D., Yang, X.Q., Aldai, N., and Aalhus, J.L. (2012). "Effect of vitamin E inclusion on trans-18:1 isomers in subcutaneous fat of steers fed a high-barley grain diet.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012.
- López-Campos, Ó., Aalhus, J.L., Uttaro, B., Dugan, M.E.R, and Juárez, M. (2012). "Ten year trends in the Canadian Beef Quality and Lean Meat Yield Grades.", Canadian Meat Science Association Newsletter, 2012 (June), pp. 22. (Newsletter)
- Prieto, N., Dugan, M.E.R, and Aalhus, J.L. (2012). "Near infrared reflectance spectroscopy: an alternative technology to predict meat quality.", Prairie Post - Bull Breeders (February 2013).
- Prieto, N., López-Campos, Ó., Juárez, M., Aalhus, J.L., Dugan, M.E.R, and Uttaro, B. (2012). "Using near infrared spectroscopy to estimate meat quality attributes from cattle fed sunflower or flaxseed.", Canadian Meat Science Association Newsletter (June 2012), pp. 22. (Newsletter)



- Peethambaran, K., Aalhus, J.L., Juárez, M., Larsen, I.L., Dugan, M.E.R, and Bruce, H.L. (2011). "Improving the oxidative stability of omega-3 enriched pork", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.
- Dugan, M.E.R, Mapiye, C., Turner, T.D., Rolland, D.C., and López-Campos, Ó. (2011). "Nutritional control of the fatty acid profile.", 32nd Western Nutrition Conference: Quality from Complexity, Crowne Plaza Chateau Lacombe, Edmonton, AB, Canada, September 14-15, 2011, pp. 133-146.
- Meadus, W.J., Dugan, M.E.R, Uttaro, B., Aalhus, J.L., Rolland, D., and Duff, P. (2011). "Feeding Docosahexaenoic acid in microalgae biomass to pigs reduces triglycerides and induces fat oxidation in liver, adipose and muscle.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011. (Poster)
- Ekine, C., Aldai, N., Vinsky, M.D., Chen, L., Zeng, Z., Wang, Z., Stothard, P., Dugan, M.E.R, McAllister, T.A., and Li, C. (2011). "A multiple candidate-gene association approach to identifying single nucleotide polymorphisms (SNP) associated with fatty acid composition in commercial crossbred beef steers.", Livestock Gentec's 2nd Annual Conference: Addressing the Gap Between Discovery and Profitable Adoption, Edmonton, AB, Canada, October 19-20, 2011. (Poster)
- Peethambaran, K., Aalhus, J.L., Juárez, M., Larsen, D.P., Dugan, M.E.R, and Bruce, H.L. (2011). "The use of sugars in high omega-3 processed pork products.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.
- Prieto, N., Dugan, M.E.R, López-Campos, Ó., McAllister, T.A., Aalhus, J.L., and Uttaro, B. (2011). "Predicting the content of polyunsaturated fatty acids and biohydrogenation products in subcutaneous fat of beef cows fed flaxseed by near infrared reflectance spectroscopy.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.
- Juárez, M., Dugan, M.E.R, Larsen, I.L., Gibson, L.L., and Aalhus, J.L. (2011). "Omega-3 pork: Meat quality challenges to a value added opportunity.", 41st Banff Pork Seminar, Banff Centre, Banff, AB, Canada, January 17-21, 2012, Advances in Pork Production Volume 23, Abstract No. 30.
- Peethambaran, K., Aalhus, J.L., Juárez, M., Larsen, I.L., Dugan, M.E.R, and Bruce, H.L. (2011). "Effects of addition of sugars in pork meat rich in omega 3 fatty acids on oxidative stability.", 40th Banff Pork Seminar 2011, Banff Centre, Banff, AB, Canada, January 18-21, 2011, Advances in Pork Production Volume 22, Abstract No. 28.
- Beltranena, E., Aalhus, J.L., Dugan, M.E.R, Young, M., Campbell, N., Oryschak, M., and Zijlstra, R.T. (2011). "Graded inclusions of wheat distillers dried grains with solubles (DDGS) in hog diets: Growth performance, carcass traits, dissected pork yield, loin and belly quality.", 40th Banff Pork Seminar 2011, Banff Centre, Banff, AB, Canada, January 18-21, 2011, Advances in Pork Production Volume 22, Abstract No. 25.
- Ekine, C., Aldai, N., Vinsky, M.D., Chen, L., Zeng, Z., Wang, Z., Stothard, P., and Dugan, M.E.R (2011). "A multiple candidate-gene association approach to identifying single nucleotide polymorphisms (SNP) associated with fatty acid composition in commercial crossbred beef steers.", Livestock Gentec's 2nd Annual Conference: Addressing the Gap Between Discovery and Profitable Adoption, Edmonton, AB, Canada, October 19-20, 2011. (Poster)
- Li, C., Vinsky, M.D., Ekine, C., Zeng, Z., Dugan, M.E.R, Aldai, N., and McAllister, T.A. (2011). "A multiple candidate gene association approach to identifying single nucleotide polymorphisms (SNP) associated with fatty acid composition in commercial crossbred beef steers.", Gordon Research Conferences on Quantitative Genetics and Genomics, Galveston, TX, USA, February 20-25, 2011. (Poster)
- McLean, K.L., Dugan, M.E.R, McAllister, T.A., Basu, U., Li, C., He, M.L., Aalhus, J.L., Guan, L.L., and Fitzsimmons, C.J. (2011). "Identifying gene expression differences associated with a diet-induced increase of omega-3 fatty-acids in beef cattle.", Plant & Animal Genome XIX Conference, Town & Country Convention Center, San Diego, CA, USA, January 15-19, 2011, P708.
- Nassu, R.T., Dugan, M.E.R, Juárez, M., Basarab, J.A., Baron, V.S., and Aalhus, J.L. (2011). "Beef quality of animals fed different levels of vitamin E.", 57th International Congress of Meat Science and Technology (ICoMST), Ghent, Belgium, August 7-12, 2011.
- Nassu, R.T., Uttaro, B., Aalhus, J.L., Zawadski, S.M., Juárez, M., and Dugan, M.E.R (2011). "Effect of packaging in the colour of beef with different  $\alpha$ -tocopherol levels.", 57th International Congress of Meat Science and Technology (ICoMST), Ghent, Belgium, August 7-12, 2011.
- Stoll, L.C., Dugan, M.E.R, Aalhus, J.L., and Shand, P.J. (2011). "A Comparison of Wheat and Corn-Based Distillers Grains Plus Solubles and their Combination on the Quality of Beef Longissimus.", Canadian Meat Science Association, published in 2011 Annual Meeting Poster Session Abstracts, pp. 20. (Poster)
- Aalhus, J.L., Gariépy, C., Basarab, J.A., Dugan, M.E.R, Fitzsimmons, C.J., Caine, W.R., Uttaro, B., and Juárez, M. (2011). "Optimizing Canadian pork quality through integrated management strategies.", 40th Banff Pork Seminar 2011, Banff Centre, Banff, AB, Canada, January 18-21, 2011.

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## Research Publications:

2015

Kumar, S., You, F.M., Duguid, S.D., Booker, H.M., Rowland, G.G., and Cloutier, S. (2015). "QTL for fatty acid composition and yield in linseed (*Linum usitatissimum* L.)", *Theoretical and Applied Genetics (TAG)*. doi : 10.1007/s00122-015-2483-3

2014

Soto-Cerda, B.J., Duguid, S.D., Booker, H.M., Rowland, G.G., Diederichsen, A., and Cloutier, S. (2014). "Genomic regions underlying agronomic traits in linseed (*Linum usitatissimum* L.) as revealed by association mapping.", *Journal of Integrative Plant Biology (JIPB)*, 56(1), pp. 75-87. doi: 10.1111/jipb.12118

Duguid, S.D., Rashid, K.Y., and Kenaschuk, E.O. (2014). "Shape flax.", *Canadian Journal of Plant Science*, 94(1), pp. 157-160. doi : 10.4141/CJPS2013-197

Duguid, S.D., Rashid, K.Y., Busch, H., and Schaupp, H. (2014). "AAC Bravo flax.", *Canadian Journal of Plant Science*, 94(1), pp. 153-156. doi: 10.4141/CJPS2013-199

Soto-Cerda, B.J., Diederichsen, A., Duguid, S.D., Booker, H.M., Rowland, G.G., and Cloutier, S. (2014). "Molecular diversity and association analyses reveal the potential of pale flax (*Linum bienne* Mill.), the wild progenitor of cultivated flax (*Linum usitatissimum* L.) as a source of useful genetic variation.", *Molecular Breeding*, 34, pp. 2091-2107.

Vera, C.L., Irvine, R.B., Duguid, S.D., Rashid, K.Y., Clarke, F.R., and Slaski, J.J. (2014). "Psmo disease and lodging in flax as affected by pyraclostrobin fungicide, N fertility and year.", *Canadian Journal of Plant Science*, 94(1), pp. 119-126. doi : 10.4141/cjps2013-046

Zhang, T., Lamb, E.G., Soto-Cerda, B.J., Duguid, S.D., Cloutier, S., Rowland, G.G., Diederichsen, A., and Booker, H.M. (2014). "Structural equation modeling of the Canadian flax (*Linum usitatissimum* L.) core collection for multiple phenotypic traits.", *Canadian Journal of Plant Science*, 94(8), pp. 1325-1332. doi: 10.4141/CJPS-2014-158

Soto-Cerda, B.J., Diederichsen, A., and Duguid, S.D. (2014). "The potential of pale flax as a source of useful genetic variation for cultivated flax revealed through molecular diversity and association analyses.", *Molecular Breeding*, 34(4), pp. 2091-2107. doi : 10.1007/s11032-014-0165-5

Radovanovic, N., Thambugala, D., Duguid, S.D., Loewen, E., and Cloutier, S. (2014). "Functional Characterization of Flax Fatty Acid Desaturase FAD2 and FAD3 Isoforms Expressed in Yeast Reveals a Broad Diversity in Activity", *Molecular Biotechnology*, 56(7), pp. 609-620. doi : 10.1007/s12033-014-9737-1

Soto-Cerda, B.J., Duguid, S.D., Booker, H.M., Rowland, G.G., Diederichsen, A., and Cloutier, S. (2014). "Association mapping of seed quality traits using the flax (*Linum usitatissimum* L.) core collection.", *Theoretical and Applied Genetics (TAG)*, 127(4), pp. 881-896. doi: 10.1007/s00122-014-2264-4

2013

You, F.M., Duguid, S.D., Thambugala, D., and Cloutier, S. (2013). "Statistical analysis and field evaluation of the type 2 modified augmented design (MAD) in phenotyping of flax (*Linum usitatissimum*) germplasm in multiple environments.", *Australian Journal of Crop Science*, 7(11), pp. 1789-1800.

Asgarinia, P., Cloutier, S., Duguid, S.D., Rashid, K.Y., Mirlohi, A.F., Banik, M., and Saeidi, G. (2013). "Mapping QTL for powdery mildew resistance in flax (*Linum usitatissimum* L.)", *Crop Science*, 53(6), pp. 2462-2472. doi : 10.2135/cropsci2013.05.0298

Thambugala, D., Duguid, S.D., Loewen, E., Rowland, G.G., Booker, H.M., You, F.M., and Cloutier, S. (2013). "Genetic variation of six desaturase genes in flax and their impact on fatty acid composition.", *Theoretical and Applied Genetics (TAG)*, 126(10), pp. 2627-2641. doi: 10.1007/s00122-013-2161-2

2012

Cloutier, S., Ragupathy, R., Miranda, D.E., Radovanovic, N., Reimer, E., Walichnowski, A.Z., Ward, K., Rowland, G.G., Duguid, S.D., and Banik, M. (2012). "Integrated consensus genetic and physical maps of flax (*Linum usitatissimum* L.)", *Theoretical and Applied Genetics (TAG)*, 125(8), pp. 1783-1795. doi : 10.1007/s00122-012-1953-0

Cloutier, S., Miranda, D.E., Ward, K., Radovanovic, N., Reimer, E., Walichnowski, A.Z., Datla, R.S.S., Rowland, G.G., Duguid, S.D., and Ragupathy, R. (2012). "Simple sequence repeat marker development from bacterial artificial chromosome end sequences and expressed sequence tags of flax (*Linum usitatissimum* L.)", *Theoretical and Applied Genetics* (TAG), 125(4), pp. 685-694. doi : 10.1007/s00122-012-1860-4

Vera, C.L., Duguid, S.D., Fox, S.L., Rashid, K.Y., Dribnenki, J.C.P., and Clarke, F.R. (2012). "Comparative effect of lodging on seed yield of flax and wheat", *Canadian Journal of Plant Science*, 92(1), pp. 39-43. doi : 10.4141/CJPS2011-031

## 2011

Cloutier, S., Ragupathy, R., Niu, Z., and Duguid, S.D. (2011). "SSR-based linkage map of flax (*Linum usitatissimum* L.) and mapping of QTLs underlying fatty acid composition traits.", *Molecular Breeding*, 28(4), pp. 437-451. doi : 10.1007/s11032-010-9494-1

Banik, M., Duguid, S.D., and Cloutier, S. (2011). "Fatty acid desaturase 3A gene controls linolenic acid content in high, moderate and low linolenic acid genotypes of flax (*Linum usitatissimum* L.)", *Genome*, 54(6), pp. 471-483. doi : 10.1139/G11-013

Fofana, B., Cloutier, S., Kirby, C.W., McCallum, J.L., and Duguid, S.D. (2011). "A well balanced omega-6/omega-3 ratio in developing flax bolls after heating and its implications for use as a fresh vegetable by humans.", *Food Research International*, 44(8), pp. 2459-2464. doi : 10.1016/j.foodres.2010.12.018

## Other Science Related Publications:

## 2015

You, F.M., Li, P., Kumar, S., Ragupathy, R., Banik, M., Duguid, S.D., Booker, H.M., Deyholos, M.K., Fu, Y.B., Sharpe, A.G., and Cloutier, S. (2015). "The refined flax genome, its evolution and application.", XXIII Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2015, P1039. (Poster)

Shan, Y.F., Li, P., Duguid, S.D., Cloutier, S., Deyholos, M.K., Wang, Y., Gu, Y.Q., Booker, H.M., and You, F.M. (2015). "FlaxDB: A comprehensive and integrated genome and breeding database for flax improvement.", XXIII Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2015. (Poster)

## 2014

Cloutier, S., Rowland, G.G., Booker, H.M., Deyholos, M.K., Datla, R.S.S., Duguid, S.D., Fofana, B., Reaney, M.J.T., Selvaraj, G., Smyth, S., Wang, E., Weselake, R.J., You, F.M., Zou, J.W., and Barker, C. (2014). "The TUFGEN project.", 65th Flax Institute, Fargo, North Dakota, USA, March 27-28, 2014, Oral presentation, pp. 39-48.

## 2013

Rashid, K.Y., Desjardins, M., and Duguid, S.D. (2013). "Diseases of flax in Manitoba and Saskatchewan in 2012.", *Canadian Plant Disease Survey*, 93, pp. 161-162.

## 2012

Rashid, K.Y., Desjardins, M.L., Duguid, S.D., and Northover, P.R. (2012). "Diseases of flax in Manitoba and Saskatchewan in 2011.", *Canadian Plant Disease Survey*, 92, pp. 134-135.

Cloutier, S., Banik, M., You, F.M., Radovanovic, N., Miranda, D.E., Reimer, E., Ward, K., Walichnowski, A.Z., Rowland, G.G., and Duguid, S.D. (2012). "High Density SSR- and SNP-based Genetic Maps of Flax.", *Plant & Animal Genome XX Conference*, Town & Country Convention Center, San Diego, CA, USA, January 14-18, 2012. (Poster)

## 2011

Vera, C.L., Irvine, R.B., Duguid, S.D., and Rashid, K.Y. (2011). "Effect of fungicide and N application on lodging and disease in flax.", *Soils and Crops Workshop 2011*, Prairieland Park, Saskatoon, SK, Canada, March 15-16, 2011. (Poster)

Rashid, K.Y., Desjardins, M.L., and Duguid, S.D. (2011). "Diseases of flax in Manitoba and Saskatchewan in 2010.", *Canadian Plant Disease Survey*, 91, pp. 128-129.

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## Research Publications:

2014

Dumonceaux, T.J., Green, M., Hammond, C., Perez, E., and Olivier, C.Y. (2014). "Molecular Diagnostic Tools for Detection and Differentiation of Phytoplasmal Based on Chaperonin-60 Reveal Differences in Host Plant Infection Patterns.", *PLoS ONE*, 9(12: e116039). doi: 10.1371/journal.pone.0116039

Links, M.G., Demeke, T., Gräfenhan, T., Hill, J.E., Hemmingsen, S.M., and Dumonceaux, T.J. (2014). "Simultaneous profiling of seed-associated bacteria and fungi reveals antagonistic interactions between microorganisms within a shared epiphytic microbiome on Triticum and Brassica seeds.", *New Phytologist*, 202(2), pp. 542-553. doi: 10.1111/nph.12693

Iroba, K., Tabil, L.G., Sokhansanj, S., and Dumonceaux, T.J. (2014). "Pretreatment and fractionation of barley straw using steam explosion at low severity factor.", *Biomass and Bioenergy*, 66, pp. 286-300. doi: 10.1016/j.biombioe.2014.02.002

Town, J.R., Links, M.G., Fonstad, T.A., and Dumonceaux, T.J. (2014). "Molecular characterization of anaerobic digester microbial communities identifies microorganisms that correlate to reactor performance.", *Bioresource Technology*, 151, pp. 249-257. doi: 10.1016/j.biortech.2013.10.070

Dumonceaux, T.J., Town, J.R., Links, M.G., and Boyetchko, S.M. (2014). "High-quality draft genome sequence of *Pseudomonas* sp. BRG100, a strain with bioherbicidal properties against *Setaria viridis* (green foxtail) and other pests of agricultural significance.", *Genome Announcements*, 2(5: e00995-14). doi: 10.1128/genomeA.00995-14

Hill, J., Chaban, B.L., Town, J.R., Links, M.G., and Dumonceaux, T.J. (2014). "Modified paired end rapid library preparation protocol for 454 GS Junior 8 kb library preparation using Covaris g-tubes and BluePippin electrophoresis.", . doi: 10.1038/protex.2014.028

Town, J.R., Annand, H., Pratt, D.L., Dumonceaux, T.J., and Fonstad, T.A. (2014). "Microbial community composition is consistent across anaerobic digesters processing wheat-based fuel ethanol waste streams.", *Bioresource Technology*, 157, pp. 127-133. doi: 10.1016/j.biortech.2014.01.074

2013

Iroba, K., Tabil, L.G., Dumonceaux, T.J., and Baik, O.-D. (2013). "Effect of alkaline pretreatment on chemical composition of lignocellulosic biomass using radio frequency heating.", *Biosystems Engineering*, 116(4), pp. 385-398. doi: 10.1016/j.biosystemseng.2013.09.004

Canam, T., Town, J.R., Iroba, K., Tabil, L.G., and Dumonceaux, T.J. (2013). "Pretreatment of lignocellulosic biomass using microorganisms: approaches, advantages, and limitations.", in Chandel, A.K. and da Silva, S.S. (eds.) - *Sustainable Degradation of Lignocellulosic Biomass - Techniques, Applications and Commercialization*, InTech, Open Access Publisher, Chapter 8, pp. 181-206.

Canam, T., Dumonceaux, T.J., Record, E., and Li, Y.B. (2013). "White-rot fungi: the key to sustainable biofuel production? (Editorial)", *Biofuels*, 4(3), pp. 247-250. doi: 10.4155/bfs.13.6

2012

Schellenberg, J.J., Dumonceaux, T.J., Hill, J.E., Kimani, J., Jaoko, W., Wachihi, C., Mungai, J.N., Lane, M., Fowke, K.R., Ba II, T.B., and Plummer, F.A. (2012). "Selection, phenotyping and identification of acid and hydrogen peroxide producing bacteria from vaginal samples of Canadian and East African women.", *PLoS ONE*, 7(7, Article No. e41217). doi: 10.1371/journal.pone.0041217

Canam, T., Li, X., Holowachuk, J., Yu, M., Xia, J., Mandal, R., Krishnamurthy, R., Bouatra, S., Sinelnikov, I., Yu, B., Grenkow, L.F., Wishart, D.S., Steppuhn, H., Falk, K.C., Dumonceaux, T.J., and Gruber, M.Y. (2012). "Differential metabolite profiles and salinity tolerance between two genetically related brown-seeded and yellow-seeded *Brassica carinata* lines.", *Plant Science*, 198(January 2013), pp. 17-26. doi: 10.1016/j.plantsci.2012.09.011

Links, M.G., Dumonceaux, T.J., Hemmingsen, S.M., and Hill, J.E. (2012). "The Chaperonin-60 Universal Target Is a Barcode for Bacteria That Enables De Novo Assembly of Metagenomic Sequence Data.", *PLoS ONE*, 7(11, Article No. e49755). doi: 10.1371/journal.pone.0049755

Pratt, D.L., Dumonceaux, T.J., Links, M.G., and Fonstad, T.A. (2012). "Influence of Mass Burial of Animal Carcasses on the Types and Quantities of Microorganisms within a Burial Site.", *Transactions of the ASABE*, 55(6), pp. 2195-2212.

2011

Adapa, P.K., Tabil, L.G., Schoenau, G.J., Canam, T., and Dumonceaux, T.J. (2011). "Quantitative analysis of lignocellulosic components of non-treated and steam exploded barley, canola, oat and wheat straw using fourier transform infrared spectroscopy.", *Journal of Agricultural Science and Technology B*, 1(12), pp. 177-188.

Ramirez-Bribiesca, J.E., Wang, Y., Jin, L., Canam, T., Town, J.R., Tsang, A., Dumonceaux, T.J., and McAllister, T.A. (2011). "Chemical characterization and in vitro fermentation of Brassica straw treated with the aerobic fungus, *Trametes versicolor*.", *Canadian Journal of Animal Science*, 91(4), pp. 695-702. doi : 10.4141/CJAS2011-067

Dumonceaux, T.J., Town, J.R., Hill, J.E., Chaban, B.L., and Hemmingsen, S.M. (2011). "Multiplex detection of bacteria in complex clinical and environmental samples using oligonucleotide-coupled fluorescent microspheres.", *Journal of Visualized Experiments (JoVE)*, 59(Article No. e3344). doi : 10.3791/3344

Verbeke, T.J., Dumonceaux, T.J., Wushke, S., Cicek, N., Levin, D.B., and Sparling, R. (2011). "Isolates of *Thermoanaerobacter thermoautotrophicus* from decaying wood compost display genetic and phenotypic microdiversity.", *FEMS Microbiology Ecology*, 73(3), pp. 473-487. doi : 10.1111/j.1574-6941.2011.01181.x

Schellenberg, J.J., Links, M.G., Hill, J.E., Hemmingsen, S.M., Peters, G.A., and Dumonceaux, T.J. (2011). "Pyrosequencing of chaperonin-60 (cpn60) amplicons as a means of determining microbial community composition.", *Methods in Molecular Biology (Clifton, N.J.)*, 733(Part 3), pp. 143-158. doi : 10.1007/978-1-61779-089-8\_10

Verbeke, T.J., Sparling, R., Hill, J.E., Links, M.G., Levin, D.B., and Dumonceaux, T.J. (2011). "Predicting relatedness of bacterial genomes using the chaperonin-60 universal target (cpn60 UT): application to *Thermoanaerobacter* species.", *Systematic and Applied Microbiology*, 34(3), pp. 171-179. doi : 10.1016/j.syapm.2010.11.019

Schellenberg, J.J., Links, M.G., Hill, J.E., Dumonceaux, T.J., Kimani, J., Jaoko, W., Wachih, C., Mungai, J.N., Peters, G.A., Tyler, S., Graham, M., Severini, A., Fowke, K.R., Ball, T.B., and Plummer, F.A. (2011). "Molecular definition of vaginal microbiota in East African commercial sex workers.", *Applied and Environmental Microbiology*, 77(12), pp. 4066-4074. doi : 10.1128/AEM.02943-10

Canam, T., Town, J.R., Tsang, A., McAllister, T.A., and Dumonceaux, T.J. (2011). "Biological pretreatment with a cellobiose dehydrogenase-deficient strain of *Trametes versicolor* enhances the biofuel potential of canola straw.", *Bioresource Technology*, 102(21), pp. 10020-10027. doi : 10.1016/j.biortech.2011.08.045

Links, M.G., Dumonceaux, T.J., and Hill, J.E. (2011). "cpn60, a target for metagenomic profiling of complex microbial communities.", *International Human Microbiome Congress, Vancouver, BC, Canada, 2011.*

## Other Science Related Publications:

2015

Olivier, C.Y., Saguez, J., Dumonceaux, T.J., Lasnier, J., and Vincent, C. (2015). "New phytoplasma identified from grapevines and leafhoppers collected in vineyards of Quebec.", *International Plant Protection Congress (IPPC) 2015, Berlin, Germany, August 25-27, 2015, Poster PPI 67. (Poster)*

Olivier, C.Y., Saguez, J., Dumonceaux, T.J., Lasnier, J., and Vincent, C. (2015). "Fluctuations over time of phytoplasma diseases incidence in grapevines and in leafhoppers in Quebec and Ontario vineyards.", *Entomological Society of America, Minneapolis, Minnesota, USA, November 18, 2015. (Poster)*

Olivier, C.Y., Saguez, J., Dumonceaux, T.J., Lasnier, J., and Vincent, C. (2015). "Que transportent les cicadelles de la vigne au Québec ?", *Joint meeting, Entomological Society of Canada/ Société d'entomologie du Québec, Montréal, QC, Canada, November 10, 2015. (Poster)*

Soleimani, M., Tabil, L.G., Campbell, L., Hynes, R.K., Dumonceaux, T.J., and Ketabi, L. (2015). "Densification of a fermented biomass rich in cellulolytic and hemicellulolytic enzymes.", *American Society of Agricultural and Biological Engineers Annual International Meeting 2015, New Orleans, USA, July 26-29, 2015.*

Lévesque, C.A., Chen, W., Hambleton, S., Seifert, K.A., Adam, Z., Bilodeau, G.J., Cullis, J., Demeke, T., Dumonceaux, T.J., Gagnon, M., Graefenhan, T., Kawchuk, L.M., Khan, I.U.H., Lewis, C.T., Li, X., Links, M.G., Mimeo, B., Rott, M., Tambong, J.T., Topp, E., Yu, Q., and Yuan, K. (2015). *Project CRTI 09-462RD - Next generation sequencing, direct detection and genotyping of fungi, bacteria and nematodes in the agri-food system. DRDC-RDDC-2015-C148. Final Close-Out Report. (Report)*

## 2014

Bilek, M.A., Tuegel, E.R., Thapa, S., Dumonceaux, T.J., Liu, P.P., and Canam, T. (2014). "White-rot fungi as biological pretreatment agents for biomass-to-bioenergy strategies.", American Association for the Advancement of Science AGM, Chicago, IL, USA. (Poster)

Tuegel, E.R., Thapa, S., Dumonceaux, T.J., Liu, P.P., and Canam, T. (2014). "Chemical and physical properties of Miscanthus straw pretreated with *Trametes versicolor*.", SBFC Symposium on Biotechnology for Fuels and Chemicals, Clearwater Beach, FL, USA. (Poster)

Olivier, C.Y., Dumonceaux, T.J., Hammond, C., Saguez, J., and Vincent, C. (2014). "New phytoplasma strains in Quebec vineyards.", Joint meeting, Entomological Society of Canada / Entomological Society of Saskatchewan, Saskatoon, Sask, Canada, September 30-October 1, 2014, Poster 26. (Poster)

Olivier, C.Y., Vincent, C., Saguez, J., Dumonceaux, T.J., and Lasnier, J. (2014). "Phytoplasma biodiversity in grapevines and leafhoppers sampled in vineyards of Quebec.", Entomological Society of America 2014 Annual Meeting, Portland, Oregon, USA, November 18, 2014. (Poster)

Boyetchko, S.M., Audy, P., Sawchyn, K., Desgagnés, R., Zhou, T., and Dumonceaux, T.J. (2014). "Application of bacterial strains as microbial biopesticides for control of potato late blight disease (AAFC Inventions Disclosure, 8 pages)."

## 2013

Town, J.R., Links, M.G., Fonstad, T.A., and Dumonceaux, T.J. (2013). "Molecular characterization of digestate identifies microorganisms that correlate to reactor performance.", CSBE/SCGAB 2013 Annual Conference, University of Saskatchewan, Saskatoon, SK, Canada, July 7-10, 2013, Presentation, No. CSBE13-128.

## 2012

Dumonceaux, T.J. (2012). "Analysis of microbial community composition and dynamics using the chaperonin-60 molecular target Methods and applications.", 2nd Annual Progress and Applications of Next-Generation Sequencing Workshop, University of Saskatchewan, Saskatoon, SK, Canada, May 4, 2012, Presentation.

## 2011

Severini, A., Goleski, V., and Dumonceaux, T.J. (2011). "Improved Detection and Quantitation of Human BK Polyomavirus by PCR Assay (Reply).", *Journal of Clinical Microbiology*, 49(7), pp. 2778-2779.

Dumonceaux, T.J. (2011). "Analysis of microbial community composition and dynamics using the chaperonin-60 molecular target Methods and applications", Seminar, AAFC Eastern Cereal and Oilseed Research Centre, Ottawa, ON, Canada, June 22, 2011. (Presentation)

# Duynisveld, John L., M.Sc.

Biologist/Research Scientist

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## Research Publications:

2013

Papadopoulos, Y.A., Duynisveld, J.L., McElroy, M.S., Fillmore, S.A.E., and Fredeen, A.H. (2013). "Pasture Naturalization in Cool Forages." - Advanced management of temperate forages, Chapter 11, pp. 50.

2012

Papadopoulos, Y.A., McElroy, M.S., Fillmore, S.A.E., McRae, K.B., Duynisveld, J.L., and Fredeen, A.H. (2012). "Sward complexity and grass species composition affects the performance of grass-white clover pasture mixtures.", Canadian Journal of Plant Science, 92(6), pp. 1199-1205. doi: 10.4141/cjps2012-015

Turner, T.D., Mitchell, A.W., Duynisveld, J.L., Doran, O., and McNiven, M.A. (2012). "Influence of oil seed supplement ranging in n-6/n-3 ratio on fatty acid composition and  $\delta^5$ -,  $\delta^6$ -desaturase protein expression in steer muscles.", Animal, 6(12), pp. 1973-1984. doi: 10.1017/s1751731112000985

2011

McNiven, M.A., Duynisveld, J.L., Turner, T.D., and Mitchell, A.W. (2011). "Ratio of n-6/n-3 in the diets of beef cattle: Effect on growth, fatty acid composition, and taste of beef.", Animal Feed Science and Technology, 170(3-4), pp. 171-181. doi: 10.1016/j.anifeedsci.2011.09.006

## Other Science Related Publications:

2015

Lajeunesse, J., Papadopoulos, Y.A., Duynisveld, J.L., Bélanger, G., Tremblay, G.F., Lafrenière, C., Thomas, B., and Fillmore, S.A.E. (2015). "Productivity of eighteen legume-grass binary mixtures.", Botany 2015 Joint Conference: Science and plants for people, Edmonton, Alberta, Canada, July 25-29, 2015. (Poster)

Dos Passos Bernardes, A., Bélanger, G., Tremblay, G.F., Papadopoulos, Y.A., Fillmore, S.A.E., Lajeunesse, J., and Duynisveld, J.L. (2015). "Dix-huit associations d'une légumineuse avec une graminée évaluées au pâturage pendant trois ans à plusieurs sites.", Journée d'information scientifique sur les bovins laitiers et les plantes fourragères, Drummondville, QC, Canada, 25 février 2015, Présentation.

2012

Duynisveld, J.L., Glover, K.E., Barrett, D., Papadopoulos, Y.A., Fredeen, A.H., and Wort, J. (2012). "Grazing research update for Nappan.", Sheep Producers Association of Nova Scotia Field Day, Nappan Experimental Farm, Nappan, NS, Canada, October 20, 2012.

2011

Duynisveld, J.L. (2011). "The beef science cluster – producer driven research.", Atlantic Beef, 22(1), pp. 38.

Duynisveld, J.L. (2011). "Pasture-fed beef as an option in Atlantic Canada.", Co-op Atlantic Council Annual General Meeting, Moncton, NB, Canada, November 22, 2011. (Presentation)

Duynisveld, J.L. and Papadopoulos, Y.A. (2011). "Finishing Beef Cattle on Different Pasture Types and Effect of Forage Mixtures on Cattle Performance.", Beef and Sheep Research Field day, Nappan, NS, Canada, October 22, 2011.

# Edwards, Linnell M., Ph.D.

Research Scientist

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## Research Publications:

2013

Edwards, L.M. (2013). "The effects of soil freeze–thaw on soil aggregate breakdown and concomitant sediment flow in Prince Edward Island: A review.", *Canadian Journal of Soil Science*, 93(4), pp. 459-472. doi : 10.4141/cjss2012-059

## Other Science Related Publications:

2012

Edwards, L.M. (2012). "A basis for decision making on soil conservation in Prince Edward Island PEI, Canada: Considering the evidence.", 67th Annual International Conference of the Soil and Water Conservation Society (SWCS), Fort Worth, TX, USA, July 22-25, 2012, pp. 33.

2011

Acheampong, S., Thistlewood, H.M.A., Thurston, M., Leaming, C., Holder, D., Edwards, L.M., Richardson, T., and Sinclair, B.J. (2011). "Drosophila suzukii, A New Invasive Pest of Stone Fruit and Grapes in British Columbia.", 85th Orchard Pest and Disease Management Conference, Portland, OR, USA.

Thistlewood, H.M.A., Acheampong, S., Thurston, M., Leaming, C., Holder, D., Edwards, L.M., and Sinclair, B.J. (2011). "Drosophila suzukii, a new pest of stone fruits and grapes in British Columbia.", Entomological Societies of British Columbia and Canada Joint Annual Meeting, Vancouver, BC, Canada.



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## Research Publications:

2015

Ehret, D.L., Frey, B., Forge, T.A., Helmer, T., and Bryla, D.R. (2015). "Age-related changes in response of highbush blueberry plants to drip irrigation.", *HortScience*, 50(3), pp. 486-490.

2014

Hart, M.M., Ehret, D.L., Krumbein, A., Leung, C., Murch, S., Turi, C., and Franken, P. (2014). "Inoculation with arbuscular mycorrhizal fungi improves the nutritional value of tomatoes.", *Mycorrhiza*, 25(5), pp. 359-376. doi: 10.1007/s00572-014-0617-0

Ehret, D.L., Frey, B., Forge, T.A., Helmer, T., Bryla, D.R., and Zebarth, B.J. (2014). "Effects of nitrogen rate and application method on early production and fruit quality in highbush blueberry.", *Canadian Journal of Plant Science*, 94(7), pp. 1165-1179. doi: 10.4141/CJPS2013-401

2013

Ehret, D.L., Usher, K.B., Helmer, T., Block, G.S., Steinke, D., Frey, B., Kuang, T., and Diarra, M.S. (2013). "Tomato fruit antioxidants in relation to salinity and greenhouse climate.", *Journal of Agricultural and Food Chemistry*, 61(5), pp. 1138-1145. doi: 10.1021/jf304660d

2012

Papadopoulos, A.P., Yaganza, E.-S., Hao, X.M., Martynenko, A., Ramados, M., Saha, U.K., Ehret, D.L., Dorais, M., and Kholsa, S. (2012). "Effects of Oxygen Super-Saturated Nutrient Solutions on Greenhouse Tomato.", *Acta Horticulturae (ISHS)*, 952, pp. 713-720.

Ehret, D.L., Frey, B., Helmer, T., Aharoni, A., Wang, Z., and Jetter, R. (2012). "Fruit cuticular and agronomic characteristics of a *lecer6* mutant of tomato.", *Journal of Horticultural Science and Biotechnology*, 87(6), pp. 619-625.

Cliff, M.A., Li, J.B., Toivonen, P.M.A., and Ehret, D.L. (2012). "Effects of nutrient solution electrical conductivity on the compositional and sensory characteristics of greenhouse tomato fruit.", *Postharvest Biology and Technology*, 74, pp. 132-140. doi: 10.1016/j.postharvbio.2011.12.007

Ehret, D.L., Frey, B., Forge, T.A., Helmer, T., and Bryla, D.R. (2012). "Effects of drip irrigation configuration and rate on yield and fruit quality of young highbush blueberry plants.", *HortScience*, 47(3), pp. 414-421.

Lin, W.-C., Block, G.S., and Ehret, D.L. (2012). "Pre-harvest H<sub>2</sub>O<sub>2</sub> application affects postharvest quality of greenhouse-grown sweet peppers.", *Acta Horticulturae (ISHS)*, 934, pp. 1157-1162.

2011

Ehret, D.L., Hill, B.D., Helmer, T., and Edwards, D.R. (2011). "Neural network modeling of greenhouse tomato yield, growth and water use from automated crop monitoring data.", *Computers and Electronics in Agriculture*, 79(1), pp. 82-89. doi: 10.1016/j.compag.2011.07.013

Edwards, D., Ehret, D.L., and Jolliffe, P.A. (2011). "Temporal variations of starch and mass in greenhouse tomato leaves under CO<sub>2</sub> enrichment.", *Canadian Journal of Plant Science*, 91(1), pp. 167-177. doi: 10.4141/CJPS09185

Papadopoulos, A.P., Madhiyazhagan, R., Hao, X.M., Kholsa, S., Ehret, D.L., and Lin, W.-C. (2011). "Integrated systems for the production of organic greenhouse tomatoes.", *Acta Horticulturae (ISHS)*, 893, pp. 1201-1208.

Lin, W.-C., Block, G.S., and Ehret, D.L. (2011). "The effect of H<sub>2</sub>O<sub>2</sub> application during production on greenhouse pepper shelf life.", *The Americas Journal of Plant Science and Biotechnology*, 5(Spec. Issue 2), pp. 101-104.

## Other Science Related Publications:

2012

Hao, X.M., Dorais, M., Ehret, D.L., and Papadopoulos, A.P. (2012). Dynamic plant-based environment control to improve energy use efficiency in greenhouse crop production. Final A-Base Research Project (2008-12) Report, 13 pages. (Report)

2011

Ehret, D.L. (2011). "Blueberry Irrigation.", BC Blueberry Council Field Day, Agassiz, BC. (Technology transfer)

Ehret, D.L. (2011). "Expanding the Adoption of Precision Plant-Based Irrigation Technologies to Reduce Water Use in Greenhouse and Nursery Production.", Ornamental Cluster Council and Industry Partners. (Presentation)

Kempler, C., Kannangara, T., and Ehret, D.L. (2011). "Investigations into enzymatic and non-enzymatic antioxidants in different cultivars of blueberry.", HortScience, 46, pp. S301. (Abstract)

# Ellert, Benjamin H., Ph.D.

Research Scientist

Email: benjamin.ellert@agr.gc.ca

## Research Publications:

2015

Gregorich, E.G., Janzen, H.H., Helgason, B.L., and Ellert, B.H. (2015). "Nitrogenous gas emissions from soils and greenhouse gas effects.", *Advances in Agronomy (Bookseries)*, 132, pp. 39-74. doi : 10.1016/bs.agron.2015.02.004

2014

Gillespie, A.W., Sanei, H., Diocion, A., Ellert, B.H., Regier, T.Z., Chevrier, D., Dynes, J.J., Tamocai, C., and Gregorich, E.G. (2014). "Perennially and annually frozen soil carbon differ in their susceptibility to decomposition: analysis of Subarctic earth hummocks by bioassay, XANES and pyrolysis.", *Soil Biology & Biochemistry*, 68, pp. 106-116. doi : 10.1016/j.soilbio.2013.09.021

Helgason, B.L., Gregorich, E.G., Janzen, H.H., Ellert, B.H., Lorenz, N., and Dick, R.P. (2014). "Long-term microbial retention of residue C is site-specific and depends on residue placement.", *Soil Biology & Biochemistry*, 68, pp. 231-240. doi : 10.1016/j.soilbio.2013.10.002

Phillips, A.J.L., Newlands, N.K., Liang, S.H.L., and Ellert, B.H. (2014). "Integrated sensing of soil moisture at the field-scale: sampling, modelling and sharing for improved agricultural decision-support.", *Computers and Electronics in Agriculture*, 107, pp. 73-88.

2012

Li, C.L.Hao, X., Ellert, B.H., Willms, W.D., Zhao, M.G., and Han, G.D. (2012). "Changes in soil C, N, and P with long-term (58 years) cattle grazing on rough fescue grassland.", *Journal of Plant Nutrition and Soil Science*, 175(3), pp. 339-344. doi : 10.1002/jpln.201100212

Janzen, H.H., Olson, B.M., Zvomuya, F., Lamey, F.J., and Ellert, B.H. (2012). "Long-term Field Bioassay of Soil Quality.", *Prairie Soils and Crops*, 5, pp. 165-168.

Smith, E.G., Janzen, H.H., Ellert, B.H., and Nakonechny, D.J. (2012). "Rotation 120 – Lethbridge Alberta.", *Prairie Soils and Crops*, 5, pp. 155-164.

Tang, X., Ellert, B.H., Hao, X., Ma, Y., Nakonechny, E.M., and Li, J. (2012). "Temporal changes in soil organic carbon contents and  $\delta^{13}\text{C}$  values under long-term maize-wheat rotation systems with various soil and climate conditions.", *Geoderma*, 183-184, pp. 67-73. doi : 10.1016/j.geoderma.2012.03.003

Smith, E.G., Ellert, B.H., Janzen, H.H., and Nakonechny, E.M. (2012). "Rotation ABC – Lethbridge, Alberta.", *Prairie Soils and Crops*, 5, pp. 147-154.

2011

Rock, L., Ellert, B.H., and Mayer, B. (2011). "Tracing sources of soil nitrate using the dual isotopic composition of nitrate in 2 M KCl-extracts.", *Soil Biology & Biochemistry*, 43(12), pp. 2397-2405. doi : 10.1016/j.soilbio.2011.08.016

Bremer, E., Janzen, H.H., Ellert, B.H., and McKenzie, R.H. (2011). "Carbon, nitrogen, and greenhouse gas balances in an 18-year cropping system study on the northern Great Plains.", *Soil Science Society of America Journal*, 75(4), pp. 1493-1502. doi : 10.2136/sssaj2010.0326

VandenBygaart, A.J., Bremer, E., McConkey, B.G., Ellert, B.H., and Janzen, H.H. (2011). "Impact of sampling depth on differences in soil carbon stocks in long-term agroecosystem experiments.", *Soil Science Society of America Journal*, 75(1), pp. 226-234. doi : 10.2136/sssaj2010.0099

## Other Science Related Publications:

2015

Kröbel, R., Janzen, H.H., Ellert, B.H., Beauchemin, K.A., and McAllister, T.A. (2015). "Agriculture is neither the culprit nor the solution to Climate Change.", "Our Common Future under Climate Change" Conference, Paris, France, July 7-10, 2015. (Poster)

Hao, X., Lamey, F.J., Ellert, B.H., Alexander, T.W., and McAllister, T.A. (2015). "Co-composting cattle feedlot manure with construction and demolition waste.", International Compost Conference, Beijing, China, November 22-25, 2015. (Abstract)

Beres, B.L., Pageau, D., Dion, Y., Turkington, T.K., Lupwayi, N.Z., Lamey, F.J., Ellert, B.H., and Smith, E.G. (2015). "Rotational diversity effects in a cereal-based cropping system.", Canadian Journal of Plant Science. (Abstract)

Beres, B.L., Pageau, D., Dion, Y., Turkington, T.K., Lupwayi, N.Z., Lamey, F.J., Ellert, B.H., and Smith, E.G. (2015). "Rotational Diversity Effects in a Cereal-Based Cropping System.", Botany 2015, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015.

## 2014

Beres, B.L., Pageau, D., Dion, Y., Turkington, T.K., Lupwayi, N.Z., Lamey, F.J., Ellert, B.H., and Smith, E.G. (2014). "Rotational Diversity Effects in a Triticale-Based Cropping System.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

Gregorich, E.G., Ellert, B.H., Janzen, H.H., and Helgason, B.L. (2014). "Plant residue decay in diverse Canadian Soils.", American Society of Agronomy Annual Meetings, Long Beach, CA, USA, November 2014, Presentation.

Arcand, M.A., Helgason, B.L., Lemke, R.L., and Ellert, B.H. (2014). "Soil microbial communities and carbon utilization in diversified long-term conventional and organic management systems.", Ecological Society of America Annual Meeting, Sacramento, CA, USA, August, 2014, Presentation.

Gregorich, E.G., Ellert, B.H., Janzen, H.H., and Helgason, B.L. (2014). "Plant residue decay in diverse Canadian soils.", 20th World Congress of Soil Science, Jeju, South Korea, June 8-13, 2014, Presentation.

Gregorich, E.G., Ellert, B.H., Helgason, B.L., and Janzen, H.H. (2014). "Soil disturbance effects on decomposition of plant residues in Canadian agricultural soils.", 20th World Congress of Soil Science, Jeju, South Korea, June, 2014, Presentation.

Ellert, B.H., Helgason, B.L., Janzen, H.H., and Gregorich, E.G. (2014). "Soil Disturbance Effects on Plant Residue Decay in Canadian Agricultural Soils.", Canadian Society of Soil Science Annual Meetings, Banff, AB, Canada, May 2014.

Hao, X. and Ellert, B.H. (2014). "Greenhouse gas emissions during co-composting of cattle manure with construction and demolition (C&D) waste.", CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014. (Abstract)

Larsen, R.J. and Ellert, B.H. (2014). "Steps Towards Creating a Paradigm Shift in Production Agriculture to Address Greenhouse Gases Emissions and Soil Health Through the Development of Perennial Cereals. Biological Solutions: Building the Business Case.", Alberta Innovates Biosolutions, Edmonton, AB, Canada, October 1-2, 2014. (Presentation)

## 2013

Ellert, B.H., Gregorich, E.G., and Janzen, H.H. (2013). "Measuring and Monitoring Soil Carbon Storage.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013, Oral presentation.

## 2011

Lamey, F.J., Willms, W.D., Smith, E.G., Janzen, H.H., Ellert, B.H., and Miller, J.J. (2011). "Other long-term experiments at Lethbridge Research Centre.", Historical Rotations Workshop, Lethbridge, AB, Canada, June 21-22, 2011. (Presentation)

Janzen, H.H. and Ellert, B.H. (2011). "Rotations ABC and U: A centennial tribute.", Lethbridge Historical Plots Centennial Workshop, Lethbridge, AB, Canada, June 21-22, 2011. (Presentation)

# Elliott, Robert H., Ph.D.

Research Scientist

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## Research Publications:

2015

Olfert, O.O., Weiss, R.M., and Elliott, R.H. (2015). "Bioclimatic approach to assessing the potential impact of climate change on wheat midge (Diptera: Cecidomyiidae) in North America.", *The Canadian Entomologist*. doi : 10.4039/tce.2015.40

2014

Olivier, C.Y., Elliott, R.H., Man, L., and Nordin, D. (2014). "Development of a rating scale for Aster yellow in canola.", *Canadian Plant Disease Survey*, 94, pp. 162-176.

2011

Onyilagha, J.C., Elliott, R.H., Buckner, E., Okiror, S.O., and Raney, J.P. (2011). "Seed chlorophyll influences vigor in oilseed rape (*Brassica napus* L. var AC Excel).", *Journal of Agricultural Science*, 3(2), pp. 73-79. doi : 10.5539/jas.v3n2p73

Elliott, R.H., Olfert, O.O., and Hartley, S. (2011). "Management practices for wheat midge, *Sitodiplosis mosellana* (Géhin).", *Prairie Soils and Crops*, 4, pp. 8-13.

Elliott, R.H., Mann, L.W., and Olfert, O.O. (2011). "Calendar and degree-day requirements for emergence of adult *Macroglenes penetrans* (Kirby), an egg-larval parasitoid of wheat midge, *Sitodiplosis mosellana* (Géhin).", *Crop Protection*, 30(4), pp. 405-411. doi : 10.1016/j.cropro.2010.12.007

Soroka, J.J. and Elliott, R.H. (2011). "Innovative Methods for Managing Flea Beetles in Canola.", *Prairie Soils and Crops*, 4, pp. 1-7.

## Other Science Related Publications:

2015

Elliott, R.H. (2015). "Evaluation of seed treatments for control of flea beetles and leafhoppers in canola in 2015.", Invited talk and field tour for Syngenta Canada Inc., Saskatoon, Canada, July 9, 2015. (Presentation)

Elliott, R.H., Mann, L.W., Olivier, C.Y., Olfert, O.O., and Soroka, J.J. (2015). "Evaluation of new technologies and management practices for flea beetles and leafhoppers in canola.", Invited webinar presentations to Canola Council of Canada agronomists, Saskatoon, Canada, April 10 and 24, 2015. (Presentation)

Elliott, R.H., Mann, L.W., and Olfert, O.O. (2015). "Influence of seeding date on flea beetle damage, flea beetle emergence and agronomic performance of five mustard and canola types.", *Prairie Pest Monitoring Network Saskatoon*, Saskatoon, Canada, March 24, 2015. (Presentation)

Elliott, R.H., Olivier, C.Y., Mann, L.W., and Nordin, D. (2015). "Evaluation of seed treatments for control of leafhoppers and suppression of aster yellows in hybrid canola.", *International Rapeseed Congress*, Saskatoon, Canada, July 2015. (Poster)

Elliott, R.H., Mann, L.W., Olivier, C.Y., Olfert, O.O., and Soroka, J.J. (2015). "Evaluation of new technologies and management practices for flea beetles and leafhoppers in canola. Industry Update. Saskatoon. February 9, 2015." (Technology transfer)

Olivier, C.Y., Elliott, R.H., Bahar, M.H., Mann, L.W., and Nordin, D. (2015). "Influence of soil moisture and leafhopper feeding densities on phytoplasma titres, aster yellow symptoms and seed yield of hybrid canola.", *International Rapeseed Congress*, Saskatoon, Canada, July 2015, Abstract and summary of proposed oral presentation.

Elliott, R.H., Olivier, C.Y., Mann, L.W., and Nordin, D. (2015). "Evaluation of seed treatments for control of leafhoppers and suppression of aster yellows in hybrid canola.", *International Rapeseed Congress*, Saskatoon, Canada, July 2015, Abstract and summary of proposed oral presentation.

Olfert, O.O., Elliott, R.H., Meers, S., and Hartley, S. (2015). "Forecast of wheat midge in Saskatchewan and Alberta for 2015. 2014 Crop Variety Highlights and Insect Pest Forecasts.", *Saskatoon Research Centre Technical Bulletin*, 2015(1), pp. 12-13.

## 2014

Elliott, R.H. and Olivier, C.Y. (2014). "Evaluation of seed treatments for control of aster leafhoppers and suppression of aster yellows in canola.", Prairie Pest Monitoring Network, Saskatoon, Canada, March 25, 2014. (Presentation)

Olfert, O.O., Cárcamo, H.A., Elliott, R.H., Gan, Y.T., McLaren, D.L., Olivier, C.Y., Otani, J.K., Peng, G., and Soroka, J.J. (2014). Detection, surveillance and management of weed, insect and disease pests that threaten the economic viability of crop production and the environmental health of prairie agro-ecosystems. Annual Report to Canola Science Cluster (4 pages). (Report)

Olivier, C.Y. and Elliott, R.H. (2014). "Aster yellows diseases – research update.", Prairie Pest Monitoring Network, Saskatoon, Canada, March 25, 2014. (Presentation)

Elliott, R.H. (2014). "Factors influencing the efficacy of neonicotinoid seed treatments against key insect pests of canola. Invited talk and field tour to 15 scientists and extension specialists from Australia. Saskatoon. July 8, 2014." (Technology transfer)

Olfert, O.O., Elliott, R.H., Meers, S., and Hartley, S. (2014). "Forecast of wheat midge in Saskatchewan and Alberta for 2015. 2014 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2014(1), pp. 12-13.

## 2013

Olfert, O.O., Elliott, R.H., Meers, S., Hartley, S., and Otani, J.K. (2013). "Forecast of wheat midge in Saskatchewan and Alberta for 2013. 2012 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2013(1), pp. 12-13.

Doane, J.F., Olfert, O.O., Elliott, R.H., Hartley, S., and Meers, S. (2013). "Sitodiplosis mosellana (Géhin), Wheat Midge (Diptera: Cecidomyiidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, Wallingford, UK.

Elliott, R.H. (2013). "Effect of temperature and moisture on the efficacy of seed treatments for control of crucifer and striped flea beetles.", Prairie Pest Monitoring Network Meeting, Saskatoon, SK, Canada, March 19, 2013. (Presentation)

## 2012

Soroka, J.J., Elliott, R.H., Otani, J.K., and Gavloski, J.E. (2012). "Changing flea beetle species – what you see isn't what you had but does it matter?", Saskatchewan Ministry of Agriculture Agronomy Update 2012, Saskatoon, SK, Canada, December 14, 2012. (Presentation)

Soroka, J.J., Otani, J.K., Gavloski, J.E., and Elliott, R.H. (2012). "The biology and control of flea beetles in Western Canadian canola crops: Is a species shift in progress?", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #180. (Abstract)

Elliott, R.H., Soroka, J.J., and Mann, L.W. (2012). "Lab bioassays to evaluate the effect of temperature and soil moisture on the toxicity of seed treatments to crucifer and striped flea beetles.", Prairie Pest Monitoring Network, Saskatoon, SK, Canada, March 2012. (Presentation)

Elliott, R.H. (2012). "Factors influencing flea beetle damage and efficacy of seed treatments in canola.", Field tour, Saskatoon, SK, Canada, June 2012. (Presentation)

Elliott, R.H. (2012). "Investigations on the origin of seed treatment failures in canola in western Canada.", International Seed Testing Association (ISTA) Vigour Workshop, Edmonton, AB, Canada, September 11-13, 2012, Invited lecture.

Elliott, R.H. (2012). "Impact of seed quality and vigour on the performance of spring-type canola.", International Seed Testing Association (ISTA) Vigour Workshop, Edmonton, AB, Canada, September 11-13, 2012, Invited lecture.

Elliott, R.H. (2012). Evaluation of seed treatments for control of crucifer and striped flea beetles in canola. Final Report to Canola Industry. November 2012. 57 pages. (Report)

Soroka, J.J. and Elliott, R.H. (2012). "Innovative methods of managing flea beetles in canola.", Top Crop Manager (Western edition), 2012 (November), pp. 76-78.

Elliott, R.H. (2012). "Investigations on the origin of seed treatment failures in canola.", Saskatchewan Ministry of Agriculture Agronomy Update, Saskatoon, SK, Canada, December 2012. (Presentation)

## 2011

Levy, B. and Elliott, R.H. (2011). "Weather can make flea beetle prediction tricky.", Western Producer, 2011 (October).

Olfert, O.O., Elliott, R.H., Meers, S., and Hartley, S. (2011). "Forecast of wheat midge in Saskatchewan for 2011. 2010 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2011(1), pp. 12-13.

Elliott, R.H., Mann, L.W., and Olfert, O.O. (2011). "Methods of forecasting emergence of adult wheat midge and its parasitoid, *M. penetrans*.", Prairie Pest Monitoring Network Annual Meeting, Saskatoon, SK, Canada, March 10, 2011.

Elliott, R.H., Mann, L.W., and Soroka, J.J. (2011). "Factors influencing flea beetle damage and the efficacy of neonicotinoid seed treatments.", Prairie Pest Monitoring Network Annual Meeting, Saskatoon, SK, Canada, March 10, 2011.

Elliott, R.H., Mann, L.W., and Labun, T. (2011). "Impact of thiamethoxam seed treatments on flea beetle damage, vigour and performance of canola, *Brassica napus*.", Global Forum on the Vigor Effect of Cruiser, Ho Chi Minh City, Vietnam, November 2011, 8 pages.

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## Research Publications:

2015

Forney, C.F., Bezanson, G.S., Ells, T.C., Fan, L., and LeBlanc, D.I. (2015). "Impact of heat sanitation of fresh whole cantaloupe on fruit quality and volatile metabolism.", *Acta Horticulturae (ISHS)*, 1079, pp. 145-151.

Huang, Y., Ells, T.C., and Truelstrup-Hansen, L. (2015). "Role of sigB and osmolytes in desiccation survival of *Listeria monocytogenes* in simulated food soils on the surface of food grade stainless steel.", *Food Microbiology*, 46, pp. 443-451. doi : 10.1016/j.fm.2014.09.007

2014

Bezanson, G.S., Ells, T.C., and Prange, R.K. (2014). "Effect of composting on microbial contamination and quality of fresh fruits and vegetables - A mini-review.", *Acta Horticulturae (ISHS)*, 1018, pp. 631-638.

Robitaille, G., Choinière, S., Ells, T.C., Deschênes, L., and Mafu, A.A. (2014). "Attachment of *Listeria innocua* to Polystyrene: Effects of Ionic Strength and Conditioning Films from Culture Media and Milk Proteins.", *Journal of Food Protection*, 77(3), pp. 427-434.

Fgaier, H., Kalmokoff, M.L., Ells, T.C., and Eberl, H.J. (2014). "An allelopathy based model for the *Listeria* overgrowth phenomenon.", *Mathematical Biosciences*, 247(1), pp. 13-26. doi : 10.1016/j.mbs.2013.10.008

2011

Ells, T.C. and Truelstrup-Hansen, L. (2011). "Increased Thermal and Osmotic Stress Resistance in *Listeria monocytogenes* 568 Grown in the Presence of Trehalose Due to Inactivation of the Phosphotrehalase-Encoding Gene treA.", *Applied and Environmental Microbiology*, 77(19), pp. 6841-6851. doi : 10.1128/AEM.00757-11

## Other Science Related Publications:

2014

Huang, Y., Ells, T.C., and Truelstrup Hansen, L. (2014). "Desiccation survival of *Listeria monocytogenes* 568 on stainless steel as influenced by sigB and osmolytes.", *Food Micro 2014*, Nantes, France, September 1-4, 2014. (Poster)

Arnold, B., Smith, T., and Ells, T.C. (2014). "Fate of *Listeria monocytogenes* within polymicrobial biofilm communities formed on stainless steel and high density polyethylene during simulated meat processing conditions.", *Food Micro 2014*, Nantes, France, September 1-4, 2014. (Poster)

Forney, C.F., Bezanson, G.S., Ells, T.C., Fan, L., and LeBlanc, D.I. (2014). "Impact of heat sanitation of fresh whole cantaloupe on fruit quality and volatile metabolism.", *The 5th Postharvest Unlimited Conference*, Conference presentation and abstract.

Forney, C.F., Bezanson, G.S., Ells, T.C., Fan, L., and LeBlanc, D.I. (2014). "Impact of heat sanitation of fresh whole cantaloupe on fruit quality and volatile metabolism.", *United Fresh 2014*, Chicago, IL, USA, June 10-14, 2014. (Poster)

Fan, L., Hughes, T., Ban, Z., Bezanson, G.S., Forney, C.F., Ells, T.C., LeBlanc, D.I., Guan, J., and Li, J.B. (2014). "Investigation of vapor heat treatment on microbial control and quality of cantaloupes.", *United Fresh 2014*. (Poster)

2013

Piercy, M., Burrows, L., Ells, T.C., and Truelstrup Hansen, L. (2013). "Transposon mutant library reveals genes involved in biofilm formation by *Listeria monocytogenes* 568 at a simulated food plant environmental temperature of 15°C.", *International Association of Food Protection Annual Meeting*, Charlotte, North Carolina, USA, June 28-31, 2013. (Poster)



## 2012

Ells, T.C., Liang, K.-L., Zwicker, B., Johnston, A., and Gilbert, P. (2012). "Biofilm-forming capacity of Cronobacter spp. On abiotic surfaces and the relationship to thermal resistance.", Biofilms5 Congress, Paris, France, December 10-12, 2012. (Poster)

Fomey, C.F., Bezanson, G.S., Fan, L., Ells, T.C., and LeBlanc, D.I. (2012). "Development of the Low Temperature Thermal Treatment (LT3) Process to Sanitize Fresh-cut Cantaloupe.", United Fresh 2012, Dallas Convention Center, Dallas, TX, USA, May 1-23, 2012. (Poster)

## 2011

Bezanson, G.S., Ells, T.C., and Prange, R.K. (2011). "Effect of composting on microbial contamination and quality of fresh fruits and vegetables.", International Symposium on Organic Matter Management and Compost Use in Horticulture, Adelaide, South Australia, Australia, April 3-7, 2011.

Truelstrup-Hansen, L., Ells, T.C., and Huang, Y. (2011). "The role of the alternative sigma factor, SigB, in the survival of *Listeria monocytogenes* 568 during desiccation on stainless steel.", Annual Meeting of the International Association of Food Protection (IAFP 2011), Milwaukee, WI, USA, July 31-August 3, 2011.

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## Research Publications:

2015

Robinson, T.L., Blatt, S.E., and Embree, C.G. (2015). "Performance of Pyrus rootstocks in Eastern North America.", *Acta Horticulturae (ISHS)*, 1094, pp. 145-148. doi: 10.17660/ActaHortic.2015.1094.16

2014

Lang, G., Blatt, S.E., Embree, C.G., Grant, J., Hoying, S., Ingels, C.A., Neilsen, D., Neilsen, G.H., and Robinson, T. (2014). "Developing and evaluating intensive sweet cherry orchard systems: the NC140 regional research trial.", *Acta Horticulturae (ISHS)*, 1058, pp. 113-120.

2013

Embree, C.G., Shaw, S.R., and Fillmore, S.A.E. (2013). "Composted poultry manure as a potential nutrient source for organic tree fruits.", *Acta Horticulturae (ISHS)*, 1001, pp. 323-328.

2011

Embree, C.G. (2011). "Annual large limb removal for managing the kentville free standing tree wall.", *Acta Horticulturae (ISHS)*, 903, pp. 657-664.

Autio, W.R., Robinson, T.L., Bradshaw, T., Cline, J.A., Crassweller, R.M., Embree, C.G., Hoover, E.E., Lang, G., Masabni, J., Parker, M.L., Perry, R.L., Reighard, G.L., Schupp, J.R., and Warmund, M. (2011). "Performance of Several Dwarfing Rootstocks with 'Fuji' and 'McIntosh' as Scion Cultivars in the 1999 NC-140 Dwarf Apple Rootstock Trials.", *Acta Horticulturae (ISHS)*, 903, pp. 319-326.

Khanizadeh, S., Groleau, Y., Granger, R., Roussele, G.L., Privé, J.-P., and Embree, C.G. (2011). "St Jean 84 (SJ84) dwarf winter hardy apple rootstock series.", *Acta Horticulturae (ISHS)*, 903, pp. 187-188.

Privé, J.-P., Embree, C.G., and Khanizadeh, S. (2011). "Performance of Eight Semi-Dwarf Apple Rootstocks at Three Apple Growing Regions in Eastern Canada.", *Acta Horticulturae (ISHS)*, 903, pp. 341-347.

Pellerin, B.P., Buszard, D., Iron, D., Embree, C.G., Marini, R.P., Nichols, D.S., Neilsen, G.H., and Neilsen, D. (2011). "A Theory of Blossom Thinning to Consider Maximum Annual Flower Bud Numbers on Biennial Apple Trees.", *HortScience*, 46(1), pp. 40-42.

Autio, W.R., Robinson, T.L., Cline, J.A., Crassweller, R.M., Embree, C.G., Hoover, E.E., Lang, G., Masabni, J., Parker, M.L., Perry, R.L., Reighard, G.L., and Warmund, M. (2011). "Performance of Several Semi-Dwarfing Rootstocks with 'Fuji' and 'McIntosh' as Scion Cultivars in the 1999 NC-140 Semi-Dwarf Apple Rootstock Trials.", *Acta Horticulturae (ISHS)*, 903, pp. 327-334.

Khanizadeh, S., Groleau, Y., Granger, R., Roussele, G.L., Privé, J.-P., and Embree, C.G. (2011). "Ottawa 3 amélioré (O.3A) apple rootstock", *Acta Horticulturae (ISHS)*, 903, pp. 189-190.

Fuller, K.D., Embree, C.G., Fillmore, S.A.E., St George, E., Nichols, D.S., and Lutz, L. (2011). "Performance of Geneva@30 apple rootstock in Nova Scotia.", *Acta Horticulturae (ISHS)*, 903, pp. 273-279.

Fleck, S., Embree, C.G., and Nichols, D.S. (2011). "The Influence of Crop Load, Shoot Type, Canopy Structure, and Leaf Zonal Chlorosis on Leaf Photosynthesis of 'Honeycrisp' Apple Trees.", *Acta Horticulturae (ISHS)*, 903, pp. 767-774.

Elkins, R.B., Castagnoli, S., Embree, C.G., Parra Quezada, R.A., Robinson, T.L., Smith, T.J., and Ingels, C.A. (2011). "Evaluation of Potential Rootstocks to Improve Pear Tree Precocity and Productivity.", *Acta Horticulturae (ISHS)*, 909, pp. 183-194.

Nichols, D.S., Embree, C.G., and Fillmore, S.A.E. (2011). "Dormant spur-wood pruning severity impacts on vegetative growth, blossom intensity and fruit weight of 'Honeycrisp' apple trees.", *Acta Horticulturae (ISHS)*, 903, pp. 681-687.

## Other Science Related Publications:

2014

Robinson, T.L., Blatt, S.E., and Embree, C.G. (2014). "Performance of Pyrus Rootstocks in Eastern North America.", 12th International Pear Symposium, pp.50. (Abstract)

2011

Fuller, K.D., Gordon, R.J., Grimmett, M.G., Fillmore, S.A.E., Madani, A., Van Roestel, J., Stratton, G.W., MacLeod, J.A., Embree, C.G., and St George, E. (2011). "Seasonal and crop rotational effects of manure management on nitrate-nitrogen leaching in Nova Scotia [Agriculture, Ecosystems and Environment 137 (2010) 267-275](Corrigendum).", Agriculture, Ecosystems and Environment, 141(3-4), pp. 466.

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## Research Publications:

2015

Rohrmann, G.F., Erlandson, M.A., and Theilmann, D.A. (2015). "Genome sequence of an alphabaculovirus isolated from the oak looper, *Lambdina fiscellaria*, contains a putative 2-kbp transposable element encoding a transposase and the FLYWCH domain-containing protein.", *Genome Announcements*, 3(3): e00186-15), pp. 1-2. doi : 10.1128/genomeA.00186-15

Bonilla, M., Todd, C.D., Erlandson, M.A., and Andrés, S. (2015). "Combining RNA-seq and proteomic profiling to identify seminal fluid proteins in the migratory grasshopper *Melanoplus sanguinipes* (F).", *BMC Genomics*, 16(1: Article number 1096), pp. 1-15. doi : 10.1186/s12864-015-2327-1

Hegedus, D.D., Toprak, U., and Erlandson, M.A. (2015). "Lepidopteran peritrophic matrix composition, function, and formation.", in Chandrasekar, R., Goldsmith, M.R. and Agunbiade, T.A. (eds.) - *Short Views on Insect Genomics and Proteomics, Volume 2*, Springer-Verlag GmbH, pp. 63-87.

Toprak, U., Erlandson, M.A., Baldwin, D., Karcz, S.R., Wan, L., Coutu, C., Gillott, C., and Hegedus, D.D. (2015). "Identification of the *Mamestra configurata* (Lepidoptera: Noctuidae) peritrophic matrix proteins and enzymes involved in peritrophic matrix chitin metabolism.", *Insect Science*. doi : 10.1111/1744-7917.12225

Sieminska, E.A., Andres, J.A., Todd, C.D., and Erlandson, M.A. (2015). "Characterization of *Melanoplus sanguinipes* oviposition stimulating protein expression and re-examination of its potential role in stimulating oviposition.", *Journal of Insect Physiology*, 73, pp.37-46. doi : 10.1016/j.jinsphys.2015.01.003

2014

Hubbard, M., Hynes, R.K., Erlandson, M.A., and Bailey, K.L. (2014). "The biochemistry behind biopesticide efficacy.", *Sustainable Chemical Processes*, 2(Article 18). doi : 10.1186/s40508-014-0018-x

Rohrmann, G.F., Erlandson, M.A., and Theilmann, D.A. (2014). "The genome of an Alphabaculovirus isolated from *Choristoneura murinana*.", *Genome Announcements*, 2(1: e01135-13). doi : 10.1128/genomeA.01135-13

Toprak, U., Coutu, C., Baldwin, D., Erlandson, M.A., and Hegedus, D.D. (2014). "Development of an improved RNA interference vector system for *Agrobacterium*-mediated plant transformation.", *Turkish Journal of Biology*, 38, pp. 40-47. doi : 10.3906/biy-1304-4

Toprak, U., Hegedus, D.D., Baldwin, D., Coutu, C., and Erlandson, M.A. (2014). "Spatial and temporal synthesis of *Mamestra configurata* peritrophic matrix through a larval stadium.", *Insect Biochemistry and Molecular Biology*, 54, pp. 89-97. doi : 10.1016/j.ibmb.2014.09.002

Donly, B.C., Theilmann, D.A., Hegedus, D.D., Baldwin, D., and Erlandson, M.A. (2014). "*Mamestra configurata* nucleopolyhedrovirus-A transcriptome from infected host midgut.", *Virus Genes*, 48(1), pp. 174-183. doi : 10.1007/s11262-013-0986-z

2013

Erlandson, M.A. (2013). "*Trichoplusia ni* Hübner, Cabbage Looper (Lepidoptera: Noctuidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 42.

Rohrmann, G.F., Erlandson, M.A., and Theilmann, D.A. (2013). "The genome of a baculovirus isolated from *Hemileuca* sp. Encodes a serpin ortholog.", *Virus Genes*, 47(2), pp. 357-364. doi : 10.1007/s11262-013-0951-x

Toprak, U., Baldwin, D., Hegedus, D.D., and Erlandson, M.A. (2013). "Per os feeding with antisera specific to peritrophic matrix proteins stimulates larval growth in *Mamestra configurata* Walker (Lepidoptera: Noctuidae).", *Turkish Journal of Entomology*, 37(2), pp. 203-212.

Erlandson, M.A. (2013). "*Mamestra configurata* Walker, Bertha Armyworm (Lepidoptera: Noctuidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 32.

Toprak, U., Baldwin, D., Erlandson, M.A., Gillott, C., Harris, S., and Hegedus, D.D. (2013). "In vitro and in vivo application of RNA interference for targeting genes involved in peritrophic matrix synthesis in a lepidopteran system.", *Insect Science*, 20(1), pp. 92-100. doi : 10.1111/j.1744-7917.2012.01562.x

Pickett, C.H., Nieto, D.J., Bryer, J.A., Swezey, S.L., Stadtherr, M., Wisseropp, D., Erlandson, M.A., and Pitcaim, M. (2013). "Post-release dispersal of introduced lygus bug parasitoid *Peristenus relictus* in California.", *Biocontrol Science and Technology*, 23(8), pp. 861-871. doi : 10.1080/09583157.2013.802763

2012

Toprak, U., Harris, S., Baldwin, D., Theilmann, D.A., Gillott, C., Hegedus, D.D., and Erlandson, M.A. (2012). "The role of enhancin in *Mamestra configurata* nucleopolyhedrovirus virulence: Selective degradation of host peritrophic matrix proteins.", *Journal of General Virology*, 93(4), pp. 744-753. doi : 10.1099/vir.0.038117-0

Peng, K., van Lent, J.W.M., Boeren, S., Fang, M.G., Theilmann, D.A., Erlandson, M.A., Vlak, J.M., and van Oers, M.M. (2012). "Characterization of novel components of the baculovirus per os infectivity factor (PIF) complex.", *Journal of Virology*, 86(9), pp. 4981-4988. doi : 10.1128/JVI.06801-11

Nie, Y.C., Fang, M.G., Erlandson, M.A., and Theilmann, D.A. (2012). "Analysis of the *Autographa californica* Multiple Nucleopolyhedrovirus Overlapping Gene Pair *lef3* and *ac68* Reveals that AC68 Is a Per Os Infectivity Factor and that LEF3 Is Critical, but Not Essential, for Virus Replication.", *Journal of Virology*, 86(7), pp. 3985-3994. doi : 10.1128/JVI.06849-11

2011

Terenius, O., Papanicolaou, A., Garbutt, J.S., Eleftherianos, I., Huvenne, H., Kanginakudru, S., Albrechtsen, M., An, C., Aymeric, J.-L., Barthel, A., Bebas, P., Bitra, K., Bravo, A., Chevalier, F., Collinge, D.P., Crava, C.M., de Maagd, R.A., Duvic, B., Erlandson, M.A., Faye, I., Felföldi, G., Fujiwara, H., Futahashi, R., Gandhe, A.S., Gatehouse, H.S., Gatehouse, L.N., Giebertowicz, J.M., Gómez, I., Grimmelikhuijzen, C.J.P., Groot, A.T., Hauser, F., Heckel, D.G., Hegedus, D.D., Hrycaj, S., Huang, L., Hull, J.J., Iatrou, K., Iga, M., Kanost, M.R., Kotwica, J., Li, C., Li, J., Liu, J., Lundmark, M., Matsumoto, S., Meyering-Vos, M., Millichap, P.J., Monteiro, A., Mrinal, N., Niimi, T., Nowara, D., Ohnishi, A., Oostra, V., Ozaki, K., Papakonstantinou, M., Popadic, A., Rajam, M.V., Saenko, S., Simpson, A.J., Soberón, M., Strand, M.R., Tomita, S., Toprak, U., Wang, P., Wee, C.W., Whyard, S., Zhang, W., Nagaraju, J., Gordon, R.H.J., Herrero, S., Gordon, K., Smagghe, G., and Swevers, L. (2011). "RNA interference in Lepidoptera: An overview of successful and unsuccessful studies and implications for experimental design.", *Journal of Insect Physiology*, 57(2), pp. 231-245. doi : 10.1016/j.jinsphys.2010.11.006

## Other Science Related Publications:

2015

Franklin, M.T., Huang, A., Han, Y., Tabert, M., Erlandson, M.A., Richard, S., and Henderson, D. (2015). "Screening field collected Lepidoptera larvae for new virus isolates.", 48th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Vancouver, B.C., Canada, August 9-13, 2015. (Poster)

Javed, M.A., Harris, S., Theilmann, D.A., Erlandson, M.A., and Hegedus, D.D. (2015). "AcMNPV infection process in *Trichoplusia ni* midgut.", 48th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Vancouver, B.C., Canada, August 9-13, 2015. (Poster)

Harrison, R.L., Theilmann, D.A., and Erlandson, M.A. (2015). "Genome sequence analysis of two alphabaculoviruses and a betabaculovirus from armyworms of the genus *Mythimna*.", 48th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Vancouver, B.C., Canada, August 9-13, 2015. (Poster)

Erlandson, M.A., Coutu, C., Holowachuk, J., Olfert, O.O., Garipey, T.D., and Hegedus, D.D. (2015). "Developing genotyping-by-sequencing strategies for characterizing *Mamestra configurata* populations.", Joint Annual Meeting of Société d'entomologie du Québec and Entomological Society of Canada, Montreal, QC, Canada, November 8-11, 2015, Oral Presentation.

Theilmann, D.A., Willis, L.G., Weis, M.M., Donly, B.C., Hegedus, D.D., and Erlandson, M.A. (2015). "Analysis of occlusion derived virus infection in tissue culture using gene knock out viruses of the per os infectivity factors and GP64.", 48th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Vancouver, B.C., Canada, August 9-13, 2015, Oral Presentation.

Erlandson, M.A., Harris, S., Sieminska, E.A., Baldwin, D., Hegedus, D.D., and Theilmann, D.A. (2015). "Inhibition of *Cotesia vanessae* development in *Trichoplusia ni* larvae infected with alphabaculoviruses from *Mamestra configurata*.", 48th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Vancouver, B.C., Canada, August 9-13, 2015, Oral Presentation.

Erlandson, M.A., Floate, K.D., and Otani, J.K. (2015). DNA markers help identify cutworm species. AAF's Weekly Science Story – April 1, 2015.

## 2014

Dufton, S., Benn, A., Erlandson, M.A., Floate, K.D., and Otani, J.K. (2014). "2014 CARP cutworm rearing project summary: Peace River region.", Alberta Canola Producers Commission's Regional Meetings, Falher, Alberta, Canada, November 27, 2014. (Presentation)

Erlandson, M.A., Theilmann, D.A., Hegedus, D.L., Donly, T., Garipey, T.D., and Olfert, O.O. (2014). Bertha armyworm (*Mamestra configurata*): Genomics, population dynamics and biodiversity of pest and pathogens. Annual Project Report to AAFC-Genomics. (Report)

Erlandson, M.A., Donly, B.C., Theilmann, D.A., Hegedus, D.D., Coutu, C., and Baldwin, D. (2014). "Mamestra configurata nucleopolyhedrovirus-A transcriptome from infected host midgut.", 47th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Johannes Gutenberg University, Mainz, Germany, August 3-7, 2014, oral presentation, pp. 80.

Hummel, J.D., Otani, J.K., Broatch, J.S., Reid, P., Erlandson, M.A., Benn, A., Loberg, K., Dufton, S., and Floate, K.D. (2014). "Where the cutworms are: Three years of cutworm reports and collections in Alberta.", 2014 Entomological Society of Alberta AGM, Canmore, AB, Canada, October 25, 2014. (Poster)

Hummel, J.D., Otani, J.K., Broatch, J.S., Reid, P., Erlandson, M.A., Benn, A., Loberg, K., Dufton, S., and Floate, K.D. (2014). "Cutworm outbreaks in Alberta.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014, pp. 16. (Poster)

Baldwin, D., Theilmann, D.A., Vlak, J.M., and Erlandson, M.A. (2014). "Genomic variation of Mamestra configurata nucleopolyhedroviruses from noctuid host species across Holarctic regions.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014. (Poster)

Dufton, S., Benn, A., Erlandson, M.A., Floate, K.D., and Otani, J.K. (2014). "2014 CARP cutworm project summary: Peace River region.", Alberta Canola Producers Commission's Regional Meetings, Rycroft, Alberta, Canada, November 26, 2014. (Presentation)

Harris, S., Sieminska, E., Theilmann, D.A., Hegedus, D.D., and Erlandson, M.A. (2014). "Interaction between baculovirus infection and Cotesia parasitism in *Trichoplusia ni* larvae.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014. (Poster)

Erlandson, M.A., Donly, B.C., Theilmann, D.A., Hegedus, D.D., Coutu, C., and Baldwin, D. (2014). "Mamestra configurata nucleopolyhedrovirus-A transcriptome from infected host midgut.", 47th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Mainz, Germany, August 3-7, 2014, Oral Presentation.

Sieminska, E., Erlandson, M.A., Hegedus, D.D., and Gray, J. (2014). "Characterization of the pheromone communication channel in bertha armyworm, *Mamestra configurata*.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014. (Poster)

Otani, J.K., Floate, K.D., Hervet, V.A.D., Hummel, J.D., Broatch, J.S., Reid, P., Erlandson, M.A., Evenden, M.L., Meers, S., Barkley, S., Laird, R.A., Sharanowski, B., Hartley, S., and Gavloski, J.E. (2014). "Cutworm update.", Agronomy Update, Red Deer, AB, Canada, January 12, 2014. (Presentation)

Holowachuk, J., Sieminska, E.A., Otani, J.K., and Erlandson, M.A. (2014). "Development of DNA marker technology for identification of common cutworm species in the cutworm complex attacking canola in western Canada.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014, pp. 41.

Hummel, J.D., Otani, J.K., Broatch, J.S., Reid, P., Erlandson, M.A., Benn, A., Loberg, K., Dufton, S., and Floate, K.D. (2014). "Where the cutworms are: Three years of cutworm reports and collections in Alberta.", 62nd Annual Meeting of the Entomological Society of Alberta, Lethbridge, AB, Canada, October 16-18, 2014.

Hummel, J.D., Otani, J.K., Broatch, J.S., Reid, P., Erlandson, M.A., Benn, A., Loberg, K., Dufton, S., and Floate, K.D. (2014). "Cutworm outbreaks in Alberta.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014, pp. 16.

Otani, J.K., Floate, K.D., Hervet, V.A.D., Hummel, J.D., Broatch, J.S., Reid, P., Erlandson, M.A., Evenden, M.L., Meers, S., Barkley, S., Laird, R.A., Sharanowski, B., Hartley, S., and Gavloski, J.E. (2014). "Cutworm update.", Agronomy Update Conference 2006, Red Deer, AB, Canada, January 10-11, 2006, pp. 5.

## 2013

Erlandson, M.A. (2013). "Developing molecular markers as tools for species identification and population genetics assessment of noctuid pest species on the Canadian prairies.", Prairie Pest Monitoring Network Meeting, Saskatoon, SK, Canada, March 19, 2013.

Mason, P.G., De Clerck-Floate, R.A., Erlandson, M.A., and Bailey, K.L. (2013). AAFC National Containment, Biosafety and Biosecurity Committee (NCBB) update for AAFC Biological Control Working Group, 18 October 2013, Guelph, Ontario, 1pp. (Report)

## 2012

Floate, K.D., Broatch, J.S., Erlandson, M.A., Evenden, M.L., Gavloski, J.E., Hartley, S., Hummel, J.D., Laird, R.A., Meers, S., Olivier, C.Y., Otani, J.K., and Sharanowski, B. (2012). "New projects for control of cutworms (Lepidoptera: Noctuidae) affecting canola crops on the prairies.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #61. (Abstract)

Peng, K., van Lent, J.W.M., Boeren, S., Theilmann, D.A., Erlandson, M.A., Vlak, J.M., and van Oers, M.M. (2012). "Characterization of novel components of the baculovirus per os infectivity factor (PIF) complex.", 45th Annual Meeting of the Society for Invertebrate Pathology: 2012 International Congress on Invertebrate Pathology and Microbial Control, Centro de ConvencionesUCA, Puerto Madero, Buenos Aires, Argentina, August 5-9, 2012, pp. 127.

Maghodia, A.B., Fang, M.G., Theilmann, D.A., and Erlandson, M.A. (2012). "A group II alphabaculovirus core gene, MacoNPV-A pif-5 (odv-e56), cannot repair the essential per os infectivity function of the AcMNPV-pif5 knockout virus in *Trichoplusia ni* larvae.", 45th Annual Meeting of the Society for Invertebrate Pathology: 2012 International Congress on Invertebrate Pathology and Microbial Control, Centro de ConvencionesUCA, Puerto Madero, Buenos Aires, Argentina, August 5-9, 2012, pp. 127.

## 2011

Erlandson, M.A., Maghodia, A.B., Cossentine, J.E., Lowery, D.T., and Theilmann, D.A. (2011). "Genome structure of a nucleopolyhedrovirus infecting *Abagrotis reedi*, a cutworm pest of vineyards.", 44th Annual Meeting of the Society for Invertebrate Pathology, Halifax, NS, Canada, August 7-11, 2011. (Poster)

Nie, Y., Fang, M.G., Erlandson, M.A., and Theilmann, D.A. (2011). "Deletion analysis of the AcMNPV gene ac67 (lef-3) encoding the single stranded DNA binding protein and the core gene ac68 shows that LEF-3 is not essential for virus replication.", 30th Annual Meeting of American Society for Virology, University of Minnesota, Minneapolis, MN, USA, July 16-20, 2011.

Noakes, A.L., Gillott, C., Hegedus, D.D., Theilmann, D.A., and Erlandson, M.A. (2011). "Mamestra configurata nucleopolyhedrovirus (MacoNPV): potential chitin-binding proteins and their role in oral infectivity.", 44th Annual Meeting of the Society for Invertebrate Pathology, Halifax, NS, Canada, August 7-11, 2011.

Hynes, R.K., Bailey, K.L., Boyetchko, S.M., Erlandson, M.A., Peng, G., and Traquair, J.A. (2011). "Formulation and delivery of biopesticides.", Canadian Society of Microbiologists (CSM) 61st Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Memorial University of Newfoundland, St. John's, NL, Canada, June 20-23, 2011.

Hynes, R.K., Bailey, K.L., Boyetchko, S.M., Erlandson, M.A., and Peng, G. (2011). "Formulation development and delivery of biopesticides.", Soils and Crops Workshop 2011, Prairieland Park, Saskatoon, SK, Canada, March 15-16, 2011. (Workshop)

Hynes, R.K., Bailey, K.L., Boyetchko, S.M., Erlandson, M.A., Peng, G., and Traquair, J.A. (2011). "Formulation development and delivery of biopesticides.", Canadian Society of Microbiologists (CSM) 61st Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Memorial University of Newfoundland, St. John's, NL, Canada, June 20-23, 2011.

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## Research Publications:

2014

Errampalli, D. (2014). "Penicillium expansum (blue mold).", in Bautista-Baños, S. (ed.) - Postharvest decay and control, Elsevier.

2012

Errampalli, D., Wainman, L.I., and DeEll, J.R. (2012). "Reduced risk control options for apple postharvest diseases in long-term storages.", Acta Horticulturae (ISHS), 934, pp. 313-318.

2011

El-Kereamy, A., El-Sharkawy, I., Ramamoorthy, R., Taheri, A., Errampalli, D., Kumar, P., and Jayasankar, S. (2011). "Prunus domestica Pathogenesis-Related Protein-5 Activates the Defense Response Pathway and Enhances the Resistance to Fungal Infection.", PLoS ONE, 6(3, Article No. e17973). doi : 10.1371/journal.pone.0017973

## Other Science Related Publications:

2014

Wismer, R.J., VanDriel, L., and Errampalli, D. (2014). "AAFC Minor Use Pesticides (MUP) Program - Vineland Station Site update.", 12th Ontario Fruit and Vegetable Conference, Niagara Falls, ON, Canada, February 19-20, 2014. (Poster)

Errampalli, D. and Schneider, K.E. (2014). "Effect of different fungicides on the control of postharvest gray mold in 'McIntosh' apples, 2012-13.", Pest Management Research Report, 52, pp. 17-18.

Errampalli, D. (2014). "Resistance to fungicides in Botrytis cinerea isolates from strawberry in Ontario.", Phytopathology, 104(Suppl.3), pp. S3.38. (Abstract)

Errampalli, D., Goodwin, P.H., and Sharon, A. (2014). "Methyl jasmonate induces systemic resistance in grape berries against postharvest gray mould caused by Botrytis cinerea.", Phytopathology, 104(Suppl.3), pp. S3.38. (Abstract)

Errampalli, D. (2014). "Management of postharvest diseases of apples.", 11th European Foundation for Plant pathology, Krakow, Poland, September 8-12, 2014. (Abstract)

White, P.H., Schott, J.W., and Errampalli, D. (2014). "AAFC Minor Use Pesticides (MUP) Program - Delhi Site update.", 12th Ontario Fruit and Vegetable Conference, Niagara Falls, ON, Canada, February 19-20, 2014. (Poster)

Errampalli, D. (2014). "Pest Management Centre, Celebrating 10 years of working to meet grower's needs.", 12th Ontario Fruit and Vegetable Conference, Niagara Falls, ON, Canada, February 19-20, 2014. (Poster)

Errampalli, D. (2014). "Detection of multiple fungicide resistant phenotypes of Botrytis cinerea from strawberries.", 12th Ontario Fruit and Vegetable Conference, Niagara Falls, ON, Canada, February 19-20, 2014. (Poster)

Errampalli, D. (2014). "Detection of multiple fungicide resistant phenotypes of Botrytis cinerea from strawberries.", South Western Ontario Regional Association of the Canadian Phytopathological Society (SORA-CPS) Meeting, London, Ontario, Canada, November 2, 2013. (Poster)

Errampalli, D., Goodwin, P.H., and Sharon, A. (2014). "Methyl jasmonate induces systemic resistance in grape berries against postharvest gray mould caused by Botrytis cinerea.", APS-CPS Joint Meeting, Hilton Minneapolis, Minneapolis, MN, USA, August 9-13, 2014. (Poster)

Errampalli, D. (2014). "Development of detection assays for toxic metabolites produced by fungi.", 11th European Foundation for Plant pathology, Krakow, Poland, September 8-12, 2014. (Poster)

Haldar, A., Zwiép, A., Jackson, C-J.C., Schneider, K.E., and Errampalli, D. (2014). "The effect of organic fungicides on apple scab (Venturia inaequalis) in McIntosh apples.", South Western Ontario Regional Association of the Canadian Phytopathological Society (SORA-CPS) Meeting, November 7, 2014. (Poster)



Jackson, C.-J.C., Haldar, A., Zwiap, A., Schneider, K.E., and Errampalli, D. (2014). "Identification of multiple fungicide resistance in *Botrytis cinerea* in Strawberries.", South Western Ontario Regional Association of the Canadian Phytopathological Society (SORA-CPS) Meeting, London, Ontario, Canada, November 2, 2013. (Poster)

Wismer, R.J., VanDriel, L., and Errampalli, D. (2014). "Update on AAFC Minor Use Pesticides (MUP) Program - Vineland Station Site.", South Western Ontario Regional Association of the Canadian Phytopathological Society (SORA-CPS) Meeting, London, Ontario, Canada, November 2, 2013. (Poster)

White, P.H., Schott, J.W., and Errampalli, D. (2014). "Update on the AAFC Minor Use Pesticides (MUP) Program – Delhi site.", South Western Ontario Regional Association of the Canadian Phytopathological Society (SORA-CPS) Meeting, London, Ontario, Canada, November 2, 2013. (Poster)

Errampalli, D. (2014). "Pest Management Centre, Celebrating 10 years of working to meet grower's needs.", South Western Ontario Regional Association of the Canadian Phytopathological Society (SORA-CPS) Meeting, London, Ontario, Canada, November 2, 2013. (Poster)

Errampalli, D. (2014). "Resistance to fungicides in *Botrytis cinerea* isolates from strawberry in Ontario.", APS-CPS Joint Meeting, Hilton Minneapolis, Minneapolis, MN, USA, August 9-13, 2014. (Poster)

Errampalli, D. (2014). "Introduction of the plenary session at the American Phytopathological Society and Canadian Phytopathological Society.", 1st Plenary session. Invited Oral presentation at the APS-CPS Joint Meeting, Minneapolis, MN, USA, August 9-13, 2014. (Presentation)

Errampalli, D. (2014). "Development of detection assays for toxic metabolites produced by fungi.", 11th European Foundation for Plant pathology, Krakow, Poland, September 8-12, 2014. (Abstract)

Errampalli, D. (2014). "Plant pathology in Canada from the perspective of Canadian Phytopathological society.", 11th European Foundation for Plant pathology, Krakow, Poland, September 8-12, 2014.

## 2013

Errampalli, D. and Barasubiye, T. (2013). "Detection of multiple fungicide resistance in *Botrytis cinerea* from table grapevine berries.", *Acta Phytopathologica Sinica*, 43(SUPPL.), pp. 497. (Abstract)

Errampalli, D., Goodwin, P.H., and Sharon, A. (2013). "Methyl jasmonate induces systemic resistance against *Botrytis* bunch rot in wine grapes.", *Acta Phytopathologica Sinica*, 43(SUPPL.), pp. 256. (Abstract)

Errampalli, D., Goodwin, P.H., and Sharon, A. (2013). "Effect of methyl jasmonate on PAL defense gene expression in *Botrytis cinerea*-infected grapevine berries.", *Canadian Journal of Plant Pathology*, 35, pp. 108. (Abstract)

Errampalli, D. and Schneider, K.E. (2013). "Effect of different fungicides on the control of postharvest blue mold in 'Fuji' apples, 2011-12.", *Pest Management Research Report*, 51, pp. 25-26.

Errampalli, D. and Schneider, K.E. (2013). "Effect of different fungicides on the control of postharvest gray mold in 'Ambrosia' apples, 2011-12.", *Pest Management Research Report*, 51, pp. 23-24.

Errampalli, D. and Schneider, K.E. (2013). "Effect of different fungicides on the control of postharvest blue mold in 'Ambrosia' apples, 2011-12.", *Pest Management Research Report*, 51, pp. 21-22.

Errampalli, D. and Schneider, K.E. (2013). "Effect of different fungicides on the control of postharvest gray mold in 'McIntosh' apples, 2011-12.", *Pest Management Research Report*, 51, pp. 17-18.

Errampalli, D., Goodwin, P.H., and Sharon, A. (2013). "Methyl jasmonate-induced PAL defense gene expression in *Botrytis cinerea* infected grapevine berries.", 11th Ontario Fruit and Vegetable Convention (OFVC 2013), Scotiabank Convention Centre, Niagara Falls, ON, Canada, February 20-21, 2013. (Poster)

Errampalli, D. and Barasubiye, T. (2013). "Phenotyping and genotyping of fungicide resistant *Botrytis cinerea* from table grapevine berries.", *Canadian Journal of Plant Pathology*, 35, pp. 107. (Abstract)

Errampalli, D. and Schneider, K.E. (2013). "Effect of different fungicides on the control of postharvest blue mold in 'McIntosh' apples, 2011-12.", *Pest Management Research Report*, 51, pp. 19-20.

McFadden-Smith, W., Errampalli, D., and Subramanian, J. (2013). "Update on the Black Knot in Plums Project.", Great Lakes Fruit Workers Meeting, Bowmanville, Ontario, Canada, November 12 - 15, 2013.

Wismer, R.J., VanDriel, L., and Errampalli, D. (2013). "AAFC Minor Use Pesticides (MUP) Program - Vineland Station Site update.", 11th Ontario Fruit and Vegetable Convention (OFVC 2013), Scotiabank Convention Centre, Niagara Falls, ON, Canada, February 20-21, 2013. (Poster)

Errampalli, D. and Schneider, K.E. (2013). "Effect of different fungicides on the control of postharvest gray mold in 'Fuji' apples, 2011-12.", *Pest Management Research Report*, 51, pp. 27-28.

Errampalli, D. (2013). "Minor Use Pesticides Program Update for Stone Fruit.", Ontario Tender Fruit Producers' Monthly Newsletter, October, pp. 9.

- Errampalli, D. and Barasubiye, T. (2013). "Detection of multiple fungicide resistance in *Botrytis cinerea* from table grapevine berries.", International Congress of Plant Pathology, Beijing, China, August 25 - 28, 2013. (Poster)
- Errampalli, D., Goodwin, P.H., and Sharon, A. (2013). "Methyl jasmonate induces systemic resistance against *Botrytis* bunch rot in wine grapes.", International Congress of Plant Pathology, Beijing, China, August 25 - 28, 2013. (Poster)
- Errampalli, D., McFadden-Smith, W., and Subramanian, J. (2013). "Update on the BlackKnot in Plums Project.", 2013 Ontario Tender Fruit Producers' field day. (Presentation)
- Errampalli, D. (2013). "Fungicide resistance in *Botrytis cinerea* collected from strawberry fields in Ontario.", South Western Ontario Regional Association of the Canadian Phytopathological Society (SORA-CPS) Meeting, London, Ontario, Canada, November 2, 2013. (Poster)
- Wismer, R.J., VanDriel, L., and Errampalli, D. (2013). "AAFC Minor Use Pesticides (MUP) Program - Vineland Station Site update.", Canadian Phytopathological Society Meeting, Edmonton, AB, Canada, June 15-19, 2013. (Poster)
- Errampalli, D. (2013). "Detection of fungicide resistance phenotypes of *Botrytis cinerea* isolates from strawberries.", Canadian Phytopathological Society Meeting, Edmonton, AB, Canada, June 15-19, 2013. (Poster)
- White, P.H., Schott, J.W., and Errampalli, D. (2013). "AAFC Minor Use Pesticides (MUP) Program – Delhi Site update.", 11th Ontario Fruit and Vegetable Convention (OFVC 2013), Scotiabank Convention Centre, Niagara Falls, ON, Canada, February 20-21, 2013. (Poster)
- Errampalli, D., McFadden-Smith, W., and Subramanian, J. (2013). "Update on the BlackKnot in Plums Project.", Ontario Tender Fruit Producers' Monthly Newsletter, October, pp. 9-1.
- Errampalli, D. (2013). "Minor Use Pesticides Program Update for Stone Fruit.", 2013 Ontario Tender Fruit Producers' field day. (Presentation)

## 2012

- Errampalli, D., Golubovic, N., Werezak, R., and Mantyka, D.L. (2012). "Effect of biological control agents on the control of postharvest gray mold in 'McIntosh' apples from Jordan farm, 2010-11.", Pest Management Research Report, 50(Report #10), pp. 32-33.
- Errampalli, D. and Czerwinski, M. (2012). "Phylogeny of *Penicillium* species based on  $\beta$ -tubulin gene sequences.", 11th European conference on fungal genetics (ECFG11), Philipps-Universität, Marburg, Germany, March 30-April 2, 2012, PR10.6, pp. 272. (Abstract)
- Errampalli, D., Sharon, A., and Goodwin, P.H. (2012). "Jasmonic acid and methyl jasmonate induce defense response in grape berries against postharvest gray mould caused by *Botrytis cinerea*.", 11th European conference on fungal genetics (ECFG11), Philipps-Universität, Marburg, Germany, March 30-April 2, 2012, PR6.8, pp. 196. (Abstract)
- Errampalli, D., Golubovic, N., Werezak, R., Nelson, L.M., and Mantyka, D.L. (2012). "Effect of biological control agents on the control of postharvest blue mold in 'McIntosh' apples from Grimsby, ON, 2010-11.", Pest Management Research Report, 50(Report #05), pp. 21-23.
- Errampalli, D., Golubovic, N., Werezak, R., Nelson, L.M., and Mantyka, D.L. (2012). "Effect of biological control agents on the control of postharvest gray mold in 'McIntosh' apples from Grimsby, ON, 2010-11.", Pest Management Research Report, 50(Report #06), pp. 24-25.
- Errampalli, D., Golubovic, N., Werezak, R., Nelson, L.M., and Mantyka, D.L. (2012). "Effect of biological control agents on the control of postharvest gray mold in 'Empire' apples from Grimsby, ON, 2010-11.", Pest Management Research Report, 50(Report #10), pp. 26-27.
- Errampalli, D., Golubovic, N., Werezak, R., Nelson, L.M., and Mantyka, D.L. (2012). "Effect of biological control agents on the control of postharvest blue mold in 'Empire' apples from Jordan Station, ON, 2010-11.", Pest Management Research Report, 50(Report #11), pp. 34-35.
- Errampalli, D., Golubovic, N., Werezak, R., Nelson, L.M., and Mantyka, D.L. (2012). "Effect of biological control agents on the control of postharvest gray mold in 'Empire' apples from Jordan Station, ON, 2010-11.", Pest Management Research Report, 50(Report #09), pp. 30-31.
- Errampalli, D., Golubovic, N., Werezak, R., Nelson, L.M., and Mantyka, D.L. (2012). "Effect of biological control agents on the control of postharvest blue mold in 'McIntosh' apples from Jordan Station, ON, 2010-11.", Pest Management Research Report, 50(Report #12), pp. 36-37.
- Errampalli, D., MacDonald, M.A., Sharon, A., and Goodwin, P.H. (2012). "Effect of methyl jasmonate for suppression of postharvest *Botrytis* in different grape cultivars.", 10th Ontario Fruit and Vegetable Convention (OFVC 2012), Niagara Falls, ON, Canada, February 22-23, 2012. (Poster)
- Errampalli, D., Golubovic, N., Werezak, R., Nelson, L.M., and Mantyka, D.L. (2012). "Effect of biological control agents on the control of postharvest blue mold in 'Empire' apples from Grimsby, ON, 2010-11.", Pest Management Research Report, 50(Report #08), pp. 28-29.

Errampalli, D. (2012). "Postharvest disease control of apples and an overview of tree fruit pathology research at AAFC, Vineland.", South Western Ontario Regional Association of the Canadian Phytopathological Society (SORA-CPS) Meeting, London, Ontario, Canada, November 3, 2012, Oral presentation, Invited Speaker.

Errampalli, D., Sharon, A., Goodwin, P.H., Bordeleau, E.A., and Schneider, K.E. (2012). "Effect of Methyl jasmonate on the suppression of gray mould disease and on PAL defense gene expression in *Botrytis cinerea* infected grapevine berries.", 15th International Congress on Molecular Plant-Microbe Interactions (MPMI), Kyoto International Conference Center, Kyoto, Japan, July 29-August 2, 2012, pp. 118. (Abstract)

Errampalli, D. (2012). "Overview of tree fruit pathology research at AAFC, Vineland.", Annual Vineland Research and Innovation Centre (VRIC) update meeting, Vineland, Ontario, Canada, April 25, 2012, Invited Speaker.

Lozynska, I., VanDriel, L., and Errampalli, D. (2012). "Classification of *Penicillium* species in apples collected from apple stores in southern Ontario employing PCR-RFLP.", 10th Ontario Fruit and Vegetable Convention (OFVC 2012), Niagara Falls, ON, Canada, February 22-23, 2012. (Poster)

Errampalli, D., MacDonald, M.A., Sharon, A., and Goodwin, P.H. (2012). "Effect of methyl jasmonate for suppression of postharvest *Botrytis* in different grape cultivars.", *Canadian Journal of Plant Pathology*, 34, pp.332. (Abstract)

Errampalli, D., Reeh, K., and Wainman, L.I. (2012). "Screening for myclobutanil resistance in *Erysiphe necator*, the causal agent of grape powdery mildew.", 11th European conference on fungal genetics (ECFG11), Philipps-Universität, Marburg, Germany, March 30-April 2, 2012. (Poster)

Errampalli, D., Bordeleau, E.A., Schneider, K.E., and Sharon, A. (2012). "Effect of Methyl jasmonate on the suppression of gray mould disease and on PAL defense gene expression in *Botrytis cinerea* infected grapevine berries.", 15th International Congress on Molecular Plant-Microbe Interactions (MPMI), Kyoto International Conference Center, Kyoto, Japan, July 29-August 2, 2012. (Poster)

Errampalli, D., Goodwin, P.H., and Sharon, A. (2012). "Effect of Methyl jasmonate on PAL defense gene expression in *Botrytis cinerea* infected grapevine berries.", 2012 Joint Meeting of the Canadian Phytopathological Society (CPS), International Plum Pox Virus (PPV) group and the Canadian Forum for Biological Control (CFBC) group, Niagara Falls, ON, Canada, June 24-27, 2012. (Presentation, Available online)

Errampalli, D. and Barasubiye, T. (2012). "Phenotyping and genotyping of fungicide resistant *Botrytis cinerea* from table grape berries.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: *Canadian Journal of Plant Pathology / Revue canadienne de phytopathologie*, 35(1), pp. 107. (Poster)

Errampalli, D., Sharon, A., and Goodwin, P.H. (2012). "Jasmonic acid and methyl jasmonate induce defense response in grape berries against postharvest gray mould caused by *Botrytis cinerea*.", 15th International Congress on Molecular Plant-Microbe Interactions (MPMI), Kyoto International Conference Center, Kyoto, Japan, July 29-August 2, 2012. (Abstract)

Errampalli, D. and Czerwinski, M. (2012). "Phylogeny of *Penicillium* species based on  $\beta$ -tubulin gene sequences.", 11th European conference on fungal genetics (ECFG11), Philipps-Universität, Marburg, Germany, March 30-April 2, 2012. (Poster)

Errampalli, D., Mugadza, T., Gienow, M.C., Kristalyn, L., Perez-Valdes, I., and Längle, T. (2012). "Detection of mutagenic secondary metabolites produced by entomopathogenic fungi, *Metarhizium* species.", 10th Ontario Fruit and Vegetable Convention (OFVC 2012), Niagara Falls, ON, Canada, February 22-23, 2012. (Poster)

2011

Errampalli, D., Glover, N.G., and Perez-Valdes, I. (2011). "Effect of lime sulphur on the control of postharvest brown rot (*Monilinia fructicola*) on 'Harrow Diamond' peaches, 2010.", *Pest Management Research Report*, 49, pp. 60-61.

Errampalli, D., Glover, N.G., and Perez-Valdes, I. (2011). "Effect of lime sulphur on the control of postharvest brown rot (*Monilinia fructicola*) on 'Redhaven' peaches, 2010.", *Pest Management Research Report*, 49, pp. 59-60.

Errampalli, D. and Wainman, L.I. (2011). "Effect of preharvest boscalid/pyraclostrobin and pyrimethanil application for the control of postharvest gray mold in 'Empire' apples, 2009-10.", *Pest Management Research Report*, 49, pp. 44-46.

Errampalli, D. and Wainman, L.I. (2011). "Effect of preharvest boscalid/pyraclostrobin and pyrimethanil application for the control of postharvest blue and gray mold in 'empire' apples, 2009-10.", *Pest Management Research Report*, 49, pp. 47-49.

Gienow, M.C., Mugadza, T., Kristalyn, L., Perez-Valdes, I., Längle, T., and Errampalli, D. (2011). "Testing of mutagenic metabolites produced insect pathogen *Metarhizium* isolates.", 9th Ontario Fruit and Vegetable Convention (OFVC 2011), Brock University, St. Catharines, ON, Canada, February 23-24, 2011. (Poster)

Errampalli, D., Reeh, K., and Wainman, L.I. (2011). "Screening for myclobutanil resistance in *Erysiphe necator*, the causal agent of grape powdery mildew.", 9th Ontario Fruit and Vegetable Convention (OFVC 2011), Brock University, St. Catharines, ON, Canada, February 23-24, 2011. (Poster)

Pogoda, M.K., Wisner, R.J., Bittner, L.A., and Errampalli, D. (2011). "AAFC Minor Use Pesticides (MUP) Program - Vineland Station Site update.", 9th Ontario Fruit and Vegetable Convention (OFVC 2011), Brock University, St. Catharines, ON, Canada, February 23-24, 2011. (Poster)

Errampalli, D., Glover, N.G., Perez-Valdes, I., and Wainman, L.I. (2011). "Control of postharvest brown rot (*Monilinia fructicola*) of peaches with lime sulphur.", 9th Ontario Fruit and Vegetable Convention (OFVC 2011), Brock University, St. Catharines, ON, Canada, February 23-24, 2011. (Poster)

VanDriel, L., Labonté, G.M., De Foa, A., and Errampalli, D. (2011). "Assessment of calypso (thiacloprid) for control of japanese beetle on 'Empire' apples, 2010.", Pest Management Research Report, 49, pp. 4-5.

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## Research Publications:

2015

Graf, R.J., Beres, B.L., Randhawa, H.S., Gaudet, D.A., Laroche, A., and Eudes, F. (2015). "AAC Elevate hard red winter wheat.", *Canadian Journal of Plant Science*, 95(5), pp. 1021-1027. doi: 10.4141/cjps-2015-094

Bilichak, A., Luu, J., and Eudes, F. (2015). "Intracellular delivery of fluorescent protein into viable wheat microspores using cationic peptides.", *Frontiers in Plant Science*, 6(AUG: Article number A666), pp. 1-10. doi: 10.3389/fpls.2015.00666

Rasmussen, J.P., Gilroyed, B.H., Reuter, T.R., Badea, A., Eudes, F., Graf, R.J., Laroche, A., Kav, N.N.V., and McAllister, T. A. (2015). "Protein can be taken up by damaged wheat roots and transported to the stem.", *Journal of Plant Biology*, 58(1), pp. 1-7. doi: 10.1007/s12374-014-0258-z

Sinha, R.K. and Eudes, F. (2015). "Dimethyl tyrosine conjugated peptide prevents oxidative damage and death of triticale and wheat microspores.", *Plant Cell, Tissue and Organ Culture*, 122(1), pp. 227-237. doi: 10.1007/s11240-015-0763-x

2014

Asif, M., Eudes, F., Randhawa, H.S., Amundsen, E.J., and Spaner, D.M. (2014). "Induction medium osmolality improves microspore embryogenesis in wheat and triticale.", *In Vitro Cellular & Developmental Biology - Plant*, 50(1), pp. 121-126. doi: 10.1007/s11627-013-9545-5

Asif, M., Eudes, F., Randhawa, H.S., Amundsen, E.J., and Spaner, D.M. (2014). "Phytosulfokine alpha enhances microspore embryogenesis in both triticale and wheat.", *Plant Cell, Tissue and Organ Culture*, 116(1), pp. 125-130. doi: 10.1007/s11240-013-0379-y

Rasmussen, J.B., Gilroyed, B.H., Reuter, T.R., Badea, A., Eudes, F., Graf, R.J., Laroche, A., Kav, N.N.V., and McAllister, T.A. (2014). "Efficiency of protein as a nitrogen source for wheat and morphological changes in roots exposed to high protein concentrations.", *Canadian Journal of Plant Science*, 94(4), pp. 603-613. doi: 10.4141/cjps2013-187

Kathiria, P. and Eudes, F. (2014). "Nucleases for genome editing in crops.", *Biocatalysis and Agricultural Biotechnology*, 3(1), pp. 14-19. doi: 10.1016/j.bcab.2013.12.006

Eudes, F., Shim, Y.-S., and Jiang, F. (2014). "Engineering the haploid genome of microspores.", *Biocatalysis and Agricultural Biotechnology*, 3(1), pp. 20-23. doi: 10.1016/j.bcab.2013.11.002

Raatz, L.L., Yang, R.-C., Eudes, F., and Hall, L.M. (2014). "Simulated genetically modified triticale: Adventitious presence from volunteers in four cropping systems.", *Crop Science*, 54(3), pp. 1087-1096. doi: 10.2135/cropsci2013.08.0529

Liu, W., Frick, M., Huel, R., Nykiforuk, C.L., Wang, X.M., Gaudet, D.A., Eudes, F., Conner, R.L., Kuzyk, A.D., Chen, Q., Kang, Z., and Laroche, A. (2014). "Stripe Rust Resistance Gene Yr10 Encodes an Evolutionary-conserved and Unique CC-NBS-LRR Sequence in Wheat", *Molecular Plant*, 7(12), pp. 1740-1755. doi: 10.1093/mp/ssu112

2013

Beres, B.L., Pozniak, C.J., Bressler, D., Gibreel, A., Eudes, F., Graf, R.J., Randhawa, H.S., Salmon, D.F., McLeod, G.J., Dion, Y., Irvine, R.B., Voldeng, H.D., Martin, R.A., Pageau, D., Comeau, A., DePauw, R.M., Phelps, S.M., and Spaner, D.M. (2013). "A Canadian Ethanol Feedstock Study to Benchmark the Relative Performance of Triticale: II. Grain Quality and Ethanol Production.", *Agronomy Journal*, 105, pp. 1707-1720. doi: 10.2134/agronj2013.0193

Kavanagh, V.B., Hills, M.J., Goyal, A., Randhawa, H.S., Topinka, A.K., Eudes, F., and Hall, L.M. (2013). "Molecular markers as a complementary tool in risk assessments: quantifying interspecific gene flow from triticale to spring wheat and durum wheat.", *Transgenic Research*. doi: 10.1007/s11248-012-9683-2

Shim, Y.-S., Eudes, F., and Kovalchuk, I.E. (2013). "dsDNA and protein co-delivery in triticale microspores.", *In Vitro Cellular & Developmental Biology - Plant*, 49(2), pp. 156-165. doi: 10.1007/s11627-012-9471-y

Graf, R.J., Beres, B.L., Randhawa, H.S., Gaudet, D.A., Badea, A., Laroche, A., Eudes, F., and Pandeya, R.S. (2013). "AAC Gateway hard red winter wheat.", *Canadian Journal of Plant Science*, 93(3), pp. 541-548. doi : 10.4141/CJPS2012-266

Asif, M., Eudes, F., Goyal, A., Amundsen, E.J., Randhawa, H.S., and Spaner, D.M. (2013). "Organelle antioxidants improve microspore embryogenesis in wheat and triticale.", *In Vitro Cellular & Developmental Biology - Plant*. doi : 10.1007/s11627-013-9514-z

Asif, M., Eudes, F., Randhawa, H.S., Amundsen, E.J., Yanke, L.J., and Spaner, D.M. (2013). "Cefotaxime prevents microbial contamination and improves microspore embryogenesis in wheat and triticale.", *Plant Cell Reports*, 32(10), pp. 1637-1646. doi : 10.1007/s00299-013-1476-4

Beres, B.L., Pozniak, C.J., Eudes, F., Graf, R.J., Randhawa, H.S., Salmon, D.F., McLeod, G.J., Dion, Y., Irvine, R.B., Voldeng, H.D., Martin, R.A., Pageau, D., Comeau, A., DePauw, R.M., Phelps, S.M., and Spaner, D.M. (2013). "A Canadian Ethanol Feedstock Study to Benchmark the Relative Performance of Triticale: I. Agronomics.", *Agronomy Journal*, 105, pp. 1695-1706. doi : 10.2134/agronj2013.0192

Graf, R.J., Beres, B.L., Laroche, A., Gaudet, D.A., Eudes, F., Pandeya, R.S., Badea, A., and Randhawa, H.S. (2013). "Emerson hard red winter wheat.", *Canadian Journal of Plant Science*, 93(4), pp. 741-748. doi : 10.4141/CJPS2012-262

Badea, A., Eudes, F., Laroche, A., Graf, R.J., Doshi, K., Amundsen, E.J., Nilsson, D., and Puchalski, B. (2013). "Antimicrobial peptides expressed in wheat reduce susceptibility to Fusarium head blight and powdery mildew.", *Canadian Journal of Plant Science*, 93(2), pp. 199-208. doi : 10.4141/CJPS2012-125

## 2012

Foroud, N.A., Ouellet, T., Laroche, A., Oosterveen, B., Jordan, M.C., Ellis, B.E., and Eudes, F. (2012). "Differential transcriptome analyses of three wheat genotypes reveal different host response pathways associated with Fusarium head blight and trichothecene resistance.", *Plant Pathology*, 61(2), pp. 296-314. doi : 10.1111/j.1365-3059.2011.02512.x

Beres, B.L., Skovmand, B., Randhawa, H.S., Eudes, F., Graf, R.J., and McLeod, G.J. (2012). "Sunray spring triticale.", *Canadian Journal of Plant Science*, 92(2), pp. 363-367. doi : 10.4141/CJPS2011-138

Graf, R.J., Thomas, J.B., Beres, B.L., Gaudet, D.A., Laroche, A., and Eudes, F. (2012). "Flourish hard red winter wheat.", *Canadian Journal of Plant Science*, 92(1), pp. 183-189. doi : 10.4141/CJPS2011-084

Zaidi, M.A., O'Leary, S., Wu, S., Gleddie, S.C., Eudes, F., Laroche, A., and Robert, L.S. (2012). "A molecular and proteomic investigation of proteins rapidly released from triticale pollen upon hydration.", *Plant Molecular Biology*, 79(1-2), pp. 101-121. doi : 10.1007/s11103-012-9897-y

Ziemienowicz, A., Shim, Y.-S., Matsuoka, A., Eudes, F., and Kovalchuk, I.E. (2012). "A Novel Method of Transgene Delivery into Triticale Plants Using the Agrobacterium Transferred DNA-Derived Nano-Complex.", *Plant Physiology*, 158(4), pp. 1503-1513. doi : 10.1104/pp.111.192856

Diedhiou, C., Gaudet, D.A., Liang, Y., Sun, J.-Y., Lu, Z.-X., Eudes, F., and Laroche, A. (2012). "Carbohydrate profiling in seeds and seedlings of transgenic triticale modified in the expression of sucrose:sucrose-1-fructosyltransferase (1-SST) and sucrose:fructan-6-fructosyltransferase (6-SFT).", *Journal of Bioscience and Bioengineering*, 114(4), pp. 371-378. doi : 10.1016/j.jbiosc.2012.05.008

Foroud, N.A., McCormick, S.P., MacMillan, T., Badea, A., Kendra, D.F., Ellis, B.E., and Eudes, F. (2012). "Greenhouse studies reveal increased aggressiveness of emergent Canadian Fusarium graminearum chemotypes in wheat.", *Plant Disease*, 96(9), pp. 1271-1279. doi : 10.1094/pdis-10-11-0863-re

## 2011

Shank, R.A., Foroud, N.A., Hazendonk, P., Eudes, F., and Blackwell, B.A. (2011). "Current and future experimental strategies for structural analysis of trichothecene mycotoxins—a prospectus.", *Toxins*, 3(12), pp. 1518-1553. doi : 10.3390/toxins3121518

Badea, A., Eudes, F., Salmon, D.F., Tuveesson, S., Vrolijk, A., Larsson, C.-T., Caig, V., Huttner, E., Kilian, A., and Laroche, A. (2011). "Development and assessment of DArT markers in triticale.", *Theoretical and Applied Genetics (TAG)*, 122(8), pp. 1547-1560. doi : 10.1007/s00122-011-1554-3

Goyal, A., Beres, B.L., Randhawa, H.S., Navabi, A., Salmon, D.F., and Eudes, F. (2011). "Yield stability analysis of broadly adaptive triticale germplasm in southern and central Alberta, Canada for industrial end-use suitability.", *Canadian Journal of Plant Science*, 91(1), pp. 125-135. doi : 10.4141/CJPS10063

Chaudhary, P., Shank, R.A., Goettel, J.T., Foroud, N.A., Hazendonk, P., and Eudes, F. (2011). "Hydrogen-bonding interactions in T-2 toxin studied using solution and solid-state NMR.", *Toxins*, 3(10), pp. 1310-1331. doi : 10.3390/toxins3101310

## Other Science Related Publications:

2015

Foroud, N.A., Goyal, R.K., Eudes, F., Ellis, B.E., Fobert, P., and Loewen, M. (2015). "The role of plant hormones in the Fusarium head blight disease response of wheat.", 13th European Fusarium Seminar, Martina Franca, TA., Italy, May 10-14, 2015.

Ryabova, D., Randhawa, H.S., Bihari, L., Eudes, F., Spaner, D.M., Hucl, P.J., Graf, R.J., Prus, J., Amundsen, E.J., and Foroud, N.A. (2015). "Production of double haploids with resistance to Fusarium mycotoxins.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015.

Foroud, N.A., Thakor, N., Shank, R.A., Eudes, F., and Hazendonk, P. (2015). "Understanding the mechanism Fusarium mycotoxin inhibition of protein synthesis through structure and dynamics.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015.

2014

Hazendonk, P., Foroud, N.A., Shank, R.A., and Eudes, F. (2014). "Towards understanding trichothecene-mediated disruption of ribosomal function and hence its toxicity.", 2014 National Fusarium Head Blight Forum, St. Louis, MO, Canada, December 7-9, 2014. (Poster)

Pahari, S., Eudes, F., Laroche, A., and Larsen, R.J. (2014). "Identification and Characterization of Flowering Time Genes in Tall Wheatgrass.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014. (Poster)

2013

Kavanagh, V.B., Hall, L.M., Hills, M.J., Eudes, F., and Randhawa, H.S. (2013). "Interspecific Gene Flow from GM Triticale: Can Triticale Hybridize with Spring Wheat, Durum or Rye Under Field Conditions?", The 8th International Triticale Symposium, Ghent, Belgium, June 10-14, 2013.

Sinha, R.K., Asif, M., Amundsen, E.J., Eudes, F., and Randhawa, H.S. (2013). "Isolated microspore culture in cereals by mediating stresses and nursing.", The 8th International Triticale Symposium, Ghent, Belgium, June 10-14, 2013, (Presentation).

Randhawa, H.S., Eudes, F., Beres, B.L., Graf, R.J., Fedak, G., Comeau, A., Langevin, F., Dion, Y., and Pozniak, C.J. (2013). "Integrated approaches for triticale breeding.", The 8th International Triticale Symposium, Ghent, Belgium, June 10-14, 2013, (Presentation).

Ziemienowicz, A., Shim, Y.-S., Matsuoka, A., Eudes, F., Kovalchuk, I.E., and Randhawa, H.S. (2013). "Nano-Complex Mediated Transformation of Triticale.", The 8th International Triticale Symposium, Ghent, Belgium, June 10-14, 2013, (Presentation).

2012

Rasmussen, J.D., Gilroyed, B.H., Reuter, T.R., Badea, A., Eudes, F., Graf, R.J., Laroche, A., Kav, N.N.V., and McAllister, T.A. (2012). "The uptake of functional proteins and infectious prions into major crop plants.", PrP Canada 2012 & Protein Folding Disease Conference, Toronto, Ontario, Canada, June 25-27, 2012, #64, pp. 122. (Poster)

2011

Comeau, A., Langevin, F., Voldeng, H.D., Haber, S.M., Gilbert, J., Randhawa, H.S., Dion, Y., Rioux, S., Eudes, F., Blackwell, B.A., and Martin, R.A. (2011). "One quick solution to FHB problems: the systemic approach.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 72.

Hazendonk, P., Foroud, N.A., Eudes, F., and Shank, R.A. (2011). "Towards understanding the toxicity of deoxynivalenol (DON) and its implications.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 27.

Goyal, A., Amundsen, E.J., Eudes, F., and Randhawa, H.S. (2011). "Effect of Antioxidant on the regeneration of green plantlet in Isolated Microspore Culture (IMC) derived doubled haploid in wheat and triticale.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, Presentation.

Comeau, A., Langevin, F., Voldeng, H.D., Haber, S.M., Gilbert, J., Randhawa, H.S., Dion, Y., Rioux, S., McCallum, B.D., Fetch Jr., T.G., Eudes, F., Blackwell, B.A., Martin, R.A., Scheeren, P., Caetano, V., Frégeau-Reid, J.A., and Fedak, G. (2011). "The systemic approach: faster genetic progress for complex goals.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Randhawa, H.S., Eudes, F., McKenzie, R.I.H., Beres, B.L., and Gaudet, D.A. (2011). "The Future of Triticale: The Growing Triticale Competitive Advantage Resulting from Continued CTBI Research.", 2011 Annual Canadian Triticale Biorefinery Initiative, Calgary, Alberta, Canada, March 7, 2011.

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## Research Publications:

2015

Chu, M.G., Song, T., Yu, F.Q., Peng, G., Lahlali, R.L., Liu, X., Zhang, X., Falk, K.C., and Gossen, B.D. (2015). "Genetic mapping of a new clubroot resistance gene (Rpb1) and transcriptome analysis of its interactions with *Plasmodiophora brassicae*.", *BMC Genomics*, 15(1166).

2014

Sincik, M., Sozen, E., Falk, K.C., Goksoy, T., and Acikgoz, E. (2014). "Heterosis and Combining Ability in a Diallel Cross of Turnip Rape Genotypes.", *Turkish Journal of Field Crops*, 19(2), pp. 219-225.

Xin, H.S., Khan, N.A., Falk, K.C., and Yu, P. (2014). "Mid-infrared spectral characteristics of lipid molecular structures in *Brassica carinata* seeds: Relationship to oil content, fatty acid and glucosinolate profiles, polyphenols, and condensed tannins.", *Journal of Agricultural and Food Chemistry*, 62(32), pp. 7977-7988. doi: 10.1021/jf502209x

Peng, G., Falk, K.C., Gugel, R.K., Franke, C., Yu, F.Q., James, B., Strelkov, S.E., Hwang, S.F., and McGregor, L. (2014). "Sources of resistance to *Plasmodiophora brassicae* (clubroot) pathotypes virulent on canola.", *Canadian Journal of Plant Pathology*, 36(1), pp. 89-99. doi: 10.1080/07060661.2013.863805

Chu, M.G., Song, T., Falk, K.C., Zhang, X., Liu, X., Chang, A., Lahlali, R.L., McGregor, L., Gossen, B.D., Yu, F.Q., and Peng, G. (2014). "Fine mapping of Rcr1 and analyses of its effect on transcriptome patterns during infection by *Plasmodiophora brassicae*.", *BMC Genomics*, 15(1: Article number 1166), pp. 1-20. doi: 10.1186/1471-2164-15-1166

Rahman, H., Peng, G., Yu, F.Q., Falk, K.C., Kulkarni, M., and Selvaraj, G. (2014). "Genetics and breeding for clubroot resistance in Canadian spring canola (*Brassica napus* L.)", *Canadian Journal of Plant Pathology*, 36(Supplement 1), pp. 122-134. doi: 10.1080/07060661.2013.862571

Marillia, E.-F., Francis, T., Falk, K.C., Smith, M., and Taylor, D.C. (2014). "Palliser's promise: *Brassica carinata*, An emerging western Canadian crop for delivery of new bio-industrial oil feedstocks.", *Biocatalysis and Agricultural Biotechnology*, 3(1), pp. 65-74. doi: 10.1016/j.bcab.2013.09.012

Jiang, Y.F., Caldwell, C.D., and Falk, K.C. (2014). "Camelina seed quality in response to applied nitrogen, genotype and environment.", *Canadian Journal of Plant Science*, 94(5), pp. 971-980. doi: 10.4141/CJPS2013-396

2013

Jiang, Y.F., Caldwell, C.D., Falk, K.C., Lada, R.R., and MacDonald, D. (2013). "Camelina yield and quality response to combined Nitrogen and Sulfur.", *Agronomy Journal*, 105(6), pp. 1847-1852. doi: 10.2134/agronj2013.0240

Xin, H.S., Falk, K.C., and Yu, P. (2013). "Studies on *Brassica carinata* seed. Part II: Carbohydrate molecular structure in relation to carbohydrate chemical profile, energy values and biodegradation characteristics.", *Journal of Agricultural and Food Chemistry*, 61(42), pp. 10127-10134. doi: 10.1021/jf402077g

Xin, H.S., Falk, K.C., and Yu, P. (2013). "Studies on *Brassica carinata* seed. Part I: Protein molecular structure in relation to protein nutritive values and metabolic characteristics.", *Journal of Agricultural and Food Chemistry*, 61(42), pp. 10118-10126. doi: 10.1021/jf4020763

Séguin-Swartz, G.T., Beckie, H.J., Warwick, S.I., Roslinsky, V., Nettleton, J.A., Johnson, E.N., and Falk, K.C. (2013). "Pollen-mediated gene flow between glyphosate-resistant *Brassica napus* canola and *B. juncea* and *B. carinata* mustard crops under large-scale field conditions in Saskatchewan.", *Canadian Journal of Plant Science*, 93(6), pp. 1083-1087. doi: 10.4141/cjps2013-129

Peng, G., Pageau, D., Hwang, S.F., Lahlali, R.L., Hynes, R.K., Anderson, K., Strelkov, S.E., McDonald, M.R., Gossen, B.D., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., and McGregor, L. (2013). "Assessment of crop rotation in combination with cultivar resistance or a biofungicide seed treatment for control of clubroot on canola.", 10th International Congress of Plant Pathology, Beijing International Convention Center, Beijing, China, August 25-30, 2013.



Peng, G., Pageau, D., Strelkov, S.E., Lahlali, R.L., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Turkington, T.K., Falk, K.C., Yu, F.Q., McGregor, L., Hupka, D., and Geissler, H.J. (2013). "Assessment of crop rotation, cultivar resistance and *Bacillus subtilis* biofungicide for control of clubroot on canola.", 6th International Symposium on Brassica and 18th Crucifer Genetics Workshop, Catania, Sicily, Italy, November 12-16, 2012, Published on Acta Hort. 1005:591-598.

Chu, M.G., Yu, F.Q., Falk, K.C., Liu, X., Zhang, X., Chang, A., and Peng, G. (2013). "Identification of the clubroot resistance gene Rpb1 and introgression of the resistance gene into canola breeding lines using a marker-assisted approach.", Acta Horticulturae (ISHS), 1005, pp. 599-605.

Eynck, C. and Falk, K.C. (2013). "Camelina (*Camelina sativa*).", in Singh, B.P. (ed.) - Biofuel crops: Production, physiology and genetics, CABI Publishing, Wallingford, UK, Chapter 17, pp. 369-391.

Yazdi, E.J., Falk, K.C., and Séguin-Swartz, G.T. (2013). "Improvement in efficiency of microspore culture to produce doubled haploid lines of Ethiopian mustard.", In Vitro Cellular & Developmental Biology - Plant, 49(6), pp. 682-689. doi : 10.1007/s11627-013-9560-6

Yu, F.Q., Peng, G., Falk, K.C., and Parkin, I.A.P. (2013). "Identification of clubroot-resistance genes and development of clubroot resistant canola germplasm.", International Clubroot Workshop, Edmonton, AB, Canada, June 2013, Oral presentation.

## 2012

Wanasundara, P.K.J.P.D., Abeysekera, S.J., McIntosh, T.C., and Falk, K.C. (2012). "Solubility Differences of Major Storage Proteins of Brassicaceae Oilseeds.", Journal of the American Oil Chemists Society (JAOCS), 89(5), pp. 869-881. doi : 10.1007/s11746-011-1975-9

Pan, X., Caldwell, C.D., Falk, K.C., and Lada, R.R. (2012). "The effect of cultivar, seeding rate and applied nitrogen on *Brassica carinata* seed yield and quality in contrasting environments.", Canadian Journal of Plant Science, 92(5), pp. 961-971. doi : 10.4141/cjps2011-169

Canam, T., Li, X., Holowachuk, J., Yu, M., Xia, J., Mandal, R., Krishnamurthy, R., Bouatra, S., Sinelnikov, I., Yu, B., Grenkow, L.F., Wishart, D.S., Steppuhn, H., Falk, K.C., Dumonceaux, T.J., and Gruber, M.Y. (2012). "Differential metabolite profiles and salinity tolerance between two genetically related brown-seeded and yellow-seeded *Brassica carinata* lines.", Plant Science, 198(January 2013), pp. 17-26. doi : 10.1016/j.plantsci.2012.09.011

## 2011

Pan, X., Lada, R.R., Caldwell, C.D., and Falk, K.C. (2011). "Photosynthetic and growth responses of *Camelina sativa* (L.) Crantz to varying nitrogen and soil water status.", Photosynthetica, 49(2), pp. 316-320. doi : 10.1007/s11099-011-0035-x

Pan, X., Lada, R.R., Caldwell, C.D., and Falk, K.C. (2011). "Water-stress and N-nutrition effects on photosynthesis and growth of *Brassica carinata*.", Photosynthetica, 49(2), pp. 309-315. doi : 10.1007/s11099-011-0031-1

## Other Science Related Publications:

### 2015

Chu, M.G., Yu, F.Q., Falk, K.C., Gossen, B.D., Parkin, I.A.P., Zhou, R., Vail, S.L., and Peng, G. (2015). "Using a genome-wide SNP array to facilitate the introgression of clubroot resistance from diploid *Brassica rapa* into amphidiploid *B. napus* canola.", International Rapeseed Congress, Saskatoon, Canada, July 2015.

Zhang, Y., Chu, M.G., Falk, K.C., Vail, S.L., Gossen, B.D., Parkin, I.A.P., Strelkov, S.E., Hwang, S.F., Peng, G., and Yu, F.Q. (2015). "Introgression of clubroot resistance gene Rcr1 from *Brassica rapa* into *B. napus*.", International Rapeseed Congress, Saskatoon, Canada, July 2015.

Huang, Z., Chu, M.G., Falk, K.C., Gossen, B.D., Parkin, I.A.P., Peng, G., and Yu, F.Q. (2015). "Resynthesizing *Brassica* amphidiploids for resistance to clubroot.", International Rapeseed Congress, Saskatoon, Canada, July 2015.

Yu, F.Q., Zhang, X.D., Huang, Z., Song, T., Chu, M.G., Falk, K.C., Gossen, B.D., Deora, A.D., McDonald, M.R., and Peng, G. (2015). "SNP markers for clubroot resistance gene CR01 based on RNA sequencing.", Canadian Journal of Plant Pathology, 37. (Abstract)

### 2014

Yu, F.Q., Peng, G., and Falk, K.C. (2014). "Gene specific SNP markers with Rcr1 were distributed to Crop Production Services CANADA Inc. and AAFC canola breeder in 2014." (Technology transfer)

Séguin-Swartz, G.T., Beckie, H.J., Warwick, S.I., Roslinsky, V., Nettleton, J.A., Johnson, E.N., and Falk, K.C. (2014). "Pollen-mediated gene flow between glyphosate-resistant *Brassica napus* canola and *B. juncea* and *B. carinata* mustard crops under large-scale field conditions in Saskatchewan.", 2014 WSSA/CWSS Annual Meeting, Vancouver, B.C., Canada, February 3-6, 2014. (Abstract)

Zhang, X., Huang, Z., Song, T., Chu, M.G., Falk, K.C., Gossen, B.D., Deora, A.D., McDonald, M.R., Peng, G., and Yu, F.Q. (2014). "Discovery of SNP markers tightly linked to clubroot resistance gene *Rpb1* through RNA-seq.", 11th Conference of the European Foundation for Plant Pathology, Cracow, Poland, September 8-13, 2014, Clubroot workshop.

Yu, F.Q., Peng, G., Falk, K.C., Chu, M.G., Huang, Z., Song, T., Liu, X., Zhang, X., and Chang, A. (2014). "Identification and genetic mapping of clubroot resistance genes in *Brassica* species for introgression of resistance into canola.", 19th Crucifer Genetics Workshop and *Brassica*, Wuhan, China, March 2014, Oral presentation.

Yu, F.Q., Zhang, X., Huang, Z., Song, T., Chu, M.G., Falk, K.C., Gossen, B.D., Deora, A.D., McDonald, M.R., and Peng, G. (2014). "SNP markers for clubroot resistance gene *Rcr1* based on RNA sequencing.", 35th Annual PPSA Meeting, Canmore, Alberta, Canada, October, 2014.

## 2013

Eynck, C., Shrestha, D., Vollmann, J., Falk, K.C., and Friedt, W. (2013). "Sustainable oil crops production.", in Singh, B.P. (ed.) - *Biofuel Crop Sustainability*, CABI Publishing, Wallingford, UK, Chapter 5, pp. 165-204.

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2013). "Assessment of crop rotation, resistance and *Bacillus subtilis* for management of clubroot on canola.", *Canadian Journal of Plant Pathology*, 35, pp. 112. (Abstract)

Peng, G., Pageau, D., Strelkov, S.E., Lahlali, R.L., Gossen, B.D., Anderson, K., Hwang, S.F., McDonald, M.R., Yu, F.Q., Falk, K.C., Turkington, T.K., Hynes, R.K., Boyetchko, S.M., and McGregor, L. (2013). "Management of clubroot disease on canola with crop rotation combined with host resistance or biofungicide seed dressing.", *Canadian Journal of Plant Pathology*, 35, pp. 519. (Abstract)

## 2012

Yu, F.Q., Falk, K.C., and Peng, G. (2012). "Genetic Control of Clubroot Disease at AAFC, Saskatoon.", Clubroot Summit 2012, Edmonton, AB, Canada, March 6, 2012. (Presentation)

Johnson, E.N., Falk, K.C., and Cote, J. (2012). "Opportunities for Ethiopian Mustard.", Western Canadian Crop Production Show 2012, Saskatoon, SK, Canada, January 9, 2012. (Poster)

Peng, G., Lahlali, R.L., Pageau, D., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2012). "Assessment of crop rotation and host resistance in combination with *Bacillus subtilis* for management of clubroot on canola.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: *Canadian Journal of Plant Pathology*, 35(1), pp. 122.

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2012). "Crop rotation, cultivar resistance, and biofungicide seed dressing for clubroot control on canola.", 6th International Symposium on *Brassica* and 18th Crucifer Genetics Workshop, Catania, Sicily, Italy, November 12-16, 2012.

Yu, F.Q., Peng, G., Falk, K.C., Chu, M.G., Liu, X., Zhang, X., and Chang, A. (2012). "Mapping and cloning of clubroot resistance genes in *Brassica* species.", Joint Meeting of CPS Saskatchewan Group and Plant Pathological Society of Alberta, Canada, November, 2012, (Presentation).

Chu, M.G., Yu, F.Q., Falk, K.C., Liu, X., Zhang, X., Chang, A., and Peng, G. (2012). "Identification and mapping of a novel clubroot-resistance gene *Rpb1* in *Brassica rapa*.", Joint Meeting of CPS Saskatchewan Group and Plant Pathological Society of Alberta, Canada, November, 2012. (Poster)

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., and McGregor, L. (2012). "Control of clubroot on canola with crop rotation in combination with biofungicide seed dressing and varietal resistance.", Joint Meeting of CPS Saskatchewan Group and Plant Pathological Society of Alberta, Canada, November, 2012, (Presentation).

Yu, F.Q., Chu, M.G., Falk, K.C., and Peng, G. (2012). "Identification and mapping of clubroot resistance genes in *Brassica* species.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: *Can. J. Plant Pathol.* (2013), 35(1), pp. 116.

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2012). "Assessment of crop rotation, resistance and *Bacillus subtilis* for management of clubroot on canola.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: *Can. J. Plant Pathol.* (2013) 35(1), pp. 112.

Li, X., Gruber, M.Y., Falk, K.C., and Westcott, N.D. (2012). "Phytoremediation capacity of brown-seeded and yellow-seeded *Brassica carinata*.", in Anjum, N.A., Pereira, M.E., Ahmad, I., Duarte, A.C., Umar S., and Khan, N.A. (eds.)- *Phytotechnologies: Remediation of Environmental Contaminants*, CRC Press Taylor & Francis.

2011

Peng, G., Falk, K.C., James, B., and Gugel, R.K. (2011). "Evaluation of Brassica germplasm for resistance to clubroot.", 31st Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, October 12-14, 2010. (Poster)

Beckie, H.J., Warwick, S.I., Johnson, E.N., and Falk, K.C. (2011). "Gene flow between canola and mustard in Saskatchewan, Canada.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 58. (Poster)

Peng, G., Falk, K.C., Yu, F.Q., and Gossen, B.D. (2011). "Identification of new clubroot-resistance sources and development of clubroot resistance canola germplasm.", Clubroot Summit 2011, Saskatoon, SK, Canada, March 9, 2011.

Peng, G., Falk, K.C., James, B., and Gugel, R.K. (2011). "Evaluation of Brassica germplasm for resistance to clubroot of canola.", *Canadian Journal of Plant Pathology*, 33(2), pp. 261. (Abstract)

Hugh, J.B., Harker, K.N., Légère, A., Morrison, M.J., Séguin-Swartz, G.T., and Falk, K.C. (2011). "GM Canola: The Canadian Experience.", *Farm Policy Journal*, 8(1), pp. 43-49.

Klein-Gebbinck, H.W., Turkington, T.K., Olfert, O.O., Weiss, R.M., Kriticos, D.J., Kutcher, H.R., Falk, K.C., and Strelkov, S.E. (2011). "Projected distribution and severity of clubroot of canola in the Canadian prairies under incremental temperature and precipitation, and potential climate change scenarios.", *Climate Change and the Implications for Plant Science: The science, the impacts, and the options*, University of Guelph, Guelph, ON, Canada, June 7-9, 2011.

Roslinsky, V. and Falk, K.C. (2011). "Analysis of FAD2B alleles in interspecific derived *Brassica juncea* and *Brassica carinata*.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, pp. 234.

Roslinsky, V. and Falk, K.C. (2011). "The development of molecular markers for the *Ogura* hybridization system in *Brassica* species.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, pp. 233.

Johnson, E.N., Falk, K.C., and Ramsey, S. (2011). "Oilseeds of the future.", Crop Production Show, Saskatoon, SK, Canada, January 10, 2011. (Poster)

Turkington, T.K., Klein-Gebbinck, H.W., Olfert, O.O., Weiss, L.M., Kriticos, D.J., Kutcher, H.R., Falk, K.C., and Strelkov, S.E. (2011). "Projected distribution and severity of clubroot of canola in the Canadian prairies.", *Phytopathology*, 101(6), pp. S179. (Abstract)

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## Research Publications:

2015

Fomey, C.F., Bezanson, G.S., Ellis, T.C., Fan, L., and LeBlanc, D.I. (2015). "Impact of heat sanitation of fresh whole cantaloupe on fruit quality and volatile metabolism.", *Acta Horticulturae (ISHS)*, 1079, pp. 145-151.

Fan, L., Truelstrup Hansen, L., Sharpe, D., Chen, S., and Zhang, H. (2015). "Role of lactic acid bacteria in the fermentation and biopreservation of plant based foods.", in Hui, Y.H. and Özgül Evranuz, E. (eds.) - *Handbook of Vegetable Preservation and Processing* (second edition), CRC Press, pp. 779-796.

2013

DeLong, J.M., Hodges, D.M., Prange, R.K., Fomey, C.F., Fan, L., Bishop, M.C., Elliot, M.L., Jordan, M.A., and Doucette, C. (2013). "The influence of cold water storage on fatty acids, antioxidant content and activity, and microbial load in ostrich fern (*Matteuccia struthiopteris*) fiddleheads.", *Canadian Journal of Plant Science*, 93(4), pp. 683-697. doi : 10.4141/cjps2012-165

Chen, S., Fan, L., Song, J., Liu, C., and Zhang, H. (2013). "Identification of irradiated meats by determining o- and m-tyrosine as markers.", *Meat Science*, 93(2), pp. 226-232. doi: 10.1016/j.meatsci.2012.08.022

Cliff, M.A., Fan, L., Sanford, K.A., Stanich, K., Doucette, C., and Raymond, N. (2013). "Descriptive analysis and early-stage consumer acceptance of yogurts fermented with carrot juice.", *Journal of Dairy Science (JDS)*, 96(7), pp. 4160-4172. doi : 10.3168/jds.2012-6287

Fan, L. and Song, J. (2013). "Antimicrobial microbes-bacteriocin producing lactic acid bacteria.", in Méndez-Vilas, A. (ed.) - *Microbial pathogens and strategies for combating them: science, technology and education*, CRC Press, pp. 899-909.

Sharpe, D., Fan, L., Hansen, L.T., Doucette, C., Waddington, L.M., and Fillmore, S.A.E. (2013). "Antimicrobial activity of bacteriocin-like substances producing lactic acid bacteria, isolated from commercial vegetable produce.", *Journal of Antimicrobials*, 128, pp. 257-268.

2012

Fan, L., Roux, V., Dubé, C., Charlebois, D., Tao, S., and Khanizadeh, S. (2012). "Effect of mulching system on fruit quality and phytochemical composition of newly developed strawberry lines.", *Agricultural and Food Science*, 21(2), pp. 132-140.

Yang, E., Fan, L., Jiang, Y.M., and Doucette, C. (2012). "Antimicrobial activity of bacteriocin-producing lactic acid bacteria isolated from cheeses and yogurts.", *AMB Express*, 2(Article No. 48). doi : 10.1186/2191-0855-2-48

Yang, E., Fan, L., Jiang, Y.M., Doucette, C., and Fillmore, S.A.E. (2012). "Antimicrobial activity of bacteriocin-producing lactic acid bacteria isolated from cheeses and yogurts.", *AMB Express*, 2(48), pp. 12 pages. doi : 10.1186/2191-0855-2-48

Fomey, C.F., Jordan, M.A., Fan, L., Doucette, C., and Grant, R. (2012). "Influence of Packaging on Loss of Aroma and Quality of Diced Red Onions.", *Acta Horticulturae (ISHS)*, 934, pp. 523-530.

2011

Yang, E., Fan, L., Jiang, Y.M., Doucette, C., and Fillmore, S.A.E. (2011). "Antimicrobial Effects of a Commercial Fermentation Product on Fresh-Cut Onions.", *Journal of Food Protection*, 74(3), pp. 470-474. doi : 10.4315/0362-028X.JFP-10-194

Fan, L., Song, J., Fomey, C.F., and Jordan, M.A. (2011). "Fruit maturity affects the response of apples to heat stress.", *Postharvest Biology and Technology*, 62(1), pp. 35-42. doi : 10.1016/j.postharvbio.2011.04.007

## Other Science Related Publications:

## 2015

- Fan, L., Chen, S., Doucette, C., Hughes, T., Song, J., Kalt, W., Zhang, H., and Fillmore, S.A.E. (2015). "Characterization of Heat-resistant Fungus, *Neosartorya pseudofischeri* Subjected to Heat Treatments.", IAFP Conference 2015, Published abstract. (Poster)
- Fan, L., Doucette, C., and Hughes, T. (2015). "Development of innovative food products by using cavitation technology to address quality and safety aspects.", Food Cluster project workshop. (Presentation)
- Ban, Z., Fan, L., Doucette, C., Hughes, T., Fillmore, S.A.E., Guan, J., and Li, J. (2015). "Antimicrobial Effect of Pomegranate Juice on *Listeria innocua* and *Escherichia coli* in Different Culture Systems.", IAFP Conference 2015. (Poster)
- Chen, S., Fan, L., Song, J., Zhang, H., Doucette, C., Hughes, T., and Fillmore, S.A.E. (2015). "Antilisterial effect of bacteriocinogenic lactic acid bacteria in vegetable or fruit juice medium.", United Fresh 2015, Chicago, IL, USA, June 9-11, 2015. (Poster)
- Ban, Z., Fan, L., Doucette, C., Hughes, T., Fillmore, S.A.E., and Guan, J. (2015). "Antimicrobial effect of pomegranate juice on *Listeria innocua* and *Escherichia coli*.", United Fresh 2015, Chicago, IL, USA, June 9-11, 2015. (Poster)
- Fan, L. and Fomey, C.F. (2015). Quality and Safety in Fresh-cut Vegetables and Fruits. Presentation and Report to the S-294 committee meeting. The Multi-state Research Project S-294. (Report)
- Fan, L., Chen, S., Doucette, C., Hughes, T., Song, J., Kalt, W., Zhang, H., and Fillmore, S.A.E. (2015). "Characterization of Heat-resistant Fungi-Food Safety and Quality Aspects.", Ag. Connect 2015 Summit. (Poster)
- Fan, L. and Kalt, W. (2015). "Antimicrobial effects of haskap berry polyphenolics.", Haskap Berry Research Meeting. (Presentation)
- Bach, S.J., Fan, L., Fomey, C.F., and Delaquis, P.J. (2015). "Quality and Safety in Fresh-cut Vegetables and Fruits. United Fresh Produce Association Food Safety and Technology Council.", United Fresh 2015, Chicago, IL, USA, June 9-11, 2015, Oral presentation and handout information on AAFC's research activities.

## 2014

- Song, J., Fan, L., Li, L., Hughes, T., Palmer, C., and Li, X.H. (2014). "Quantitative proteomic investigation on effect of 1-methylcyclopropene treatments on postharvest quality of selected cut flowers.", 29th International Horticultural Congress, Brisbane, Queensland, Australia, August 17-24, 2014, Conference presentation and abstract.
- Fan, L., Hughes, T., Ban, Z., Bezanson, G.S., Fomey, C.F., Eills, T.C., LeBlanc, D.I., Guan, J., and Li, J.B. (2014). "Investigation of vapor heat treatment on microbial control and quality of cantaloupes.", United Fresh 2014. (Poster)
- Fomey, C.F., Bezanson, G.S., Eills, T.C., Fan, L., and LeBlanc, D.I. (2014). "Impact of heat sanitation of fresh whole cantaloupe on fruit quality and volatile metabolism.", The 5th Postharvest Unlimited Conference, Conference presentation and abstract.
- Chen, S., Fan, L., Song, J., Zhang, H., Doucette, C., Hughes, T., and Campbell, L. (2014). "Quantitative proteomic investigation employing stable isotope labeling by peptide dimethylation on protein changes of *Lactococcus lactis*.", 11th International Symposium on LAB, Egmond aan Zee, The Netherlands, August 31-September 4, 2014, Conference presentation and published abstract.
- Chen, S., Fan, L., Song, J., Zhang, H., Doucette, C., and Fillmore, S.A.E. (2014). "Inhibitory effect of bacteriocinogenic lactic acid bacteria on *Listeria innocua* inoculated in simulated medium of vegetable or fruit juice.", 11th International Symposium on LAB, Conference presentation and published abstract.
- Ban, Z., Fan, L., Doucette, C., Hughes, T., Fillmore, S.A.E., Guan, J., and Li, J. (2014). "Antimicrobial effect of cranberry juice on *L. innocua* and *E. coli* in different medium.", United Fresh 2014, Chicago, IL, USA, June 10-14, 2014. (Poster)
- Fomey, C.F., Bezanson, G.S., Eills, T.C., Fan, L., and LeBlanc, D.I. (2014). "Impact of heat sanitation of fresh whole cantaloupe on fruit quality and volatile metabolism.", United Fresh 2014, Chicago, IL, USA, June 10-14, 2014. (Poster)

## 2013

- Fan, L., Song, J., Li, L., Hughes, T., Campbell-Palmer, L., and Li, X.H. (2013). "Postharvest Treatments to Maintain Quality and Control Diseases of Cut Flowers.", ASHS Annual Conference 2013, Palm Spring, California, USA, July 22-25, 2013.
- Fan, L., Kalt, W., Doucette, C., Hughes, T., Song, J., Chen, S., Zhang, H., and Fillmore, S.A.E. (2013). "Characterization of heat-resistant fungus, *Byssochlamys striata* inoculated in blueberry juice and subjected to heat treatments.", IAFP annual conference 2014, Charlotte, NC, USA, July 28-August 1, 2013. (Poster)
- Fan, L., Kalt, W., Doucette, C., Hughes, T., Song, J., Chen, S., Zhang, H., and Fillmore, S.A.E. (2013). "Challenge test on heat-resistant fungus, *Byssochlamys striata* inoculated in blueberry juice and subjected to heat treatments.", IAFP annual conference 2014, Charlotte, NC, USA, July 28-August 1, 2013. (Poster)

Fan, L., Song, J., Hughes, T., Doucette, C., Campbell-Palmer, L., and Fillmore, S.A.E. (2013). "Effects of electrolyzed water and 1-methylcyclopropene (1-MCP) on postharvest quality of selected cut flowers.", United Fresh 2013, San Diego Convention Center, San Diego, CA, USA, May 14-16, 2013.

## 2012

Fan, L., Song, J., Hughes, T., Doucette, C., and Campbell-Palmer, L. (2012). "Effect of 1-methylcyclopropene (1-MCP) and antimicrobial agent treatments on postharvest quality of selected cut flowers.", 109th Annual Conference of the American Society for Horticultural Science (ASHS), InterContinental Miami Hotel, Miami, FL, USA, July 31 -August 3, 2012, Published in: *HortScience* 47(9), S354. (Abstract)

Fan, L., Yang, E., Song, J., Jiang, Y.M., Doucette, C., and Fillmore, S.A.E. (2012). "Optimizing growth condition for bacteriocinogenic lactic acid bacteria and bacteriocins production.", How bugs kill bugs: progress and challenges in bacteriocin research, University of Nottingham, Nottingham, UK, July 16-18, 2012. (Poster)

Fan, L., Song, J., Hughes, T., Doucette, C., and Campbell-Palmer, L. (2012). "Application of chlorophyll fluorescence (CF) technology to monitor postharvest quality of cut flowers during storage and after 1-MCP treatment", 7th International Postharvest Symposium (IPS 2012), Putra World Trade Centre, Kuala Lumpur, Malaysia, June 25-29, 2012.

Fomey, C.F., Fan, L., Song, J., and Jordan, M.A. (2012). "Impact of Heat Treatments on the Volatile Composition of Apples.", United Fresh 2012, Dallas Convention Center, Dallas, TX, USA, May 1-23, 2012. (Poster)

Fomey, C.F., Bezanson, G.S., Fan, L., Ellis, T.C., and LeBlanc, D.I. (2012). "Development of the Low Temperature Thermal Treatment (LT3) Process to Sanitize Fresh-cut Cantaloupe.", United Fresh 2012, Dallas Convention Center, Dallas, TX, USA, May 1-23, 2012. (Poster)

Fan, L. and Truelstrup-Hansen, L. (2012). "Fermentation and biopreservation of plant-based foods with lactic acid bacteria.", in Hui, Y.H. and Özgül Evranuz, E. (eds.) - Handbook of Plant-Based Fermented Food and Beverage Technology. 2nd Edition, CRC Press, pp. 35-48.

Song, J. and Fan, L. (2012). "Post-harvest treatments (1-MCP and antimicrobials) to maintain quality and control diseases of fresh-cut flowers.", Research and Innovation Forum, Canadian Ornamental Science Cluster, Mississauga, ON, Canada, December 5, 2012. (Presentation)

Fan, L., DeLong, J.M., Doucette, C., Hughes, T., and Bishop, M.C. (2012). "Effect of heat treatment on microbial quality of fiddleheads.", United Fresh 2012, Dallas Convention Center, Dallas, TX, USA, May 1-23, 2012. (Poster)

Fan, L., Sharpe, D., Yang, E., Doucette, C., Song, J., Truelstrup-Hansen, L., and Fillmore, S.A.E. (2012). "Antimicrobial effects of bacteriocins producing lactic acid bacteria isolated from plant origin.", How bugs kill bugs: progress and challenges in bacteriocin research, University of Nottingham, Nottingham, UK, July 16-18, 2012. (Poster)

Fan, L., Yang, E., Jiang, Y.M., Doucette, C., and Fillmore, S.A.E. (2012). "Optimizing growth conditions for lactic acid bacteria and bacteriocin activity.", United Fresh 2012, Dallas Convention Center, Dallas, TX, USA, May 1-23, 2012, P046. (Poster)

## 2011

Fomey, C.F., Grant, R., Fan, L., Doucette, C., and Jordan, M.A. (2011). "Market Life of Diced Red Onion Subjected to Modified Atmosphere Packaging and Antimicrobial Dips.", 2nd ISHS International Conference on Quality Management of Fresh Cut Produce: Convenience Food for a Tasteful Life, Università degli Studi di Torino, Torino, Italy, July 17-21, 2011, pp. 31. (Abstract)

Fomey, C.F., Fan, L., Song, J., and Jordan, M.A. (2011). "Heat stress and fruit maturity affects the volatile composition of apples during storage.", 108th Annual Conference of the American Society for Horticultural Science (ASHS), Hilton, Waikoloa, HI, USA, September 25-28, 2011, Published in: *HortScience*, 46(9), pp.S271, #222. (Poster)

Grant, R., Fomey, C.F., Fan, L., Doucette, C., and Jordan, M.A. (2011). "Impact of modified atmosphere packaging and antimicrobial dips on the market life of diced red onion.", United Fresh 2011, New Orleans, LA, USA, May 2-5, 2011. (Poster)

Fan, L., Sharpe, D., Yang, E., Doucette, C., Song, J., Truelstrup-Hansen, L., and Fillmore, S.A.E. (2011). "Antimicrobial effects of bacteriocins producing lactic acid bacteria isolated from plant origin.", 108th Annual Conference of the American Society for Horticultural Science (ASHS), Hilton, Waikoloa, HI, USA, September 25-28, 2011, P049.

Fan, L., Yang, E., Doucette, C., Song, J., Jiang, Y., Fillmore, S.A.E., and Walker, B.A. (2011). "Antimicrobial effect of commercial fermentation product and edible coating on fresh-cut squashes.", 108th Annual Conference of the American Society for Horticultural Science (ASHS), Hilton, Waikoloa, HI, USA, September 25-28, 2011, Published in: *HortScience* 46(9), S341. (Abstract)

Fan, L. (2011). "Antimicrobial activities and applications of bacteriocins producing lactic acid bacteria. Invited speaker.", 9th International Conference of Food Science and Technology (ICFST), Hangzhou, China, May 27-29, 2011. (Presentation)

Fan, L., Yang, E., Doucette, C., Jiang, Y.M., and Fillmore, S.A.E. (2011). "Antimicrobial effect of nature seal and commercial fermented product on fresh-cut squashes.", United Fresh 2011, New Orleans, LA, USA, May 2-5, 2011. (Poster)

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## Research Publications:

2016

Devillers, N., Giraud, D., and Farmer, C. (2016). "Neonatal piglets are able to differentiate more productive from less productive teats.", *Applied Animal Behaviour Science*, 174, pp. 24-31. doi: 10.1016/j.applanim.2015.11.018

2015

Quesnel, H., Gondret, F., Merlot, E., and Farmer, C. (2015). "Influences maternelles sur la consommation de colostrum et la survie néonatale du porcelet.", *INRA Productions Animales*, 28(4), pp. 295-304.

Perruchot, M.H., Lefaucheur, L., Louveau, I., Mobuchon, L., Palin, M.-F., Farmer, C., and Gondret, F. (2015). "Delayed muscle development in small pig fetuses around birth cannot be rectified by maternal early feed restriction and subsequent overfeeding during gestation.", *Animal*, 9(12), pp. 1996-2005. doi: 10.1017/S1751731115001202

Loisel, F., Farmer, C., van Hees, H., and Quesnel, H. (2015). "Relative prolactin-to-progesterone concentrations around farrowing influence colostrum yield in primiparous sows.", *Domestic Animal Endocrinology*, 53, pp. 35-41. doi: 10.1016/j.domaniend.2015.04.005

Farmer, C., Palin, M.-F., Lösel, D., Rehfeldt, C., and Kalbe, C. (2015). "Impact of diet deprivation and subsequent over-allowance of gestating sows on mammary gland and skeletal muscle development of their offspring at puberty.", *Livestock Science*, 175, pp. 113-120. doi: 10.1016/j.livsci.2015.02.006

Quesnel, H., Farmer, C., and Theil, P.K. (2015). "Colostrum and milk production.", in Farmer, C. (ed.) - *The gestating and lactating sow*, Wageningen Academic Publishers, The Netherlands, Chapter 8, pp. 173-192.

Farmer, C., Trottier, N.L., and Doumad, J.Y. (2015). "Mammary blood flow and nutrient uptake.", in Farmer, C. (ed.) - *The gestating and lactating sow*, Wageningen Academic Publishers, The Netherlands, Chapter 14, pp. 319-334.

Farmer, C. and Hurley, W.L. (2015). "Mammary development.", in Farmer, C. (ed.) - *The gestating and lactating sow*, Wageningen Academic Publishers, The Netherlands, Chapter 4, pp. 73-94.

2014

de Ridder, K.A.G., Farmer, C., de Lange, C.F.M., Shoveller, A.K., and Luimes, P.H. (2014). "Plasma amino acids, prolactin, insulin and glucose concentrations in lactating sows following venous infusion of isoleucine, leucine, lysine, threonine or valine.", *Canadian Journal of Animal Science*, 94(2), pp. 323-330. doi: 10.4141/cjas2013-149

Farmer, C., Lapointe, J., and Palin, M.-F. (2014). "Effects of the plant extract silymarin on prolactin concentrations mammary gland development, and oxidative stress in gestating gilts.", *Journal of Animal Science*, 92(7), pp. 2922-2930. doi: 10.2527/jas.2013-7118

Phillips, C.E., Farmer, C., Anderson, J.E., Johnston, L.J., Shurson, G.C., Deen, J., Keisler, D.H., Conner, A.M., and Li, Y.Z. (2014). "Prewaning mortality in group-housed lactating sows: Hormonal differences between high risk and low risk sows.", *Journal of Animal Science*, 92(6), pp. 2603-2611. doi: 10.2527/jas.2014-7624

Farmer, C., Palin, M.-F., and Martel-Kennes, Y. (2014). "Impact of diet deprivation and subsequent over-allowance during gestation on mammary gland development and lactation performance.", *Journal of Animal Science*, 92(1), pp. 141-151. doi: 10.2527/jas.2013-6558

Loisel, F., Farmer, C., Ramaekers, P., and Quesnel, H. (2014). "Colostrum yield and piglet growth during lactation are related to gilt metabolic and hepatic status prepartum.", *Journal of Animal Science*, 92(7), pp. 2931-2941. doi: 10.2527/jas.2013-7472

Yun, J., Swan, K.M., Farmer, C., Oliviero, C., Peltoniemi, O., and Valros, A. (2014). "Prepartum nest-building has an impact on postpartum nursing performance and maternal behaviour in early lactating sows.", *Applied Animal Behaviour Science*, 160, pp. 31-37. doi: 10.1016/j.applanim.2014.08.011

Bovey, K., Widowski, T.M., Dewey, C., Devillers, N., Farmer, C., Lessard, M., and Torrey, S. (2014). "The effect of birth weight and age on the behavioral and physiological responses of piglets to tail docking and ear notching.", *Journal of Animal Science*, 92(4), pp. 1718-1727. doi: 10.2527/jas.2013-7063



## 2013

Loisel, F., Quesnel, H., and Farmer, C. (2013). "Effect of silymarin (*Silybum marianum*) treatment on prolactin concentrations in cyclic sows. Short Communication.", *Canadian Journal of Animal Science*, 93(2), pp. 227-230. doi : 10.4141/cjas2012-024

Farmer, C. (2013). "Review: Mammary development in swine: effects of hormonal status, nutrition and management.", *Canadian Journal of Animal Science*, 93(1), pp. 1-7. doi : 10.4141/CJAS2012-066

Farmer, C., Robertson, P., and Gilani, G.S. (2013). "Effects of dose and route of administration of genistein on isoflavone concentrations in post-weaned and gestating sows.", *Animal*, 7(6), pp. 983-989. doi : 10.1017/S1751731113000037

Quesnel, H., Ramaekers, P., van Hees, H., and Farmer, C. (2013). "Relations between peripartum concentrations of prolactin and progesterone in sows and piglet growth in early lactation.", *Canadian Journal of Animal Science*, 93(1), pp. 109-112. doi : 10.4141/CJAS2012-106

Farmer, C. (2013). "Suckling effects in sows: importance for mammary development and productivity.", *Animal*, 7(12), pp. 1964-1968. doi : 10.1017/S1751731113001201

Quesnel, H., Gondret, F., Merlot, E., Loisel, F., and Farmer, C. (2013). "Sow influence on neonatal survival: a special focus on colostrum.", 9th International Conference on Pig Reprod, Olsztyn, Poland, June 9-12, 2013. In *Control of Pig Reproduction IX* (eds. H Rodriguez-Martinez, NM Soede, WL Flowers), Nottingham University Press, (review), pp. 117-128.

Yun, J., Swan, K-M., Vienola, K., Farmer, C., Oliviero, C., Peltoniemi, O., and Valros, A. (2013). "Nest-building in sows: effects of farrowing housing on hormonal modulation of maternal characteristics.", *Applied Animal Behaviour Science*, 148(1-2), pp. 77-84. doi : 10.1016/j.applanim.2013.07.010

Loisel, F., Farmer, C., Ramaekers, P., and Quesnel, H. (2013). "Effects of high fiber intake during late pregnancy on sow physiology, colostrum production and piglet performance.", *Journal of Animal Science*, 91(11), pp. 5269-5279. doi : 10.2527/jas.2013-6526

## 2012

Lessard, M., Beaudoin, F., Ménard, M., Lachance, M.-P., LaForest, J.-P., and Farmer, C. (2012). "Impact of a long photoperiod during lactation on immune status of piglets.", *Journal of Animal Science*, 90(10), pp. 3468-3476. doi : 10.2527/jas.2012-5191

Farmer, C., Palin, M.-F., Theil, P.K., Sørensen, M.T., and Devillers, N. (2012). "Milk production in sows from a teat in second parity is influenced by whether it was suckled in first parity.", *Journal of Animal Science*, 90(11), pp. 3743-3751. doi : 10.2527/jas.2012-5127

Farmer, C., Palin, M.-F., and Martel-Kennes, Y. (2012). "Impact of diet deprivation and subsequent over-allowance during prepuberty. Part 2. Effects on mammary gland development and lactation performance of sows.", *Journal of Animal Science*, 90(3), pp. 872-880. doi : 10.2527/jas.2011-4480

Farmer, C., Palin, M.-F., and Martel-Kennes, Y. (2012). "Impact of diet deprivation and subsequent over-allowance during prepuberty. Part 1. Effects on growth performance, metabolite status, and mammary gland development in gilts.", *Journal of Animal Science*, 90(3), pp. 863-871. doi : 10.2527/jas.2011-4131

Quesnel, H., Farmer, C., and Devillers, N. (2012). "Colostrum intake: Influence on piglet performance and factors of variation.", *Livestock Science*, 146(2-3), pp. 105-114. doi : 10.1016/j.livsci.2012.03.010

## 2011

Gilani, G.S., Farmer, C., Dyck, M., Robertson, P., Dahiy, J., Sepehr, E., Fan, L., Nicolidakis, H., Curran, I., and Cooke, G. M. (2011). "Distribution of Isoflavones in Samples of Serum, Liver and Mammary Glands of Rats or Pigs Fed Dietary Isoflavones.", *Annals of Nutrition & Metabolism*, 58(3), pp. 171-180. doi : 10.1159/000328771

Plante, P.A., LaForest, J.-P., and Farmer, C. (2011). "Effect of supplementing the diet of lactating sows with NuPro® on sow lactation performance and piglet growth.", *Canadian Journal of Animal Science*, 91(2), pp. 295-300. doi : 10.4141/CJAS2010-008

Foisnet, A., Farmer, C., David, C., and Quesnel, H. (2011). "Farrowing induction induces transient alterations in prolactin concentrations and colostrum composition in primiparous sows.", *Journal of Animal Science*, 89(10), pp. 3048-3059. doi : 10.2527/jas.2010-3507

## Other Science Related Publications:

## 2015

Farmer, C. (2015). "Altering prolactin concentrations in sows.", 8th ICFAE meeting, Billund, Denmark, pp. 30. (Abstract)

Farmer, C., Palin, M.-F., and Vignola, M. (2015). "Body condition of gilts at the end of gestation affects their mammary development.", *Journal of Animal Science*, 93(Suppl 3), pp. 218. (Abstract)

Farmer, C., Palin, M.-F., and Vignola, M. (2015). "Body condition of gilts at the end of gestation affects their mammary development.", ADSA-ASAS 2015 JAM (Joint Annual Meeting), Orlando, Florida, USA, July 12-16, 2-15, Invited Conference, pp. 101. (Abstract)

## 2014

Loisel, F., Farmer, C., van Hees, H., and Quesnel, H. (2014). "Prolactin and progesterone concentrations around farrowing influence sow colostrum yield.", 65th Annual Meeting of EAAP, Copenhagen, Denmark, pp. 357. (Abstract)

Farmer, C. (2014). "Lactation Success.", 14th London Swine Conference-Positioning for success, March 26-27, 2014, pp. 23-26.

Farmer, C. (2014). "Milk production and mammary development.", *Advances in Pork Production*, University of Alberta.

Farmer, C., Palin, M.-F., and Martel-Kennes, Y. (2014). "Compensatory feeding of gestating gilts does not affect mammary development of their offspring at puberty.", *Journal of Animal Science*, 92(E-Suppl. 2), pp. 204. (Abstract)

Devillers, N., Giraud, D., and Farmer, C. (2014). "Neonatal piglets can differentiate more productive from less productive teats.", 12th ISAE North American Regional Meeting, East Lansing, Michigan, USA, May 30-31, 2014, pp. 44. (Abstract)

## 2013

Daniels, K.M., Farmer, C., Jiménez-Flores, R., and Rijnkels, M. (2013). "LACTATION BIOLOGY SYMPOSIUM: The long-term impact of epigenetics and maternal influence on the neonate through milk-borne factors and nutrient status (Review).", *Journal of Animal Science*, 91(2), pp. 673-675.

Farmer, C. and Devillers, N. (2013). "Teat use or non-use in first lactation affects its milk yield in the next lactation.", *Western Hog Journal (WHJ)*, 34(3), pp. 34-36.

Farmer, C., Palin, M.-F., and Martel-Kennes, Y. (2013). "Compensatory feeding of gestating gilts: effects on mammary gland development and lactation.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, pp. 202.

Lapointe, J. and Farmer, C. (2013). "Dietary supplementation with the plant extract silymarin protects gestating gilts from oxidative stress-related damage without affecting mitochondrial antioxidant defenses.", 7th Congress of the International Society of Nutrigenetics/Nutrigenomics (ISNN), Quebec City Convention Centre, Quebec City, Canada, October 5-8, 2013.

Farmer, C. (2013). "Does teat use in first lactation affect its milk yield in second lactation?", 32nd Centralia Swine Research Update, Kirkton, Ontario, Canada, January 30, 2013, pp. I21-I22.

Loisel, F., Farmer, C., Ramaekers, P., and Quesnel, H. (2013). "Effects of high fiber intake in late gestating sows on colostrum production and piglet performance.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, pp. 203.

Farmer, C. (2013). "Factors affecting milk production and mammary development.", 32nd Centralia Swine Research Update, Kirkton, Ontario, Canada, January 30, 2013, pp. I11-I12.

## 2012

Martineau, G.-P., Farmer, C., and Peltoniemi, O. (2012). "Mammary System.", in Zimmerman, J.J., Karriker, L.A., Ramirez, A., Schwartz, K.J., Stevenson, G.W. (eds.) - *Disease of Swine*. 10th Edition, Wiley - Blackwell, Chapter 18, pp. 270-293.

Farmer, C. and Devillers, N. (2012). "Une tétine utilisée en première parité donnera plus de lait en deuxième parité!", *Porc Québec*, 23(4), pp. 26-30.

Farmer, C. (2012). "Suckling effects in sows: does teat use in first lactation affect its yield in second lactation?", 63rd Annual Meeting of EAAP, Bratislava, Slovakia.

## 2011

Phillips, C.E., Li, Y.Z., Johnston, L.J., Shurson, G.C., Deen, J., and Farmer, C. (2011). "Association of sow fear with prolactin and cortisol concentrations pre- and post-farrowing.", ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 11-14, 2011, Published in: *J. Anim. Sci.*, 89(E-Suppl. 1), pp. 12.

Farmer, C., Loisel, F., and Quesnel, H. (2011). "Use of an extract (Silymarin) from the plant *Silybum marianum* to increase circulating concentrations of prolactin in sows.", 7th International Congress on Farm Animal Endocrinology (ICFAE 2011), Bern, Switzerland, August 24-26, 2011, pp. 65-66.

Quesnel, H., Farmer, C., and Foisnet, A. (2011). "Relations between sow hormonal concentrations around parturition and immunoglobulin G concentrations in colostrum.", 7th International Congress on Farm Animal Endocrinology (ICFAE 2011), Bern, Switzerland, August 24-26, 2011, pp. 19.

Quesnel, H., Farmer, C., and Foisnet, A. (2011). "Relations between sow hormonal concentrations around parturition and colostrum yield.", 7th International Congress on Farm Animal Endocrinology (ICFAE 2011), Bern, Switzerland, August 24-26, 2011, pp. 69.

Farmer, C. (2011). "Factors affecting milk production and mammary development in swine.", 3rd European Symposium on Porcine Health Management (ESPHM), Dipoli Congress Center, Espoo, Finland, May 25-27, 2011, pp. 49-52.

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## Research Publications:

2015

Rocha, L.M., Dionne, A., Saucier, L., Nannoni, E., and Faucitano, L. (2015). "Hand-held lactate analyzer as a tool for the real-time measurement of physical fatigue before slaughter and pork quality prediction.", *Animal*, 9(4), pp. 707-714. doi : 10.1017/S1751731114002766

Mercier, J., Cinq-Mars, D., Berthiaume, R., Faucitano, L., and Girard, C.L. (2015). "Effects of dietary total non-structural carbohydrates and folic acid and vitamin B12 supplement on growth and meat quality of yearling steers in a forage-based beef production system.", *Canadian Journal of Animal Science*, 95(2), pp. 281-291. doi : 10.4141/CJAS-2014-123

Mercier, J., Berthiaume, R., Girard, C., Faucitano, L., and Cinq-Mars, D. (2015). "Effects of high or low total non-structural carbohydrate diets with or without a combined supplement of folic acid and vitamin B12 on growth performance, carcass and meat quality characteristics of yearling steers in a forage based beef production system.", *Canadian Journal of Animal Science*, 95, pp. 281-291.

Li, H.J., Gariépy, C., Jin, Y., Font-i-Furnols, M., Fortin, J., Rocha, L.M., and Faucitano, L. (2015). "Effects of ractopamine administration and castration method on muscle fibre characteristics and sensory quality of the longissimus muscle in two Piétrain genotypes.", *Meat Science*, 102, pp. 27-34. doi : 10.1016/j.meatsci.2014.10.027

2014

Correa, J.A., Gonyou, H.W., Torrey, S., Widowski, T.M., Bergeron, R., Crowe, T.G., LaForest, J.-P., and Faucitano, L. (2014). "Welfare of pigs being transported for long distance using a pot-belly trailer during winter and summer.", *Animals*, 4(2), pp. 200-213. doi : 10.3390/ani4020200

Scheeren, M.B., Gonyou, H.W., Brown, J.A., Weschenfelder, A.V., and Faucitano, L. (2014). "Effects of transport time and location within truck on skin bruises and meat quality of market weight pigs in two seasons.", *Canadian Journal of Animal Science*, 94(1), pp. 71-78. doi : 10.4141/cjas2013-136

Fox, J., Widowski, T.M., Torrey, S., Nannoni, E., Bergeron, R., Gonyou, H.W., Brown, J.A., Crowe, T.G., Mainau, E., and Faucitano, L. (2014). "Water sprinkling market pigs in a stationary trailer. 1. Effects on pig behaviour, gastrointestinal tract temperature and trailer micro-climate.", *Livestock Science*, 160(1), pp. 113-123. doi : 10.1016/j.livsci.2013.12.019

Nannoni, E., Widowski, T.M., Torrey, S., Fox, J., Rocha, L.M., Gonyou, H.W., Weschenfelder, A.V., Crowe, T.G., and Faucitano, L. (2014). "Water sprinkling market pigs in a stationary trailer. 2. Effects on selected exsanguination blood parameters and carcass and meat quality variation.", *Livestock Science*, 160(1), pp. 124-131. doi : 10.1016/j.livsci.2013.11.022

Weschenfelder, A.V., Maldague, X., Rocha, L.M., Schaefer, A.L., Saucier, L., and Faucitano, L. (2014). "The use of infrared thermography for pork quality prediction.", *Meat Science*, 96(1), pp. 120. doi : 10.1016/j.meatsci.2013.05.047 (Abstract)

2013

Weschenfelder, A.V., Torrey, S., Devillers, N., Crowe, T.G., Bassols, A., Saco, Y., Piñeiro, M., Saucier, L., and Faucitano, L. (2013). "Effects of trailer design on animal welfare parameters and carcass and meat quality of three Piétrain crosses being transported over a short distance.", *Livestock Science*, 157(1), pp. 234-244. doi : 10.1016/j.livsci.2013.07.004

Goumon, S., Brown, J.A., Faucitano, L., Bergeron, R., Crowe, T.G., Connor, M.L., and Gonyou, H.W. (2013). "Effect of rest duration on recovery from repeated exercise in near market-weight pigs.", *Journal of Animal Science*, 91(12), pp. 5859-5867. doi : 10.2527/jas.2012-6184

Goumon, S., Bergeron, R., Faucitano, L., Crowe, T.G., Connor, M.L., and Gonyou, H.W. (2013). "Effect of previous ramp exposure and regular handling on heart rate, ease of handling and behaviour of near market-weight pigs during a simulated loading.", *Canadian Journal of Animal Science*, 93(4), pp. 461-470. doi : 10.4141/CJAS2013-166

Weschenfelder, A.V., Saucier, L., Maldague, X., Rocha, L.M., Schaefer, A.L., and Faucitano, L. (2013). "Use of infrared ocular thermography to assess physiological conditions of pigs prior to slaughter and predict pork quality variation.", *Meat Science*, 95(3), pp. 616-620. doi : 10.1016/j.meatsci.2013.06.003

Goumon, S., Faucitano, L., Bergeron, R., Crowe, T.G., Connor, M.L., and Gonyou, H.W. (2013). "Effect of ramp configuration on easiness of handling, heart rate and behavior of near-market weight pigs at unloading.", *Journal of Animal Science*, 91(8), pp. 3889-3898. doi : 10.2527/jas.2012-6083

Rocha, L.M., Bridi, A.M., Foury, A., Mormède, P., Weschenfelder, A.V., Devillers, N., Bertoloni, W., and Faucitano, L. (2013). "Effects of ractopamine administration and castration method on the response to pre-slaughter stress and carcass and meat quality in pigs of two Piétrain genotypes.", *Journal of Animal Science*, 91(8), pp. 3965-3977. doi : 10.2527/jas.2012-6058

Correa, J.A., Gonyou, H.W., Torrey, S., Widowski, T.M., Crowe, T.G., LaForest, J.-P., and Faucitano, L. (2013). "Welfare and carcass and meat quality of pigs being transported for 2 hours using two vehicle types during two seasons of the year.", *Canadian Journal of Animal Science*, 93(1), pp. 43-55. doi : 10.4141/CJAS2012-088

Torrey, S., Bergeron, R., Faucitano, L., Widowski, T.M., Lewis, N., Crowe, T.G., Correa, J.A., Brown, J.A., Hayne, S., and Gonyou, H.W. (2013). "Transportation of market-weight pigs: II. Effect of season and location within truck on behavior with an eight-hour transport.", *Journal of Animal Science*, 91(6), pp. 2872-2878. doi : 10.2527/jas.2012-6006

Torrey, S., Bergeron, R., Widowski, T.M., Lewis, N., Crowe, T.G., Correa, J.A., Brown, J.A., Gonyou, H.W., and Faucitano, L. (2013). "Transportation of market-weight pigs: I. Effect of season, truck type, and location within truck on behavior with a two-hour transport.", *Journal of Animal Science*, 91(6), pp. 2863-2871. doi : 10.2527/jas.2012-6005

Goumon, S., Brown, J.A., Faucitano, L., Bergeron, R., Widowski, T.M., Crowe, T.G., and Gonyou, H.W. (2013). "Effects of transport duration on behavior, heart rate and gastrointestinal tract temperature of market weight pigs in 2 seasons.", *Journal of Animal Science*, 91(10), pp. 4925-4935. doi : 10.2527/jas.2012-6081

## 2012

Weschenfelder, A.V., Torrey, S., Devillers, N., Crowe, T.G., Bassols, A., Saco, Y., Piñeiro, M., Saucier, L., and Faucitano, L. (2012). "Effects of trailer design on animal welfare parameters and carcass and meat quality of three Pietrain crosses being transported over a long distance.", *Journal of Animal Science*, 90(9), pp. 3220-3231. doi : 10.2527/jas.2011-4676

Schwartzkopf-Genswein, K.S.G., Faucitano, L., Dadgar, S., Shand, P.J., González, L.A., and Crowe, T.G. (2012). "Road transport of cattle, swine and poultry in North America and its impact on animal welfare, carcass and meat quality: A review.", *Meat Science*, 92(3), pp. 227-243. doi : 10.1016/j.meatsci.2012.04.010

Faucitano, L. (2012). "Effects of water supplementation with tryptophan and vitamin B<sub>6</sub> or feeding hydrogenated fat on reducing hunger-induced drinking pre-slaughter in pigs.", *Canadian Journal of Animal Science*, 92(3), pp. 319-326. doi : 10.4141/cjas2012-008

## 2011

Faucitano, L., Berthiaume, R.R., D'Amours, M., Pellerin, D., and Ouellet, D.R. (2011). "Effects of corn grain particle size and treated soybean meal on carcass and meat quality characteristics of beef steers finished on a corn silage diet.", *Meat Science*, 88(4), pp. 750-754. doi : 10.1016/j.meatsci.2011.03.008

Brown, J.A., Samarakone, T.S., Crowe, T.G., Bergeron, R., Widowski, T.M., Correa, J.A., Faucitano, L., Torrey, S., and Gonyou, H.W. (2011). "Temperature and Humidity Conditions in Trucks Transporting Pigs in Two Seasons in Eastern and Western Canada.", *Transactions of the ASABE*, 54(6), pp. 2311-2318.

## Other Science Related Publications:

### 2015

Rocha, L.M., Zagabe, F.K., de Castro, A., Faucitano, L., and Saucier, L. (2015). "Influence of exudate composition on the spoilage of various pork quality classes.", 61st International Congress of Meat Science and Technology, Clermont-Ferrand, France, August 23-28, 2015.

Dalla Costa, F.A., Devillers, N., Paranhos da Costa, M.J.R., and Faucitano, L. (2015). "Influence of pre-slaughter feed withdrawal time applied at the farm or at abattoir on behaviour and meat quality in pigs.", 61st International Congress of Meat Science and Technology, Clermont-Ferrand, France, August 23-28, 2015.

Dalla Costa, F.A., Faucitano, L., Paranhos da Costa, M.J.R., and Dalla Costa, O.A. (2015). "Easiness of handling, physiological response, skin lesions and meat quality in pigs transported with two truck types.", XXIV Congreso de la Asociación Latinoamericana de Producción Animal, Puerto Varas, Chile, November 9-13, 2015.

dalla Costa, F.A., Faucitano, L., Paranhosda Costa, M.J.R., and Dalla Costa, O.A. (2015). "Truck suspension system: impacts on pig's welfare, carcass and pork quality.", XXIV Congreso de la Asociación Latinoamericana de Producción Animal, Puerto Varas, Chile, November 9-13, 2015.

Gil, M., Faucitano, L., Talbot, G., Devillers, N., and Saucier, L. (2015). "Influence of preslaughter feed withdrawal time applied at the abattoir on carcass microbial quality.", *Meat Science*, 99, pp. 143. doi : 10.1016/j.meatsci.2014.07.016 (Abstract)

Gil, M., Faucitano, L., Talbot, G., Devillers, N., Guay, F., and Saucier, L. (2015). "Pre-slaughter strategies to improve pork carcass microbial quality.", *Meat Science*, 99, pp. 153. doi : 10.1016/j.meatsci.2014.07.006 (Abstract)

Rocha, L.M., Saucier, L., Maldague, X., Fleuret, J., and Faucitano, L. (2015). "Identification of the anatomical location on the pig body ensuring the most efficient use of infrared thermography for the assessment of body temperature variation in response to physical stress.", *Canadian Journal of Animal Science*. (Abstract)

## 2014

Rocha, L.M., Velarde, A., Dalmau, A., Saucier, L., and Faucitano, L. (2014). "Effect of the farm system on the behavioral response preslaughter and on meat quality variation in pigs.", *Journal of Animal Science*, 92(Suppl.1), pp. 5. (Abstract)

Martelli, G., Faucitano, L., Grandi, M., Nannoni, E., and Zaghini, G. (2014). Gli animali nel sentire comune dei cittadini. Report submitted to the Commission on Ethics and Deontology in Animal Science of the Italian Association for Animal Production (ASPA), p. 21. (Report)

Gil, M., Faucitano, L., Talbot, G., Devillers, N., and Saucier, L. (2014). "Influence of preslaughter feed withdrawal applied either at the farm or at the abattoir on carcass microbial quality.", Canadian Meat Council's 94th Annual Conference, Toronto, ON, Canada, May 7-9, 2014.

Rocha, L.M., Velarde, A., Dalmau, A., Saucier, L., and Faucitano, L. (2014). "Can animal welfare assessment at the farm be a good tool to control pork quality variation?", *Journal of Animal Science*, 92(Suppl.1), pp. 24. (Abstract)

Saucier, L., Faucitano, L., Devillers, N., Talbot, G., and Guay, F. (2014). Des stratégies pour l'amélioration de la qualité de la viande de porc. Final report submitted to MAPAQ, 16 p. (Report)

Weschenfelder, A.V., Maldague, X., Rocha, L.M., Schaefer, A.L., Saucier, L., and Faucitano, L. (2014). "Mesure de la température oculaire par thermographie infrarouge pour évaluer l'état physiologique des porcs avant l'abattage et prédire la variation de la qualité de la viande. Viandes et Produits Carnées, 30-2-5."

Rocha, L.M., Velarde, A., Dalmau, A., Saucier, L., and Faucitano, L. (2014). "Does the monitoring of animal welfare parameters through the supply chain predict pork meat quality variation?", *Canadian Journal of Animal Science*, 94, pp. 179. (Abstract)

Gil, M., Faucitano, L., Talbot, G., Devillers, N., Guay, F., Gosselin, A., Desjardins, Y., and Saucier, L. (2014). "Pre-slaughter strategies to improve the microbial quality of pork carcasses.", International Union of Microbiological Societies Congress (IUMS 2014), Montréal, QC, Canada, July 27-August 1, 2014.

## 2013

Rocha, L.M., Velarde, A., Dalmau, A., Saucier, L., and Faucitano, L. (2013). "Does monitoring of animal welfare parameters through the supply chain predict pork meat quality variation?", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O11-GS, pp. 7.

Faucitano, L. (2013). "Causes, effects of pig stress during transportation.", *Pig Progress*, 29(6), pp. 8-10.

Schwartzkopf-Genswein, K.S.G., Faucitano, L., and Crowe, T.G. (2013). "Scoping document on long-distance transport of farm animals.", National Farm Animal Health and Welfare Council. (Presentation)

Gil, M., Faucitano, L., Talbot, G., Devillers, N., and Saucier, L. (2013). "Stratégies pré-abattage pour améliorer la qualité microbiologique des carcasses de porc.", Congrès de bactériologie intégrative: symbiose & pathogenèse (BiSP), Québec, QC, Canada, novembre 28-29, 2013.

## 2012

Rocha, L.M., Dionne, A., Martin, P.P., Pommier, S., Saucier, L., Mattanna, P., Formighieri, R., Nannoni, E., and Faucitano, L. (2012). "Use of the hand-held lactate analyzer for the real-time measurement of blood lactate during slaughter and pork quality prediction.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012.

Fox, J., Widowski, T.M., Torrey, S., Nannoni, E., Bergeron, R., Gonyou, H.W., Brown, J.A., Crowe, T.G., and Faucitano, L. (2012). "The effect of water sprinkling on behavior and core body temperature of market hog transported during summer.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, #T9, Published in: *J. Anim. Sci.*, 90 (Suppl. 3), 255. (Poster)

Rocha, L.M., Bridi, A.M., Faucitano, L., Weschenfelder, A.V., Bertoloni, W., and Devillers, N. (2012). "Effects of ractopamine administration and castration method on the response to pre-slaughter stress in pigs of two Pietrain genotypes.", 11th International Society for Applied Ethology (ISAE) North-American Regional Meeting, Banff, AB, Canada, May 11-12, 2012, pp. 45.

Nannoni, E., Widowski, T.M., Torrey, S., Fox, J., Rocha, L.M., Brown, J.A., Gonyou, H.W., Weschenfelder, A.V., Crowe, T.G., and Faucitano, L. (2012). "The effect of water sprinkling on blood lactate and meat quality of market hog transported during summer.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012.

Rocha, L.M., Bridi, A.M., Devillers, N., Daigneault, J., Weschenfelder, A.V., Bertoloni, W., and Faucitano, L. (2012). "Effects of ractopamine administration and castration method on the behavioral and physiological response to pre-slaughter stress in pigs of two Pietrain genotypes.", 11th International Society for Applied Ethology (ISAE) North-American Regional Meeting, Banff, AB, Canada, May 11-12, 2012, pp. 45. (Abstract)

Goumon, S., Brown, J.A., Faucitano, L., Bergeron, R., Widowski, T.M., Crowe, T.G., and Gonyou, H.W. (2012). "Effects of season and transport duration on behaviour, heart rate and body temperature in market-weight pigs.", 38th Annual Meeting of the Animal Transportation Association (ATA), Vancouver, BC, Canada, March 18-21, 2012. (Abstract)

Araújo, A.P., Dalla Costa, O.A., Roça, R.O., Ludtke, C.B., Faucitano, L., Devillers, N., and Guidoni, A.L. (2012). "Stress levels of pigs submitted to three water spray periods.", EventoBA 2012 Congreso Internacional sobre Bienestar Animal / International Conference on Animal Welfare, Montevideo, Uruguay, July 10-11, 2012.

Araújo, A.P., Dalla Costa, O.A., Roça, R.O., Ludtke, C.B., Faucitano, L., Devillers, N., and Guidoni, A.L. (2012). "Meat quality of pigs submitted to different water spray periods.", EventoBA 2012 Congreso Internacional sobre Bienestar Animal / International Conference on Animal Welfare, Montevideo, Uruguay, July 10-11, 2012.

Seddon, Y.M., Brown, J.A., Crowe, T.G., Bergeron, R., Widowski, T.M., Correa, J.A., Faucitano, L., and Gonyou, H.W. (2012). "Truck compartment and trip duration affect stress of pig transported under Canadian conditions.", Journal of Animal Science, 90(Suppl. 3), pp. 255. (Abstract)

Faucitano, L. (2012). "Pre-slaughter stress and pork quality.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, Published in: J. Anim. Sci., 90(Suppl. 3), pp. 662.

Rocha, L.M., Bridi, A.M., Devillers, N., Daigneault, M.J., Weschenfelder, A.V., Bertoloni, W., and Faucitano, L. (2012). "Effects of ractopamine administration and castration method on the behavioral and physiological response to pre-slaughter stress in pigs of two Pietrain genotypes.", 11th International Society for Applied Ethology (ISAE) North-American Regional Meeting, Banff, AB, Canada, May 11-12, 2012, pp. 45. (Abstract)

Faucitano, L. (2012). "New handling and transportation strategies under Canadian conditions.", 12th London Swine Conference, London, ON, Canada, March 28-29, 2012, pp. 121-128.

Araújo, A.P., Dalla Costa, O.A., Roça, R.O., Ludtke, C.B., Faucitano, L., Devillers, N., and Guidoni, A.L. (2012). "Comportamento dos suínos submetidos a diferentes períodos de aspersão e descanso (Behaviour of pig submitted to different water spray and rest periods).", EventoBA 2012 Congreso Internacional sobre Bienestar Animal / International Conference on Animal Welfare, Montevideo, Uruguay, July 10-11, 2012.

Schwartzkopf-Genswein, K.S.G., Faucitano, L., Dadgar, S., Shand, P.J., González, L., and Crowe, T.G. (2012). "Road transport of cattle, swine and poultry in North America and its impact on animal welfare, carcass and meat quality: A review.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012. (Abstract)

Rocha, L.M., Dionne, A., Martin, P.P., Pommier, S., Saucier, L., Mattanna, P., Formighieri, R., Nannoni, E., and Faucitano, L. (2012). "Use of the hand-held lactate analyzer for the real-time measurement of blood lactate prior to and at slaughter and early prediction of pork quality variation.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012.

Berthiaume, R.R., Lafrenière, C., Fortin, J., Gariépy, C., Mandell, I.B., and Faucitano, L. (2012). "Growth, feed efficiency, carcass quality and consumer perception of beef cattle fed PM vs AM cut grass or a red clover-grass mixture.", XVI International Silage Conference, Hämeenlinna, Finland, July 2-4, 2012. (Abstract)

Brown, J.A., Scheeren, M.B., Faucitano, L., Bergeron, R., Widowski, T.M., Crowe, T.G., and Gonyou, H.W. (2012). "Truck compartment and trip duration affect pork quality of pig transported under Canadian conditions", 38th Annual Meeting of the Animal Transportation Association (ATA), Vancouver, BC, Canada, March 18-21, 2012. (Abstract)

2011

Faucitano, L. (2011). "Animal welfare "out of the gate" (from transport to slaughter).", 1st Integrall Forum on Swine Production, Curitiba, Paraná, Brazil, April 15, 2011, 59-64. (Presentation)

Brown, J.A., Crowe, T.G., Torrey, S., Bergeron, R., Widowski, T.M., Correa, J.A., and Faucitano, L. (2011). "Relationships between transport temperatures, pig behaviour, blood stress indicators and meat quality.", 5th International Conference on the Assessment of Animal Welfare at Farm and Group Level, University of Guelph, Guelph, ON, Canada, August 8-11, 2011, pp. 18. (Abstract)

Faucitano, L. (2011). "Practical strategies to improve pig welfare during transport and at slaughter.", 62nd Annual Meeting of the European Association for Animal Production (EAAP), Stavanger, Norway, August 29-September 2, 2011, pp. 18. (Abstract)

Rocha, L.M., Bridi, A.M., Bertoloni, W., Weschenfelder, A.V., and Faucitano, L. (2011). "Efficiency of immunocastration and use of Pietrain genetics as alternatives to ractopamine administration, in terms of carcass and meat quality in pigs.", 62nd Annual Meeting of the European Association for Animal Production (EAAP), Stavanger, Norway, August 29-September 2, 2011, pp. 258. (Abstract)

de Araujo, A.P., Dalla Costa, O.A., Ludtke, C.B., Faucitano, L., Devillers, N., Guidoni, A.L., Roça, R.O., and Athaide, N.B. (2011). "Use of water-sprays in lairage: implications on animal welfare in pigs.", 38e Conbravet Congresso Brasileiro de Medicina Veterinária, Florianópolis, Brazil, November 1-4, 2011.

Rocha, L.M., Faucitano, L., Devillers, N., Bertoloni, W., Weschenfelder, A.V., and Bridi, A.M. (2011). "Effects of immunocastration, Pietrain genetics and dietary ractopamine administration on carcass and meat quality traits in pigs.", 62nd Annual Meeting of the European Association for Animal Production (EAAP), Stavanger, Norway, August 29-September 2, 2011, pp. 258.

de Araujo, A.P., Dalla Costa, O.A., Ludtke, C.B., Faucitano, L., Devillers, N., Guidoni, A.L., Roça, R.O., and Athaide, N.B. (2011). "Effects of different water spraying times in lairage on pork meat quality.", 38e Conbravet Congresso Brasileiro de Medicina Veterinária, Florianópolis, Brazil, November 1-4, 2011.



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## Research Publications:

2016

Gou, L., Hattori, J., Fedak, G., Balcerzak, M., Sharpe, A.G., Visendi, P., Edwards, D.J., Tinker, N.A., Wei, Y.-M., Chen, G-Y., and Ouellet, T. (2016). "Development and validation of *Thinopyrum elongatum* expressed molecular markers specific for the long arm of chromosome 7E.", *Crop Science*, 56, pp. 1-10. doi : 10.2135/cropsci2015.03.0184

2015

Chen, S., Gao, Y., Zhu, X., Zhang, C., Cao, W., Fedak, G., He, Z., Chen, X., and Chen, J.M. (2015). "Development of E - chromosome Specific Molecular Markers for *Thinopyrum elongatum* in a Wheat Background.", *Crop Science*, 55(6), pp. 2777-2785. doi : 10.2135/cropsci2014.08.0539

Malhipour, A., Gilbert, J., Fedak, G., Brûlé-Babel, A.L., and Cao, W. (2015). "Characterization of agronomic traits in a population of wheat derived from *Triticum timopheevii* and their association with Fusarium head blight.", *European Journal of Plant Pathology*, pp. 1-13. doi : 10.1007/s10658-015-0744-2

Long, X.-Y., Balcerzak, M., Gulden, S.M., Cao, W., Fedak, G., Wei, Y.-M., Zheng, Y.-L., Somers, D.J., and Ouellet, T. (2015). "Expression profiling identifies differentially expressed genes associated with the fusarium head blight resistance QTL 2DL from the wheat variety Wuhan-1.", *Physiological and Molecular Plant Pathology*, 90, pp. 1-11. doi : 10.1016/j.pmpp.2015.02.002

2014

Kim, T.-W., Kim, J.-C., Fedak, G., Son, J.-H., Park, K.-C., and Kim, N.-S. (2014). "Sequence variation in ITS spacers and 5.8S rDNA and relationship of E, St, P, Ns, Xm, and H genomes in the genera of *Agropyron*, *Elytrigia*, *Leymus*, *Pascopyrum*, *Psathyrostachys*, and *Hordeum*.", *Genes and Genomics*, 32(5), pp. 477-485. doi : 10.1007/s13258-010-0050-5

Xue, A.G., Chen, Y., Sant'anna, S.M.R., Voldeng, H.D., Fedak, G., Savard, M.E., Längle, T., Zhang, J.X., and Harman, G.E. (2014). "Efficacy of CLO-1 biofungicide in suppressing perithecial production by *Gibberella zeae* on crop residues.", *Canadian Journal of Plant Pathology*, 36(2), pp. 161-169. doi : 10.1080/07060661.2014.881920

Xue, A.G., Chen, Y., Voldeng, H.D., Fedak, G., Savard, M.E., Längle, T., Zhang, J.X., and Harman, G.E. (2014). "Concentration and cultivar effects on efficacy of CLO-1 biofungicide in controlling Fusarium head blight of wheat.", *Biological Control*, 73, pp. 2-7. doi : 10.1016/j.biocontrol.2014.02.010

McCartney, C.A., Brûlé-Babel, A.L., Fedak, G., Martin, R.C., McCallum, B.D., Gilbert, J.R., Blackwell, B.A., Spaner, D.M., Pozniak, C.J., and N'Daiye, A. (2014). "Studies of the genetics of FHB resistance.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

2013

Zeng, J., Cao, W., Fedak, G., Sun, S., McCallum, B.D., Fetch Jr., T.G., and Xue, A.G. (2013). "Molecular cytological characterization of two novel durum – *Thinopyrum* intermedium partial amphiploids with resistance to leaf rust, stem rust and Fusarium head blight.", *Hereditas*, 150(1), pp. 10-16. doi : 10.1111/j.1601-5223.2012.02262.x

McCartney, C.A., Brûlé-Babel, A.L., Fedak, G., Martin, R.C., McCallum, B.D., and Gilbert, J. (2013). "Fusarium head blight resistance QTL in the Kenyon x 86ISMN 2137 population.", National Fusarium Head Blight Forum, Milwaukee, WI, USA, December 3-5, 2013. (Poster)

Cao, W., Fedak, G., McCallum, B.D., Fetch Jr., T.G., Xue, A.G., and Chi, D. (2013). "Developing wheat germplasm for resistance to Fusarium head blight, leaf rust and stem rust.", 7th International Triticeae Symposium, Chengdu, China, June 9-14, 2013.

Zeng, J., Cao, W., Hucl, P.J., Yang, Y., Xue, A.G., Chi, D., and Fedak, G. (2013). "Molecular cytogenetic analysis of wheat - *Elymus repens* introgression lines with resistance to Fusarium head blight.", *Genome*, 56(1), pp. 75-82. doi : 10.1139/gen-2012-0130

2011

Kang, H., Wang, Y., Fedak, G., Cao, W., Zhang, H., Fan, X., Sha, L., Xu, L., Zheng, Y.-L., and Zhou, Y.-H. (2011). "Introgression of Chromosome 3Ns from *Psathyrostachys huashanica* into Wheat Specifying Resistance to Stripe Rust.", *PLoS ONE*, 6(7, Article No. e21802). doi: 10.1371/journal.pone.0021802

Miller, S.S., Watson, E.M., Lazebnik, J., Gulden, S.M., Balcerzak, M., Fedak, G., and Ouellet, T. (2011). "Characterization of an alien source of resistance to *Fusarium* head blight transferred to Chinese Spring wheat.", *Botany*, 89(5), pp. 301-311. doi: 10.1139/B11-017

## Other Science Related Publications:

2016

Ouellet, T., Gou, L., Konkin, D., Hattori, J., Tekieh, F., Wolfe, D.F., Balcerzak, M., Chalabian, F., Vrana, J., Kubaláková, M., Doležel, J., Tinker, N.A., Sharpe, A.G., and Fedak, G. (2016). "Towards cloning of the FHB-resistance locus from *Thinopyrum elongatum* chromosome 7EL.", XIV Plant and Animal Genome Conference, San Diego, CA, USA, January 2016. (Poster)

2014

Cao, W., Fedak, G., Voldeng, H.D., Somers, D.J., Xue, A.G., Fregeau-Reid, J., and McCartney, C.A. (2014). "Application of marker assisted selection in spring wheat breeding.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

Fedak, G., Wolfe, D., Chi, D., Ouellet, T., Cao, W., and Xue, A.G. (2014). "Process of transferring fhb resistance from *thinopyrum elongatum* to spring wheat.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

Melnichuk, F., Marchenko, O., Fedak, G., and Xue, A.G. (2014). "Cytotoxic effects of chemical seed treatments on soybean seedlings.", APS-CPS Joint Meeting, Hilton Minneapolis, Minneapolis, MN, USA, August 9-13, 2014.

Zhang, B., Chi, D., Hiebert, C.W., Fetch Jr., T.G., Xue, A.G., Cao, W., and Fedak, G. (2014). "Pyramiding genes for resistance to stem rust, leaf rust and FHB.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

Jin, X., Chi, D., Zhang, B., Xue, A.G., Cao, W., and Fedak, G. (2014). "Wheat germplasm development by gene pyramiding for resistance to Ug99.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

Cao, W., Wolfe, D., Fedak, G., McCallum, B.D., Fetch Jr., T.G., Xue, A.G., and Chi, D. (2014). "Development of aneuploids by means of doubled haploid technology – corn pollination method.", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014.

2013

Zhang, B.L., Chi, D., Cao, W., Xue, A.G., Fetch Jr., T.G., Hiebert, C.W., and Fedak, G. (2013). "Pyramiding disease resistance genes in wheat.", 7th International Triticeae Symposium, Chengdu, China, June 9-14, 2013, pp. 90.

Cao, W., Fedak, G., McCallum, B.D., Fetch Jr., T.G., Xue, A.G., and Chi, D. (2013). "Enhancement of wheat germplasm for resistance to *Fusarium* head blight, leaf rust and stem rust.", 7th International Triticeae Symposium, Chengdu, China, June 9-14, 2013, pp. 87.

Fedak, G., Cao, W., Chi, D., Zhang, L., Rouse, M.N., Xue, A.G., Fetch Jr., T.G., Molnar, M., and McCallum, B.D. (2013). "Screening of cytogenetic stocks for resistance to Ug99.", 7th International Triticeae Symposium, Chengdu, China, June 9-14, 2013, pp. 91.

Randhawa, H.S., Eudes, F., Beres, B.L., Graf, R.J., Fedak, G., Comeau, A., Langevin, F., Dion, Y., and Pozniak, C.J. (2013). "Integrated approaches for triticale breeding.", The 8th International Triticale Symposium, Ghent, Belgium, June 10-14, 2013, (Presentation).

2011

Fedak, G., Cao, W., Chi, D., Zhang, L., Xue, A.G., and Fetch Jr., T.G. (2011). "New Sources of resistance to ug99.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011. (Presentation)

Fedak, G., Cao, W., Chi, D., Somers, D.J., Miller, S.S., Ouellet, T., Xue, A.G., Gilbert, J., Savard, M.E., and Voldeng, H.D. (2011). "New sources of resistance to *Fusarium* head blight and their modes of action.", 2011 National *Fusarium* Head Blight Forum, Hyatt Regency Hotel, St. Louis, MO, USA, December 4-6, 2011, pp. 19.

Cao, W., Fedak, G., Fetch Jr., T.G., Xue, A.G., and Briere, S. (2011). "Gene pyramiding for resistance to Ug99 stem rust in Canadian spring wheat", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, pp. 54.

Fedak, G., Cao, W., Chi, D., Zhang, L., Xue, A.G., and Fetch Jr., T.G. (2011). "Screening of cytogenetic stocks for resistance to Ug99.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, pp. 38.

Fedak, G., Cao, W., Chi, D., Zhang, L., Xue, A.G., and Fetch Jr., T.G. (2011). "Screening of cytogenetic stocks for resistance to Ug99.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, Poster #51. (Poster)

McCartney, C.A., Somers, D.J., Brûlé-Babel, A.L., Fedak, G., Gilbert, J., and Cao, W. (2011). "Mapping of the Wuhan-1 chromosome 2DL FHB QTL in a uniform genetic background.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 97.

Xue, A.G., Chen, Y., Voldeng, H.D., Fedak, G., Savard, M.E., Längle, T., Zhang, J.X., Harman, G.E., and Genge, G. (2011). "Concentration and cultivar effects on efficacy of CLO-1 biofungicide in controlling Fusarium head blight of wheat.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 92.

Cao, W., Fedak, G., Somers, D.E., Voldeng, H.D., Xue, A.G., Gilbert, J., and Wang, X.L. (2011). "Application of MAS for development of white seeded wheat resistant to Fusarium head blight.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 73.

DePauw, R.M., Somers, D.J., Cuthbert, R.D., McCallum, B.D., Knox, R.E., Voldeng, H.D., Humphreys, D.G., Fox, S.L., Singh, A.K., McCartney, C.A., and Fedak, G. (2011). "Are QTLs for fusarium head blight response additive?", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 70.

Comeau, A., Langevin, F., Voldeng, H.D., Haber, S.M., Gilbert, J., Randhawa, H.S., Dion, Y., Rioux, S., McCallum, B.D., Fetch Jr., T.G., Eudes, F., Blackwell, B.A., Martin, R.A., Scheeren, P., Caetano, V., Frégeau-Reid, J.A., and Fedak, G. (2011). "The systemic approach : faster genetic progress for complex goals.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

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## Research Publications:

2015

Singh, A.K., Clarke, J.M., Knox, R.E., DePauw, R.M., Wise, I.L., Thomas, J.B., McCaig, T.N., Cuthbert, R.D., Clarke, F.R., and Fernandez, M.R. (2015). "AAC Marchwell durum wheat.", *Canadian Journal of Plant Science*, 95(1), pp. 189-195. doi : 10.4141/cjps-2014-223

2014

May, W.E., Fernandez, M.R., Selles, F., and Lafond, G.P. (2014). "Agronomic practices to reduce leaf spotting and Fusarium kernel infections in durum wheat on the Canadian prairies.", *Canadian Journal of Plant Science*, 94(1), pp. 141-152. doi : 10.4141/CJPS2012-304

Fernandez, M.R., May, W.E., Chalmers, S., Savard, M.E., and Singh, A.K. (2014). "Are early foliar fungicide applications on durum wheat grown in southeast Saskatchewan beneficial in increasing grain productivity?", *Canadian Journal of Plant Science*, 94(5), pp. 891-903. doi : 10.4141/CJPS2013-325

Fernandez, M.R., Fox, S.L., Hucl, P.J., Singh, A.K., and Stevenson, F.C. (2014). "Root rot severity and fungal populations in spring common, durum and spelt wheat, and Kamut grown under organic management in western Canada.", *Canadian Journal of Plant Science*, 94(5), pp. 937-946. doi : 10.4141/CJPS2013-359

Fernandez, M.R., Fox, S.L., Hucl, P.J., and Singh, A.K. (2014). "Leaf spotting reaction of spring common, durum and spelt wheat, and Kamut under organic management in western Canada.", *Canadian Journal of Plant Science*, 94(5), pp. 929-935. doi : 10.4141/CJPS2013-310

Fernandez, M.R., Wang, H., and Singh, A. (2014). "Impact of seed discoloration on emergence and early plant growth of durum wheat at different soil gravimetric water contents.", *Canadian Journal of Plant Pathology*, 36(4), pp. 509-516. doi : 10.1080/07060661.2014.957242

Singh, A.K., Clarke, J.M., Knox, R.E., DePauw, R.M., McCaig, T.N., Cuthbert, R.D., Clarke, F.R., and Fernandez, M.R. (2014). "AAC Raymore durum wheat.", *Canadian Journal of Plant Science*, 94(7), pp. 1289-1296. doi : 10.4141/CJPS-2014-048

2013

Fox, S.L., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Fernandez, M.R., Despina, T., and Niziol, D. (2013). "Cardale hard red spring wheat.", *Canadian Journal of Plant Science*, 93(2), pp. 307-313. doi : 10.4141/cjps2012-236

Fox, S.L., Wise, I.L., Smith, M.A.H., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Fernandez, M.R., Despina, T., Lukow, O.M., and Niziol, D. (2013). "Shaw hard red spring wheat.", *Canadian Journal of Plant Science*, 93(2), pp. 299-305. doi : 10.4141/cjps2012-137

2012

Fox, S.L., Lamb, R.J., McKenzie, R.I.H., Wise, I.L., Smith, M.A.H., Humphreys, D.G., Brown, P.D., Townley-Smith, T.F., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Fernandez, M.R., Despina, T., Lukow, O.M., and Niziol, D. (2012). "Registration of 'Fieldstar' Hard Red Spring Wheat.", *Journal of Plant Registrations*, 6(2), pp. 161-168. doi : 10.3198/jpr2011.06.0329crc

Sheng, M., Hamel, C., and Fernandez, M.R. (2012). "Cropping practices modulate the impact of glyphosate on arbuscular mycorrhizal fungi and rhizosphere bacteria in agroecosystems of the semiarid prairie.", *Canadian Journal of Microbiology*, 58(8), pp. 990-1001. doi : 10.1139/W2012-080

Singh, A.K., Clarke, J.M., Knox, R.E., DePauw, R.M., McCaig, T.N., Fernandez, M.R., and Clarke, F.R. (2012). "Transcend Durum wheat.", *Canadian Journal of Plant Science*, 92(4), pp. 809-813. doi : 10.4141/cjps2011-255

2011

Fernandez, M.R., Sissons, M.J., Conner, R.L., Wang, H., and Clarke, J.M. (2011). "Influence of biotic and abiotic factors on dark discoloration of durum wheat kernels.", *Crop Science*, 51(3), pp. 1205-1214. doi : 10.2135/cropsci2010.07.0433

Fernandez, M.R. and Conner, R.L. (2011). "Black Point and Smudge in Wheat.", *Prairie Soils and Crops*, 4, pp. 158-164.

Conner, R.L. and Fernandez, M.R. (2011). "Root and Crown Rot of Wheat.", *Prairie Soils and Crops*, 4, pp. 151-157.

Fernandez, M.R., Ulrich, D.J., Brandt, K., Zentner, R.P., Wang, H., Thomas, A.G., and Olfert, O.O. (2011). "Crop management effects on root and crown rot of wheat in West-Central Saskatchewan, Canada.", *Agronomy Journal*, 103(3), pp. 756-765. doi : 10.2134/agronj2010.0190

Zentner, R.P., Basnyat, P., Brandt, S.A., Thomas, A.G., Ulrich, D.J., Campbell, C.A., Nagy, C.N., Frick, B.L., Lemke, R.L., Malhi, S.S., and Fernandez, M.R. (2011). "Effects of input management and crop diversity on non-renewable energy use efficiency of cropping systems in the Canadian Prairie.", *European Journal of Agronomy*, 34(2), pp. 113-123. doi : 10.1016/j.eja.2010.11.004

Fernandez, M.R., May, W.E., and Lafond, G.P. (2011). "Effect of fungicide seed treatments on root pathogens of cereal crops under field conditions.", *Canadian Journal of Plant Science*, 90(6), pp. 905-917. doi : 10.4141/CJPS09172

Fernandez, M.R. and Vujanovic, V. (2011). "Improvement of emergence and performance of plants derived from red-smudged durum wheat seed by fungicide seed treatments.", *Canadian Journal of Plant Pathology*, 33(1), pp. 19-25. doi : 10.1080/07060661.2011.536647

Zentner, R.P., Basnyat, P., Brandt, S.A., Thomas, A.G., Ulrich, D.J., Campbell, C.A., Nagy, C.N., Frick, B.L., Lemke, R.L., Malhi, S.S., Olfert, O.O., and Fernandez, M.R. (2011). "Effects of input management and crop diversity on economic returns and riskiness of cropping systems in the semi-arid Canadian Prairie.", *Renewable Agriculture and Food Systems*, 26(3), pp. 208-223. doi : 10.1017/s1742170510000591

## Other Science Related Publications:

### 2015

Fernandez, M.R., Morrell, C., and Aladenola, O. (2015). *Proceedings of Low-Input Agricultural Systems Field Day, SPARC, Swift Current, SK, August 6th, 2015, 30 pages (with contributions from Julia Leeson, Brian McConkey, Mike Schellenberg, Shannon Chant, Jillian Bainard, Mostafa Serajchi, Adriana Navarro Borrell, Jason Stuka, Garry Johnson, Russ Hynes, Marla Carlson, Allison Squires, Cody Straza, Loren Speers, Herb Cutforth, Patrick Chemeski, Jan Cote).*, Canada: Semi-Arid Agricultural Research Centre, Agriculture and Agri-Food Canada. (Book)

Berraies, S., Ruan, Y., Knox, R.E., Clarke, F.R., Fernandez, M.R., DePauw, R.M., and Cuthbert, R.D. (2015). "Characterization of FHB resistance to *Fusarium* species and associated DON accumulation in spring wheat.", *From Seed to Pasta and Beyond: a Sustainable Durum Wheat Chain for Food Security and Healthy Lives, Bologna, Italy, May 31 - June 2, 2015.* (Poster)

### 2014

Turkington, T.K., Xi, K., Kutcher, H.R., Kumar, K., Fernandez, M.R., and May, R. (2014). "An overview of fusarium head blight and key management strategies.", *United Farmers of Alberta customer fusarium breakfast meeting, Olds, AB, Canada, January 21, 2014.* (Presentation)

Fernandez, M.R. and Pierce, A. (Eds.) (2014). *Proceedings of Low-Input Agricultural Systems Field Day, SPARC, Swift Current, SK, August 7th, 2014, 16 pages (with contributions from S. MacKinnon, J. Mitchell Fetch, S. Fox, J. Bainard, M. Schellenberg, and S. Chant).*, Canada: Semi-Arid Agricultural Research Centre, Agriculture and Agri-Food Canada. (Book)

Dokken-Bouchard, F.L., Miller, S.G., Cranston, R., Peluola, C., Bruce, M., Lozinsky, S., and Fernandez, M.R. (2014). "Fusarium head blight in common and durum wheat in Saskatchewan in 2013.", *Canadian Plant Disease Survey*, 94, pp. 137-139.

Dokken-Bouchard, F.L., Miller, S.G., Cranston, R., Peluola, C., Bruce, M., Lozinsky, S., and Fernandez, M.R. (2014). "Fusarium head blight in barley in Saskatchewan in 2013.", *Canadian Plant Disease Survey*, 94, pp. 103-105.

Fernandez, M.R., Lim, S.R., Dokken-Bouchard, F.L., Miller, S.G., and Peluola, C. (2014). "Leaf spotting diseases of common and durum wheat in Saskatchewan in 2013.", *Canadian Plant Disease Survey*, 94, pp. 141-143.

### 2012

Fernandez, M.R. and Knox, R.E. (2012). "Diseases of durum wheat.", .

Dokken-Bouchard, F.L., Miller, S.G., Northover, P.R., Weitzel, C.N., Shiplack, J.J., and Fernandez, M.R. (2012). "Fusarium head blight in common and durum wheat in Saskatchewan in 2011.", *Canadian Plant Disease Survey*, 92, pp. 102-104.

Fernandez, M.R., Lim, S.R., Dokken-Bouchard, F.L., Miller, S.G., and Northover, P.R. (2012). "Leaf spotting diseases of common and Durum Wheat in Saskatchewan in 2011.", *Canadian Plant Disease Survey*, 92, pp. 98-101.

Fernandez, M.R., Dokken-Bouchard, F.L., Miller, S.G., and Northover, P.R. (2012). "Leaf rust and stripe rust of common wheat and durum wheat in Saskatchewan in 2011.", Canadian Plant Disease Survey, 92, pp. 96-97.

Dokken-Bouchard, F.L., Miller, S.G., Northover, P.R., Weitzel, C.N., Shiplack, J.J., and Fernandez, M.R. (2012). "Fusarium Head Blight in Barley in Saskatchewan in 2011.", Canadian Plant Disease Survey, 92, pp. 65-66.

## 2011

Fernandez, M.R., Zentner, R.P., and Gehl, D.T. (2011). "Influence of Pesticides on Pathogen Populations and Biological Control Agents.", 2011 Soil and Crops Workshop, University of Saskatchewan, Extension Division, Saskatoon, SK, Canada, March 7-8, 2011. (Presentation)

Miller, S.G., Dokken-Bouchard, F.L., Northover, P.R., Weitzel, C.N., Shiplack, J.J., and Fernandez, M.R. (2011). "Fusarium head blight in barley in Saskatchewan in 2010.", Canadian Plant Disease Survey, 91, pp. 60-61.

Miller, S.G., Dokken-Bouchard, F.L., Northover, P.R., Weitzel, C.N., Shiplack, J.J., and Fernandez, M.R. (2011). "Fusarium Head Blight in common and durum wheat in Saskatchewan in 2010.", Canadian Plant Disease Survey, 91, pp. 90-91.

Fernandez, M.R., Dokken-Bouchard, F.L., Northover, P.R., and McCartney, C. (2011). "Leaf spotting and rust diseases of common and durum wheat in Saskatchewan in 2010.", Canadian Plant Disease Survey, 91, pp. 92-94.

Fernandez, M.R., May, W.E., Chalmers, S., Savard, M.E., and Singh, A.K. (2011). "Effectiveness of fungicide applications at various growth stages on head/kernel diseases, and productivity of durum wheat in southern Saskatchewan.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 87.

Fernandez, M.R., Zentner, R.P., and Gehl, D.T. (2011). "Influence of environmental pesticides on pathogen populations and biological control agents.", 2011 Soil and Crops Workshop, University of Saskatchewan, Extension Division, Saskatoon, SK, Canada, March 7-8, 2011. (Presentation)

Fernandez, M.R., Zentner, R.P., Basnyat, P., Gehl, D.T., Selles, F., Huber, D., and Kremer, R.J. (2011). "Glyphosate associations with Fusarium diseases of cereal and pulse crops.", Canadian Journal of Plant Pathology, 33(2), pp. 240. (Abstract)

Fernandez, M.R. (2011). "Associations of glyphosate with Fusarium diseases of cereal and pulse crops.", National Research Council Canada - Plant Biotechnology Institute (NRC-PBI), Saskatoon, SK, October 5, 2011. (Presentation)

Fox, S.L., Hucl, P.J., Spaner, D.M., and Fernandez, M.R. (2011). "Breeding wheat for organic production systems.", Organic Field Day 2011, AAFC Semiarid Prairie Agricultural Research Centre (SPARC), Swift Current, SK, Canada, July 10-14, 2011.

Fernandez, M.R. (2011). Reaction to leaf spots of registrations (C-level) and pre-registration (B-level) entries in 2011 at different locations in Saskatchewan., Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC). (Report)

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## Research Publications:

2015

Fetch Jr., T.G., Mitchell Fetch, J.W., and Xue, A.G. (2015). "Races of *Puccinia graminis* on barley, oat, and wheat in Canada in 2007 and 2008.", *Canadian Journal of Plant Pathology*, 37(3), pp. 331-341. doi: 10.1080/07060661.2015.1066865

Dracatos, P.M., Singh, D., Fetch Jr., T.G., and Park, R.F. (2015). "Resistance to *Puccinia graminis* f. sp. *avenae* in barley is associated with the *Rpg5* locus.", *Phytopathology*, 105(4), pp. 490-494. doi: 10.1094/PHYTO-08-14-0224-R

Brown, P.D., Randhawa, H.S., Fetch, J.M., Meiklejohn, M., Fox, S.L., Humphreys, D.G., Green, D.A., Wise, I.L., Fetch Jr., T.G., Gilbert, J., McCallum, B.D., and Menzies, J.G. (2015). "AAC Tenacious red spring wheat.", *Canadian Journal of Plant Science*, 95(4), pp. 805-810. doi: 10.4141/cjps-2015-011

Wang, X., McCallum, B.D., Fetch Jr., T.G., Bakkeren, G., and Saville, B.J. (2015). "Sr36- and Sr5-mediated resistance response to *Puccinia graminis* f. sp. *tritici* is associated with callose deposition in wheat guard cells.", *Phytopathology*, 105(6), pp. 728-737. doi: 10.1094/PHYTO-08-14-0213-R

Hiebert, C.W., Spielmeyer, W., McCartney, C., Kassa, M.T., Fetch Jr., T.G., You, F.M., Menzies, J.G., Humphreys, D.G., and McCallum, B.D. (2015). "Stem rust resistance: two approaches.", in Ogihara, Y. et al. (eds.) - *Proceedings of the 12th International Wheat Genetics Symposium*, Springer, Chapter 20, pp. 183-191.

Fetch Jr., T.G., Fetch, J.M., Zegeye, T., and Xue, A.G. (2015). "Races of *Puccinia graminis* on wheat, oat, and barley in Canada in 2009 and 2010.", *Canadian Journal of Plant Pathology*, 37(4), pp. 476-484. doi: 10.1080/07060661.2015.1119735

Brown, P.D., Randhawa, H.S., Fetch, J.M., Fox, S.L., Humphreys, D.G., Meiklejohn, M., Green, D.A., Wise, I.L., Fetch Jr., T.G., Gilbert, J., McCallum, B.D., and Menzies, J.G. (2015). "AAC Foray red spring wheat.", *Canadian Journal of Plant Science*, 95(4), pp. 799-803. doi: 10.4141/cjps-2015-007

2014

Legge, W.G., Tucker, J.R., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Tekauz, A., Turkington, T.K., and Savard, M.E. (2014). "AAC Synergy barley.", *Canadian Journal of Plant Science*, 94(4), pp. 797-803. doi: 10.4141/cjps2013-307

Cabral, A.L., Gnanesh, B.N., Mitchell Fetch, J.W., McCartney, C.A., Fetch Jr., T.G., Park, R.F., Menzies, J.G., McCallum, B.D., Nanaiah, G.K., and Goyal, A. (2014). "Oat Fungal Diseases and the Application of Molecular Marker Technology for Their Control.", in Goyal, A. and Manoharachary, C. - *Future Challenges in Crop Protection Against Fungal Pathogens*, *Fungal Biology, Springer Science + Business Media*, pp. 343-358.

Gnanesh, B.N., Mitchell Fetch, J.W., Zegeye, T., McCartney, C.A., and Fetch Jr., T.G. (2014). "Oat", in Pratap, A. and Kumar, J. (eds.) - *Alien Gene Transfer in Crop Plants*, Volume 2, Springer Science + Business Media, pp. 51-73.

Humphreys, D.G., Townley-Smith, T.F., Lukow, O.M., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Tkachuk, V.L., Brown, P.D., and Fox, S.L. (2014). "Peace hard red spring wheat.", *Canadian Journal of Plant Science*, 94(7), pp. 1297-1302. doi: 10.4141/CJPS2013-286

Dracatos, P.M., Ayliffe, M.A., Khatkar, S., Fetch Jr., T.G., Singh, D., and Park, R.F. (2014). "Inheritance of Prehaustorial Resistance to *Puccinia graminis* f. sp. *avenae* in Barley (*Hordeum vulgare* L.).", *Molecular Plant-Microbe Interactions*, 27(11), pp. 1253-1262. doi: 10.1094/MPMI-05-14-0140-R

Fetch Jr., T.G. and McCallum, B.D. (2014). "Increased virulence of wheat rusts and the threat to global crop protection.", .

Humphreys, D.G., Brûlé-Babel, A.L., Brule-Babel, A., DePauw, R.M., Fetch Jr., T.G., and McCallum, B.D. (2014). "Agronomic suitability of German spring wheat sources of *Fusarium* Head Blight resistance for western Canada.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Rouse, M.N., Jin, Y., Chao, S., Fetch Jr., T.G., Pretorius, Z.A., and Hiebert, C.W. (2014). "Characterization of Sr9h, a wheat stem rust resistance allele effective to Ug99.", *Theoretical and Applied Genetics (TAG)*, 127(8), pp. 1681-1688. doi: 10.1007/s00122-014-2330-y

Randhawa, H.S., Singh, D., Pozniak, C.J., McCallum, B.D., Fetch Jr., T.G., Goyal, A., and Graf, R.J. (2014). "Genetic mapping of stem, leaf and stripe rust resistance in a spring wheat population using a 90K SNP Infinium iSelect assay.", EUCARPIA-ITMI 2014.

2013

Legge, W.G., Tucker, J.R., Bizimungu, B., Tekauz, A., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Turkington, T.K., Martin, R.A., Choo, T.-M., Vigier, B.J., Blackwell, B.A., and Savard, M.E. (2013). "Taylor barley.", *Canadian Journal of Plant Science*, 93(5), pp. 969-977. doi : 10.4141/cjps2013-126

Legge, W.G., Tucker, J.R., Bizimungu, B., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Tekauz, A., Turkington, T.K., Savard, M.E., and Choo, T.-M. (2013). "Cerveza barley.", *Canadian Journal of Plant Science*, 93(3), pp.557-564. doi : 10.4141/cjps2012-299

Singh, A., Knox, R.E., DePauw, R.M., Singh, A.K., Cuthbert, R.D., Campbell, H.L., Singh, D., Bhavani, S., Fetch Jr., T.G., and Clarke, F.R. (2013). "Identification and mapping in spring wheat of genetic factors controlling stem rust resistance and the study of their epistatic interactions across multiple environments.", *Theoretical and Applied Genetics (TAG)*, 126(8), pp. 1951-1964. doi : 10.1007/s00122-013-2109-6

Thomas, J.B., Fox, S.L., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Wise, I.L., Smith, M.A.H., Despina, T., Niziol, D., Humphreys, D.G., and Brown, P.D. (2013). "Vesper hard red spring wheat.", *Canadian Journal of Plant Science*, 93(2), pp. 315-321. doi : 10.4141/cjps2012-233

Legge, W.G., Tucker, J.R., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Tekauz, A., Turkington, T.K., and Savard, M.E. (2013). "Major barley.", *Canadian Journal of Plant Science*, 93(2), pp. 291-297. doi : 10.4141/cjps2012-248

Mitchell Fetch, J.W., Tekauz, A., Brown, P.D., Ames, N.P., Chong, J., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Townley-Smith, L., Stadnyk, K.D., and Green, D.A. (2013). "Stride oat.", *Canadian Journal of Plant Science*. doi : 10.4141/cjps2012-325

Zeng, J., Cao, W., Fedak, G., Sun, S., McCallum, B.D., Fetch Jr., T.G., and Xue, A.G. (2013). "Molecular cytological characterization of two novel durum–Thinopyrum intermedium partial amphiploids with resistance to leaf rust, stem rust and Fusarium head blight.", *Hereditas*, 150(1), pp. 10-16. doi : 10.1111/j.1601-5223.2012.02262.x

Humphreys, D.G., Townley-Smith, T.F., Czarniecki, E.M., Lukow, O.M., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Brown, P.D., and Fox, S.L. (2013). "Snowstar hard white spring wheat.", *Canadian Journal of Plant Science*, 93(1), pp. 143-148. doi : 10.4141/cjps2012-146

Ghazvini, H., Hiebert, C.W., Thomas, J.B., and Fetch Jr., T.G. (2013). "Development of a multiple bulked segregant analysis (MBSA) method used to locate a new stem rust resistance gene (Sr54) in the winter wheat cultivar Norin 40.", *Theoretical and Applied Genetics (TAG)*, 126(2), pp. 443-449. doi : 10.1007/s00122-012-1992-6

Singh, A., Pandey, M.P., Singh, A.K., Knox, R.E., Ammar, K., Clarke, J.M., Clarke, F.R., Singh, R.P., Pozniak, C.J., DePauw, R.M., McCallum, B.D., Cuthbert, R.D., Randhawa, H.S., and Fetch Jr., T.G. (2013). "Identification and mapping of leaf, stem and stripe rust resistance quantitative trait loci and their interactions in durum wheat.", *Molecular Breeding*, 31(2), pp. 405-418. doi : 10.1007/s11032-012-9798-4

Wang, X., McCallum, B.D., Fetch Jr., T.G., Bakkeren, G., Marais, G.F., and Saville, B. (2013). "Comparative microscopic and molecular analysis of Thatcher near-isogenic lines with wheat leaf rust resistance genes Lr2a, Lr3, LrB or Lr9 upon challenge with different *Puccinia triticina* races.", *Plant Pathology*, 62(3), pp. 698-707. doi : 10.1111/j.1365-3059.2012.02660.x

Fox, S.L., Wise, I.L., Smith, M.A.H., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Fernandez, M.R., Despina, T., Lukow, O.M., and Niziol, D. (2013). "Shaw hard red spring wheat.", *Canadian Journal of Plant Science*, 93(2), pp. 299-305. doi : 10.4141/cjps2012-137

Cao, W., Fedak, G., McCallum, B.D., Fetch Jr., T.G., Xue, A.G., and Chi, D. (2013). "Developing wheat germplasm for resistance to Fusarium head blight, leaf rust and stem rust.", 7th International Triticeae Symposium, Chengdu, China, June 9-14, 2013.

Fox, S.L., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Fernandez, M.R., Despina, T., and Niziol, D. (2013). "Cardale hard red spring wheat.", *Canadian Journal of Plant Science*, 93(2), pp. 307-313. doi : 10.4141/cjps2012-236

2012

Olivera, P.D., Jin, Y., Rouse, M.N., Badebo, A., Fetch Jr., T.G., Singh, R.P., and Yahyaoui, A. (2012). "Races of *Puccinia graminis* sp. *tritici* with Combined Virulence to Sr13 and Sr9e in a Field Stem Rust Screening Nursery in Ethiopia.", *Plant Disease*, 96(5), pp. 623-628. doi : 10.1094/PDIS-09-11-0793

Ghazvini, H., Hiebert, C.W., Zegeye, T., Liu, S., Dilawari, M., Tsilo, T., Anderson, J.A., Rouse, M.N., Jin, Y., and Fetch Jr., T.G. (2012). "Inheritance of resistance to Ug99 stem rust in wheat cultivar Norin 40 and genetic mapping of Sr42.", *Theoretical and Applied Genetics (TAG)*, 125(4), pp. 817-824. doi : 10.1007/s00122-012-1874-y



Fox, S.L., Lamb, R.J., McKenzie, R.I.H., Wise, I.L., Smith, M.A.H., Humphreys, D.G., Brown, P.D., Townley-Smith, T.F., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Fernandez, M.R., Despina, T., Lukow, O.M., and Niziol, D. (2012). "Registration of 'Fieldstar' Hard Red Spring Wheat.", *Journal of Plant Registrations*, 6(2), pp. 161-168. doi : 10.3198/jpr2011.06.0329crc

## 2011

Fetch Jr., T.G., Mitchell Fetch, J.W., and Xue, A.G. (2011). "Races of *Puccinia graminis* on barley, oat and wheat in Canada in 2006.", *Canadian Journal of Plant Pathology*, 33(1), pp. 54-60. doi : 10.1080/07060661.2011.536650

Mitchell Fetch, J.W. and Fetch Jr., T.G. (2011). "Inheritance of resistance to oat stem rust in the cultivars Ronald and AC Gwen.", *Canadian Journal of Plant Science*, 91(2), pp. 419-423. doi : 10.4141/CJPS10146

Hiebert, C.W., Fetch Jr., T.G., Zegeye, T., Thomas, J.B., Somers, D.J., Humphreys, D.G., McCallum, B.D., Cloutier, S., Singh, D., and Knott, D.R. (2011). "Genetics and mapping of seedling resistance to Ug99 stem rust in Canadian wheat cultivars 'Peace' and 'AC Cadillac'." *Theoretical and Applied Genetics (TAG)*, 122(1), pp. 143-149. doi : 10.1007/s00122-010-1430-6

Mitchell Fetch, J.W., Brown, P.D., Ames, N.P., Chong, J., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., and Stadnyk, K.D. (2011). "Summit oat.", *Canadian Journal of Plant Science*, 91(4), pp. 787-791. doi : 10.4141/CJPS10158

Legge, W.G., Tucker, J.R., Bizimungu, B., Tekauz, A., Noll, J.S., Fetch Jr., T.G., Menzies, J.G., Haber, S.M., Savard, M.E., Vigier, B.J., Choo, T.-M., Martin, R.A., Turkington, T.K., Rosnagel, B.G., and Harvey, B.L. (2011). "Norman barley.", *Canadian Journal of Plant Science*, 91(6), pp. 1105-1113. doi : 10.4141/cjps2010-020

Fetch Jr., T.G., McCallum, B.D., Menzies, J.G., Rashid, K.Y., and Tenuta, A.U. (2011). "Rust diseases in Canada.", *Prairie Soils and Crops*, 4, pp. 87-96.

Park, R.F., Fetch Jr., T.G., Hodson, D.P., Jin, Y., Nazari, K., Prashar, M., and Pretorius, Z.A. (2011). "International surveillance of wheat rust pathogens: progress and challenges.", *Euphytica*, 179(1), pp. 109-117. doi : 10.1007/s10681-011-0375-4

Mitchell Fetch, J.W., Brown, P.D., Ames, N.P., Chong, J., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Townley-Smith, L., and Stadnyk, K.D. (2011). "Stainless oat.", *Canadian Journal of Plant Science*, 91(2), pp. 357-361. doi : 10.4141/CJPS10159

## Other Science Related Publications:

### 2015

Kaur, J., Kumar, S., Fetch Jr., T.G., Burt, A.J., and Mitchell Fetch, J.W. (2015). "Prevalence of Sr2 in Canadian wheat varieties using molecular markers.", *Botany 2015 Joint Conference: Science and plants for people*, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015.

Hiebert, C.W., McCartney, C.A., Kassa, M.T., You, F.M., Pozniak, C.J., Fobert, P., and Fetch Jr., T.G. (2015). "Genetic mapping of resistance to *Puccinia graminis* race TTKSK in Triumph 64.", *Borlaug Global Rust Initiative Workshop*, Sydney, Australia, September 17-20, 2015. (Poster)

Babel, C.M., McCallum, B.D., Fetch Jr., T.G., Hiebert, C.W., and McCartney, C.A. (2015). "Genetic mapping of stem and leaf rust resistance in the spring wheat line Kavkaz-K4500.", *Manitoba Regional Meeting of the Canadian Phytopathological Society*, December 7, 2015. (Presentation)

Kassa, M.T., Hiebert, C.W., You, F.M., Fobert, P., Jordan, M.C., Sharpe, A.G., Pozniak, C.J., Fetch Jr., T.G., Zegeye, T., Menzies, J.G., and McCartney, C. (2015). "Genetic mapping and marker development for high-throughput marker-assisted breeding for Ug99 stem rust resistance gene SrCad/Sr42.", *Botany 2015 Joint Conference: Science and plants for people*, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015.

Babel, C.M., McCallum, B.D., Fetch Jr., T.G., Hiebert, C.W., and McCartney, C.A. (2015). "Gene mapping resistance genes for stem and leaf rust resistance in wheat.", *International Cereal Rusts and Powdery Mildews Conference*, Helsingør, Denmark, July 6-8, 2015. (Poster)

Kassa, M.T., You, F.M., Hiebert, C.W., McCallum, B.D., Cabral, A.L., Panwar, V., Pozniak, C.J., Fetch Jr., T.G., Zegeye, T., Menzies, J.G., Humphreys, D.G., Fobert, P., Sharpe, A.G., Jordan, M.C., and McCartney, C.A. (2015). "Targeting high impact wheat resistance genes for leaf rust, Ug99 stem rust and wheat midge.", *Canadian Wheat Alliance Annual Science and Business Meeting (Invited)*, Saskatoon, SK, Canada, July 14-16, 2015. (Presentation)

### 2014

Cao, W., Wolfe, D., Fedak, G., McCallum, B.D., Fetch Jr., T.G., Xue, A.G., and Chi, D. (2014). "Development of aneuploids by means of doubled haploid technology – corn pollination method.", *Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference*, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014.

Humphreys, D.G., Brûlé-Babel, A.L., DePauw, R.M., Fetch Jr., T.G., and McCallum, B.D. (2014). "Field evaluation of German spring wheat sources of Fusarium Head Blight resistance in western Canada.", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014.

Knox, R.E., Kumar, S., Fetch Jr., T.G., Singh, A.K., Clarke, J.M., DePauw, R.M., Cuthbert, R.D., Campbell, H.L., Singh, D., Bhavani, S., Pozniak, C.J., and Clarke, F.R. (2014). "Identification of Quantitative Trait Loci for Stem Rust Resistance in Durum Wheat.", Canadian Wheat Alliance Annual Science Meeting 2014, Saskatoon, Canada, April 2014.

DePauw, R.M., Cuthbert, R.D., Knox, R.E., Kumar, S., Singh, A., Singh, A.K., Campbell, H.L., Bhavani, S., Singh, D., Clarke, F.R., and Fetch Jr., T.G. (2014). "Evidence for Recombination of Sr2 and Fhb1.", Bortlaug Global Rust Initiative (BGRI) Technical Workshop 2014, CIMMYT, México, March 2014.

Dhariwal, R., Randhawa, H.S., Pozniak, C.J., McCallum, B.D., Fetch Jr., T.G., and Graf, R.J. (2014). "Genetic analysis of stem, leaf and stripe rust resistance in a spring wheat.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Zhang, B., Chi, D., Hiebert, C.W., Fetch Jr., T.G., Xue, A.G., Cao, W., and Fedak, G. (2014). "Pyramiding genes for resistance to stem rust, leaf rust and FHB.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

Humphreys, D.G., Brûlé-Babel, A.L., DePauw, R.M., Fetch Jr., T.G., and McCallum, B.D. (2014). "Agronomic suitability of German spring wheat sources of Fusarium Head Blight resistance for western Canada.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014, Abstract and Poster, pp. 88.

## 2013

Kumar, S., Knox, R.E., Clarke, F.R., Pozniak, C.J., Singh, A., DePauw, R.M., Cuthbert, R.D., Hucl, P.J., Randhawa, H.S., Fox, S.L., Fetch Jr., T.G., McCartney, C., and He, Y. (2013). "High-resolution Mapping of Agronomic and Disease Related Traits Featuring Pre-harvest Sprouting and Common Bunt Resistance.", Canadian Triticum Advancement through Genomics (CTAG) annual meeting 2014, Saskatoon, SK, Canada.

Singh, A., DePauw, R.M., Knox, R.E., Cuthbert, R.D., Singh, A.K., Singh, D., Bhavani, S., Fetch Jr., T.G., and Campbell, H.L. (2013). "Identification and mapping of genetic factors controlling stem rust resistance in spring wheat and the study of their epistatic interactions across multiple environments.", 5th BGRI Workshop, New Delhi, India, August 19-22, 2013.

Tucker, J.R., Legge, W.G., Badea, A., and Fetch Jr., T.G. (2013). "Breeding for stem rust (*Puccinia graminis* f. sp. *tritici*) resistance in barley (*Hordeum vulgare*) at the AAFC Brandon Research Centre: Future directions.", Manitoba Regional Meeting of the Canadian Phytopathological Society, Carman, MB, Canada, November 20, 2013. (Poster)

Hiebert, C.W., Spielmeyer, W., McCartney, C.A., Kassa, M.T., Fetch Jr., T.G., You, F.M., Menzies, J.G., Humphreys, D.G., and McCallum, B.D. (2013). "Stem rust resistance - two approaches.", 12th International Wheat Genetics Symposium (IWGS), Yokohama, Japan, September 8-14, 2013, Invited presentation.

Cao, W., Fedak, G., McCallum, B.D., Fetch Jr., T.G., Xue, A.G., and Chi, D. (2013). "Enhancement of wheat germplasm for resistance to Fusarium head blight, leaf rust and stem rust.", 7th International Triticeae Symposium, Chengdu, China, June 9-14, 2013, pp. 87.

Fetch Jr., T.G., Zegeye, T., and Mayert, W. (2013). "Stem rusts of cereals in Western Canada in 2012.", Canadian Plant Disease Survey, 93, pp. 100-101.

Kassa, M.T., Hiebert, C.W., You, F.M., Jordan, M.C., Fobert, P., Sharpe, A.G., Pozniak, C.J., Zegeye, T., Fetch Jr., T.G., Menzies, J.G., Humphreys, D.G., and McCartney, C.A. (2013). "Molecular Diagnosis of SrCad and Sr42 resistance genes.", North American Cereal Rust Workers Meeting, Winnipeg, MB, Canada, March 20, 2013.

Fedak, G., Cao, W., Chi, D., Zhang, L., Rouse, M.N., Xue, A.G., Fetch Jr., T.G., Molnar, M., and McCallum, B.D. (2013). "Screening of cytogenetic stocks for resistance to Ug99.", 7th International Triticeae Symposium, Chengdu, China, June 9-14, 2013, pp. 91.

Zhang, B.L., Chi, D., Cao, W., Xue, A.G., Fetch Jr., T.G., Hiebert, C.W., and Fedak, G. (2013). "Pyramiding disease resistance genes in wheat.", 7th International Triticeae Symposium, Chengdu, China, June 9-14, 2013, pp. 90.

Kassa, M.T., Hiebert, C.W., You, F.M., Jordan, M.C., Fobert, P., Sharpe, A.G., Pozniak, C.J., Zegeye, T., Fetch Jr., T.G., and McCartney, C.A. (2013). "Fine mapping of Ug99 stem rust resistance gene SrCad.", Canadian Phytopathological Society Annual Meeting, Edmonton, AB, Canada, June 16-19, 2013.

## 2012

Knox, R.E., Hucl, P.J., Cuthbert, R.D., Singh, A.K., Clarke, F.R., DePauw, R.M., Pozniak, C.J., Fox, S.L., Humphreys, D.G., Clarke, J.M., Randhawa, H.S., Spaner, D.M., McCartney, C., Gaudet, D.A., Menzies, J.G., Gilbert, J.R., Fetch Jr., T.G., McCallum, B.D., and Brûlé-Babel, A.L. (2012). "Phenomics.", Canadian Triticum Advancement through Genomics (CTAG) annual meeting 2014, Saskatoon, SK, Canada.

DePauw, R.M., McCallum, B.D., Voldeng, H.D., Knox, R.E., Edwards, N., Hatcher, D., Fetch Jr., T.G., Lukow, O.M., Fox, S.L., Pozniak, C.J., Hucl, P.J., Comeau, A., and Singh, A.K. (2012). "Canadian Triticologists: The Game Changers!", Canadian Journal of Plant Science, 92, pp. 593. (Abstract)

Humphreys, D.G., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Townley-Smith, T.F., and Lukow, O.M. (2012). "Development of hard white spring wheat for Western Canada.", 2012 American Society of Agronomy, Cincinnati, OH, USA. (Poster)

Singh, A., DePauw, R.M., Knox, R.E., Cuthbert, R.D., Singh, A.K., Singh, D., Bhavani, S., Fetch Jr., T.G., and Campbell, H.L. (2012). "Mapping of stem rust resistance QTL and study of their epistatic interactions in hexaploid wheat (*Triticum aestivum* L.).", Borlaug Global Rust Initiative (BGRI) Technical Workshop, Beijing, China, September 1-4, 2012.

Fetch Jr., T.G., Zegeye, T., and Mayert, W. (2012). "Stem rusts of cereals in Western Canada in 2011.", Canadian Plant Disease Survey, 92, pp. 107.

Gardner, K.M., Wight, C.P., Mitchell Fetch, J.W., Yan, W., Ames, N.P., Rosnagel, B.G., Herrmann, M., Molnar, S.J., Frégeau-Reid, J.A., Miller, S.S., Fetch Jr., T.G., Chong, J., Martin, R.A., Tekauz, A., Haber, S.M., Savard, M.E., and Tinker, N.A. (2012). "Prospects of whole genome selection in oat using high throughput genetic markers.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

## 2011

DePauw, R.M., McCallum, B.D., Voldeng, H.D., Knox, R.E., Edwards, N., Fetch Jr., T.G., Lukow, O.M., Fox, S.L., Pozniak, C.J., Hucl, P.J., Singh, A.K., and Comeau, A. (2011). "Canadian Triticologists: the game changers.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Fetch Jr., T.G., Zegeye, T., and Mayert, W. (2011). "Stem rusts of cereals in Western Canada in 2010.", Canadian Plant Disease Survey, 91, pp. 73.

DePauw, R.M., Singh, A., Singh, A.K., Knox, R.E., Singh, D., Bhavani, S., and Fetch Jr., T.G. (2011). "The SrCad and Sr2 locus influences reaction to stripe rust and Fusarium head blight.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, Poster #60. (Poster)

Fox, S.L., DePauw, R.M., Humphreys, D.G., Hucl, P.J., Singh, A.K., Pozniak, C.J., Brown, P.D., Graf, R.J., Randhawa, H.S., Voldeng, H.D., McCartney, C.A., Hiebert, C.W., Knox, R.E., Thomas, J.B., Townley-Smith, L., and Fetch Jr., T.G. (2011). "Canadian initiatives in breeding for stem rust resistance to race Ug99 and variants.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, pp. 121-126.

Knox, R.E., DePauw, R.M., Singh, A., Singh, A.K., Singh, D., Bhavani, S., Fetch Jr., T.G., and Campbell, H. (2011). "Investigating the role of SrCad and Sr2 on stem rust race TTKST in wheat.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, pp. 186.

Wang, X., McCallum, B.D., Fetch Jr., T.G., Bakkeren, G., Marais, G.F., and Saville, B.J. (2011). "Comparative analysis of Thatcher isogenic lines with wheat leaf rust resistance genes Lr2a, Lr3, LrB and Lr9 interacting with different *Puccinia triticina* virulence phenotypes.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011. (Poster)

Fedak, G., Cao, W., Chi, D., Zhang, L., Xue, A.G., and Fetch Jr., T.G. (2011). "Screening of cytogenetic stocks for resistance to Ug99.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, pp. 38.

Comeau, A., Langevin, F., Voldeng, H.D., Haber, S.M., Gilbert, J., Randhawa, H.S., Dion, Y., Rioux, S., McCallum, B.D., Fetch Jr., T.G., Eudes, F., Blackwell, B.A., Martin, R.A., Scheeren, P., Caetano, V., Frégeau-Reid, J.A., and Fedak, G. (2011). "The systemic approach: faster genetic progress for complex goals.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

DePauw, R.M., Singh, A., Singh, A.K., Knox, R.E., Singh, D., and Fetch Jr., T.G. (2011). "The presence of SrCad and Sr2 influences reaction to stripe rust and Fusarium head blight.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011. (Poster)

Fedak, G., Cao, W., Chi, D., Zhang, L., Xue, A.G., and Fetch Jr., T.G. (2011). "New Sources of resistance to ug99.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011. (Presentation)

Wang, X., McCallum, B.D., Fetch Jr., T.G., Bakkeren, G., and Saville, B. (2011). "Leaf extracts from Thatcher inoculated with the avirulent race of *Puccinia triticina* confer race-specific resistance in Thatcher-Lr2a through infiltration.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011. (Poster)

Ghazvini, H., Hiebert, C.W., and Fetch Jr., T.G. (2011). "Mapping wheat stem rust gene Sr42 using DNA markers.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011.

Hamelin, R.C., Bakkeren, G., Saville, B., McCallum, B.D., Fetch Jr., T.G., Wang, X., Joly, D.L., and Tanguay, P. (2011). "Emergence and evolution of forest and cereal rusts.", Quebec Society for Plant Protection Annual Meeting: Exotic and invasive species., Montmagny, QC, Canada, June 2011. (Presentation)

Fox, S.L., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Wise, I.L., Smith, M.A.H., Thomas, J.B., Hiebert, C.W., McCartney, C.A., Lukow, O.M., and Niziol, D. (2011). "Breeding for Canada's premier wheat marker class: Canadian Western Red Spring.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Wang, X., McCallum, B.D., Fetch Jr., T.G., Bakkeren, G., and Saville, B. (2011). "Leaf extracts from Thatcher wheat inoculated with the avirulent race of *Puccinia triticina* confers race-specific resistance in Thatcher-Lr2a through infiltration.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, pp. 65.

Ghazvini, H., Hiebert, C.W., Thomas, J.B., Zegeye, T., and Fetch Jr., T.G. (2011). "Linkage maps of two new stem rust resistance genes on chromosomes 2B and 6A of wheat line Tr129.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, pp. 48.

Derevnina, L., Fetch Jr., T.G., and Park, R.F. (2011). "Resistance to stem rust in Australian barley cultivars.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, Poster #33. (Poster)

McCallum, B.D., Fetch Jr., T.G., Hiebert, C.W., and Thomas, J.B. (2011). "The effect of Lr34 on wheat stem rust.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, Poster #66. (Poster)

Hodson, D.P., Nazari, K., Park, R.F., Fetch Jr., T.G., Lassen, P., Arista, J., Hansen, J.L., Hovmoller, M., Jin, Y., Pretorius, Z.A., and Sonder, K. (2011). "Putting Ug99 on the map: An update on current and future monitoring.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, pp. 3-13.

Ghazvini, H., Hiebert, C.W., Zegeye, T., and Fetch Jr., T.G. (2011). "Identification of a stem rust resistance gene in wheat line Tr129 with an introgression from *Aegilops triuncialis* genome.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011, Poster CPS-9. (Poster)

Ghazvini, H., Hiebert, C.W., Zegeye, T., and Fetch Jr., T.G. (2011). "Mapping resistance to race Ug99 stem rust in Norin 40 (Sr42).", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, Poster #65. (Poster)

Fetch Jr., T.G., Zegeye, T., Singh, D., Wanyera, R., Penner, M., and Rashid, K.Y. (2011). "Virulence of Ug99 (race TTKSK) and race TRTTF on Canadian wheat cultivars.", Canadian Journal of Plant Science, 92(3), pp. 602. (Abstract)

Fetch Jr., T.G. (2011). "Stem rust never sleeps: An ancient foe awakens from the grave.", Prairie Grain Development Committee plenary session, Winnipeg, MB, Canada, February 22-24, 2011. (Presentation)

Fetch Jr., T.G. (2011). "Ug99 – A wheat killer of global proportions.", FarmTech 2011, Edmonton, AB, Canada, January 26-28, 2011, pp. 66-68.

Fedak, G., Cao, W., Chi, D., Zhang, L., Xue, A.G., and Fetch Jr., T.G. (2011). "Screening of cytogenetic stocks for resistance to Ug99.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, Poster #51. (Poster)

Cao, W., Fedak, G., Fetch Jr., T.G., Xue, A.G., and Briere, S. (2011). "Gene pyramiding for resistance to Ug99 stem rust in Canadian spring wheat", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, pp. 54.

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## Research Publications:

2016

Senthilkumar, T., Jayas, D.S., White, N.D.G., Fields, P.G., and Gräfenhan, T. (2016). "Detection of fungal infection and Ochratoxin A contamination in stored wheat using near-infrared hyperspectral imaging.", *Journal of Stored Products Research*, 65, pp. 30-39. doi : 10.1016/j.jspr.2015.11.004

2015

Abdelghany, A.Y., Suthisut, D., and Fields, P.G. (2015). "The effect of diapause and cold acclimation on the cold-hardiness of the warehouse beetle, *Trogoderma variabile* (Coleoptera: Dermestidae).", *The Canadian Entomologist*, 147(2), pp. 158-168. doi : 10.4039/tce.2014.45

Li, Y.-Y., Fields, P.G., Pang, B., Coghlin, P.C., and Floate, K.D. (2015). "Prevalence and diversity of *Wolbachia* bacteria infecting insect pests of stored products.", *Journal of Stored Products Research*, 62, pp. 93-100. doi : 10.1016/j.jspr.2015.04.009

Jian, F., Jayas, D.S., White, N.D.G., Fields, P.G., and Howe, N. (2015). "An evaluation of insect expulsion from wheat samples by microwave treatment for disinfestation.", *Biosystems Engineering*, 130, pp. 1-12. doi : 10.1016/j.biosystemseng.2014.11.014

Jian, F., Jayas, D.S., Fields, P.G., and White, N.D.G. (2015). "A new method to rapidly detect rusty grain beetle, *Cryptolestes ferrugineus* (Stephens), in stored grain.", *Journal of Stored Products Research*, 63, pp. 1-5. doi : 10.1016/j.jspr.2015.05.004

Campbell, J.F., Buckman, F.K.A., Fields, P.G., and Subramanyam, B.H. (2015). "Evaluation of structural treatment efficacy against *Tribolium castaneum* and *Tribolium confusum* (Coleoptera: Tenebrionidae) using meta-analysis of multiple studies conducted in food facilities.", *Journal of Economic Entomology*, 108(5), pp. 2125-2140. doi : 10.1093/jee/fov215

2014

Clark, E.L., Isitt, R., Plettner, E., Fields, P.G., and Huber, D. (2014). "An Inexpensive Feeding Bioassay Technique for Stored-Product Insects.", *Journal of Economic Entomology*, 107(1), pp. 455-461. doi : 10.1603/EC13283

Li, Y.Y., Floate, K.D., Fields, P.G., and Pang, B. (2014). "Review of treatment methods to remove *Wolbachia* bacteria from arthropods. *Symbiosis*", *Symbiosis*, 62(1), pp. 1-15. doi : 10.1007/s13199-014-0267-1

Jian, F., Jayas, D.S., White, N.D.G., and Fields, P.G. (2014). "Carbon dioxide sorption by stored canola under different storage conditions.", *Journal of Stored Products Research*, 59, pp. 101-107. doi : 10.1016/j.jspr.2014.05.009

Arlene-Christina, G.D., Jayas, D.S., Fields, P.G., Jian, F., White, N.D.G., and Alagusundaram, K. (2014). "Movement of *Cryptolestes ferrugineus* out of wheat kernels and their mortalities under elevated temperatures.", *Journal of Stored Products Research*, 59, pp. 292-298. doi : 10.1016/j.jspr.2014.09.003

2013

Hawkin, K.J., Stanbridge, D., and Fields, P.G. (2013). "Sampling *Tribolium castaneum* and *Tribolium confusum* in flour mill rollstands.", *Journal of Stored Products Research*, 52(January 2013), pp. 7-11. doi : 10.1016/j.jspr.2012.08.003

Kaliramesh, S., Chelladurai, V., Jayas, D.S., Alagusundaram, K., White, N.D.G., and Fields, P.G. (2013). "Detection of infestation by *Callosobruchus maculatus* in mung bean using near-infrared hyperspectral imaging.", *Journal of Stored Products Research*, 52, pp. 107-111. doi : 10.1016/j.jspr.2012.12.005

Purohit, P., Jayas, D.S., Yadav, B.K., Chelladurai, V., Fields, P.G., and White, N.D.G. (2013). "Microwaves to control *Callosobruchus maculatus* in stored mung bean (*Vigna radiata*).", *Journal of Stored Products Research*, 53, pp. 19-22. doi : 10.1016/j.jspr.2013.01.002

2012

Wijayaratne, L.K.W., Fields, P.G., and Arthur, F.H. (2012). "Effect of methoprene on the progeny production of *Tribolium castaneum* (Coleoptera: Tenebrionidae).", *Pest Management Science*, 68(2), pp. 217-224. doi: 10.1002/ps.2247

Wijayaratne, L.K.W. and Fields, P.G. (2012). "Effects of rearing conditions, geographical origin, and selection on larval diapause in the Indian meal moth, *Plodia interpunctella*.", *Journal of Insect Science*, 12(Article No. 119). doi: 10.1673/031.012.11901

Wijayaratne, L.K.W., Fields, P.G., and Arthur, F.H. (2012). "Residual Efficacy of Methoprene for Control of *Tribolium castaneum* (Coleoptera: Tenebrionidae) Larvae at Different Temperatures on Varnished Wood, Concrete, and Wheat.", *Journal of Economic Entomology*, 105(2), pp. 718-725. doi: 10.1603/EC11375

2011

Suthisut, D., Fields, P.G., and Chandrapatya, A. (2011). "Fumigant toxicity of essential oils from three Thai plants (Zingiberaceae) and their major compounds against *Sitophilus zeamais*, *Tribolium castaneum* and two parasitoids.", *Journal of Stored Products Research*, 47(3), pp. 222-230. doi: 10.1016/j.jspr.2011.03.002

Bhuvaneswari, K., Fields, P.G., White, N.D.G., Sarkar, A.K., Singh, C.B., and Jayas, D.S. (2011). "Image analysis for detecting insect fragments in semolina.", *Journal of Stored Products Research*, 47(1), pp. 20-24. doi: 10.1016/j.jspr.2010.08.003

Loganathan, M., Jayas, D.S., Fields, P.G., and White, N.D.G. (2011). "Low and high temperatures for the control of cowpea beetle, *Callosobruchus maculatus* (F.) (Coleoptera: Bruchidae) in chickpeas.", *Journal of Stored Products Research*, 47(3), pp. 244-248. doi: 10.1016/j.jspr.2011.03.005

White, N.D.G., Fields, P.G., Demianyk, C.J., Timlick, B., and Jayas, D.S. (2011). "Arthropods of Stored Cereals, Oilseeds, and Their Products in Canada: Artificial Ecosystems on Grasslands.", in Floate, K.D. (ed.) - *Arthropods of Canadian Grasslands. Vol. 2: Inhabitants of a Changing Landscape*, Biological Survey of Canada (BSC), Chapter 11, pp. 267-289.

Hawkin, K.J., Stanbridge, D., and Fields, P.G. (2011). "Sampling *Tribolium confusum* and *Tribolium castaneum* in mill and laboratory settings: differences between strains and species.", *Canadian Entomologist*, 143(5), pp. 504-517. doi: 10.4039/n11-026

## Other Science Related Publications:

2014

Wilches Correal, D.M., Laird, R.A., Floate, K.D., and Fields, P.G. (2014). "Effects of extreme temperatures on the survival of the quarantine stored-product pest, *Trogoderma granarium* (khapra beetle).", Joint Annual Meeting of the Entomological Societies of Canada and Saskatchewan. Symposium: Arthropod "omics" – Impact on Management, Saskatoon, Canada, September 26-October 1, 2014.

Wilches Correal, D.M., Laird, R.A., Floate, K.D., and Fields, P.G. (2014). "Effects of extreme temperatures on the survival of the quarantine stored-product pest, *Trogoderma granarium* (khapra beetle).", 62nd Annual Meeting of the Entomological Society of Alberta, Lethbridge, AB, Canada, October 16-18, 2014.

Li, Y.Y., Floate, K.D., Fields, P.G., and Pang, B. (2014). "Wolbachia supergroup typing based on wsp and MLST of stored-product insect pests.", 3rd Annual Biology Graduate Research Symposium, University of Lethbridge, Lethbridge, AB, Canada, January 31, 2014.

Wilches, D., Laird, R.A., Floate, K.D., and Fields, P.G. (2014). "Effects of extreme temperatures on the survival of the quarantine stored-product pest, *Trogoderma granarium* (khapra beetle).", 11th International Working Conference on Stored Product Protection, Chiang Ma, Thailand, November 24-28, 2014. (Poster)

2013

Li, Y.Y., Floate, K.D., Fields, P.G., and Pang, B. (2013). "Effect of antibiotics on Wolbachia infections in *Tribolium confusum* and on host reproduction.", 61st Annual meeting of the Entomological Society of Alberta, Olds College, Olds, AB, Canada, October 10-11, 2013.

Li, Y.Y., Floate, K.D., Fields, P.G., and Pang, B. (2013). "Effect of antibiotics on Wolbachia infections in *Tribolium confusum* and on host reproduction.", Joint Annual Meeting of the Entomological Societies of Ontario and Canada, Guelph, Ontario, Canada, October 20-23, 2013.

Li, Y.Y., Floate, K.D., Fields, P.G., and Pang, B. (2013). "Effect of antibiotics on Wolbachia infections in *Tribolium confusum* and on host reproduction.", 69th Annual Meeting of the Entomological Society of Manitoba, Winnipeg, MB, Canada, November 1-2, 2013.

Akhtar, J., Hynes, R.K., Taylor, W.G., Fields, P.G., and Isman, M.B. (2013). "Toxicity and feeding deterrent effects of a pea extract and pea protein against the cabbage looper, *Trichoplusia ni* (Lepidoptera: Noctuidae).", 1st International Conference on Pesticidal Plants, Nairobi, Kenya, 21-24 January, 2013.

Fields, P.G., Abdelghany, A.Y., Taylor, W.G., and Hynes, R.K. (2013). "Small bin trial of pea extract to control stored-product insects.", IOBC-WPRS, Integrated Protection of Stored Products, Bordeaux, France, July 2-4, 2013.

Abdelghany, A.Y. and Fields, P.G. (2013). "Distribution and mortality of *Cryptolestes ferrugineus* and *Rhyzopertha dominica* adults in small bin trial in response to low temperatures.", Proc. Man. Entomological Society. (Abstract)

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## Research Publications:

2013

Thistlewood, H.M.A., Gibson, G.A.P., Gillespie, D.R., and Fitzpatrick, S.M. (2013). "Drosophila suzukii (Matsumura), Spotted Wing Drosophila (Diptera: Drosophilidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, Chapter 21, pp. 152-155.

Fitzpatrick, S.M., Gries, R., Khaskin, G., Peach, D.A.H., Iwanski, J., and Gries, G. (2013). "Populations of the Gall Midge *Dasineura oxycoccana* on Cranberry and Blueberry Produce and Respond to Different Sex Pheromones.", *Journal of Chemical Ecology*, 39(1), pp. 37-49. doi : 10.1007/s10886-012-0230-7

2012

Peach, D.A.H., Huber, J.T., and Fitzpatrick, S.M. (2012). "Hymenopterous parasitoids of cranberry tipworm (Diptera: Cecidomyiidae) in British Columbia, Canada.", *Canadian Entomologist*, 144(3), pp. 487-490. doi : 10.4039/tce.2012.37

Cook, M.A., Fitzpatrick, S.M., and Roitberg, B.D. (2012). "Phenology of *Dasineura oxycoccana* (Diptera: Cecidomyiidae) on cranberry and blueberry indicates potential for gene flow.", *Journal of Economic Entomology*, 105(4), pp. 1205-1213. doi : 10.1603/EC11418

Mathur, S., Cook, M.A., Sinclair, B.J., and Fitzpatrick, S.M. (2012). "DNA barcodes suggest cryptic speciation in *Dasineura oxycoccana* (Diptera: Cecidomyiidae) on cranberry, *Vaccinium macrocarpon*, and blueberry, *V. corymbosum*.", *Florida Entomologist*, 95(2), pp. 387-394.

2011

Cook, M.A., Ozeroff, S.N., Fitzpatrick, S.M., and Roitberg, B.D. (2011). "Host-associated differentiation in reproductive behaviour of cecidomyiid midges on cranberry and blueberry.", *Entomologia Experimentalis et Applicata*, 141(1), pp. 8-14. doi : 10.1111/j.1570-7458.2011.01166.x

## Other Science Related Publications:

2011

Mathur, S., Cook, M.A., Sinclair, B.J., and Fitzpatrick, S.M. (2011). "DNA barcodes suggest cryptic speciation in *Dasineura oxycoccana* (Diptera: Cecidomyiidae) on cranberry and blueberry in British Columbia.", North American Cranberry Research and Extension Workers Conference (NACREW) 2011, Wisconsin Dells, WI, USA, September 11-14, 2011.

Fitzpatrick, S.M., Peach, D.A.H., Gries, R., Khaskin, G., Iwanski, J., and Gries, G. (2011). "Identifying the sex pheromone of cranberry tipworm (*Dasineura oxycoccana*).", North American Cranberry Research and Extension Workers Conference (NACREW) 2011, Wisconsin Dells, WI, USA, September 11-14, 2011.

Vafaie, E., Fitzpatrick, S.M., and Cory, J.S. (2011). "The influence of natal host on the fecundity of the parasitoid, *Praon unicum*, on the blueberry aphid, *Ericaphis fimbriata*.", Entomological Society of British Columbia 2011 Annual General Meeting, Abbotsford, BC, Canada, October 14, 2011.



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## Research Publications:

2015

Chen, L., Ekine-Dzivenu, C., Vinsky, M.D., Basarab, J.A., Aalhus, J.L., Dugan, M.E.R., Fitzsimmons, C.J., Stothard, P., and Li, C. (2015). "Genome-wide association and genomic prediction of breeding values for fatty acid composition in subcutaneous adipose and longissimus lumborum muscle of beef cattle.", *BMC Genetics*, 16(1: Article number 135), pp. 1-15. doi : 10.1186/s12863-015-0290-0

Akanno, E.C., Plastow, G., Fitzsimmons, C.J., Miller, S.P., Baron, V.S., Ominski, K.H., and Basarab, J.A. (2015). "Genome-wide association for heifer reproduction and calf performance traits in beef cattle.", *Genome*, 58(12), pp. 549-557. doi : 10.1139/gen-2015-0031

2014

Wood, K.M., Montanholi, Y.R., Fitzsimmons, C.J., Miller, S.P., and McBride, B.W. (2014). "Characterization and evaluation of residual feed intake measured in mid- to late-gestation mature beef cows and relationships with circulating serum metabolites and linear body measurements.", *Canadian Journal of Animal Science*, 94(3), pp. 499-508. doi : 10.4141/CJAS2013-165

2013

Wood, K.M., Awda, B.J., Fitzsimmons, C.J., Miller, S.P., McBride, B.W., and Swanson, K.C. (2013). "Effect of moderate dietary restriction on visceral organ weight, hepatic oxygen consumption, and metabolic proteins associated with energy balance in mature pregnant beef cows.", *Journal of Animal Science*, 91(9), pp. 4245-4255. doi : 10.2527/jas.2013-6421

Xiang, R., Ghanipour-Samami, M., Johns, W.H., Eindorf, T., Rutley, D.L., Kruk, Z.A., Fitzsimmons, C.J., Thomsen, D.A., Roberts, C.T., Burns, B.M., Anderson, G.I., Greenwood, P.L., and Hiendleder, S. (2013). "Maternal and Paternal Genomes Differentially Affect Myofibre Characteristics and Muscle Weights of Bovine Fetuses at Midgestation.", *PLoS ONE*, 8(1, Article No. e53402). doi : 10.1371/journal.pone.0053402

2011

Anand-Ivell, R., Hiendleder, S., Viñoles, C., Martin, G.B., Fitzsimmons, C.J., Eurich, Andrea, Hafen, B., and Ivell, Richard (2011). "INSL3 in the Ruminant: A Powerful Indicator of Gender- and Genetic-Specific Feto-Maternal Dialogue.", *PLoS ONE*, 6(5, Article No. e19821). doi : 10.1371/journal.pone.0019821

## Other Science Related Publications:

2016

Foroutan, A., Dugan, M.E.R., Stothard, P., Grant, J., Paradis, F., Guan, L.L., McAllister, T.A., Basu, U., Li, C., and Fitzsimmons, C.J. (2016). "Gene expression differences associated with fatty-acid deposition in beef cattle fed diets with supplemental flaxseed.", XXIV Plant and Animal Genomics Conference, San Diego, CA, USA, January 2016. (Abstract)

2015

Li, C., Ekine-Dzivenu, C., Chen, L., Vinsky, M.D., Basarab, J.A., Aalhus, J.L., Dugan, M.E.R., and Fitzsimmons, C.J. (2015). "Heritability estimates and accuracy of predicting direct genomic breeding values for fatty acid composition of beef cattle.", *CASA*. (Abstract)

2014

Fitzsimmons, C.J., Muhire, G., Paradis, F., McKeown, L.E., Straathof, C., Block, H.C., Colazo, M.G., Li, C., Yaremci, B., Basarab, J.A., and Bruce, H.L. (2014). "Pregnant beef heifers categorized by residual feed intake measured in adolescence exhibit differential intake and feeding behaviors when fed a restricted diet. 2014.", *ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014*. (Poster)

Foroutan, A., Stothard, P., Grant, J., Paradis, F., Guan, L.L., Dugan, M.E.R., McAllister, T.A., Basu, U., McLean, K.L., and Fitzsimmons, C.J. (2014). "Transcriptional analysis in Longissimus thoracis muscle, subcutaneous and kidney fat of cattle fed diets with supplemental flaxseed.", XXII Plant & Animal Genome Conference, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014.

Li, C., Aalhus, J.L., Dugan, M.E.R., Fitzsimmons, C.J., Basarab, J.A., Curtis, J., Stothard, P., Okine, E.K., Wang, Z., Bruce, H.L., and Buchanan, F.C. (2014). Identifying DNA markers for enhancing beneficial fatty acids in beef. Final project report, 33 pages to Alberta Livestock and Meat Agency (ALMA). (Report)

Chen, L., Vinsky, M.D., Ekine, C., Basarab, J.A., Aalhus, J.L., Dugan, M.E.R., Curtis, J., Fitzsimmons, C.J., Stothard, P., and Li, C. (2014). "Genomic prediction of direct genomic breeding values for fatty acid concentrations in subcutaneous adipose and longissimus lumborum muscle of beef cattle.", Livestock Gentec 5th Annual conference, Edmonton, AB, Canada, August 12-14, 2014. (Poster)

Li, C., Dugan, M.E.R., Aalhus, J.L., Fitzsimmons, C.J., Basarab, J.A., Buchanan, F.C., Chen, L., Ekine-Dzivenu, C., Stothard, P., Curtis, J., Bruce, H.L., Wang, Z., and Okine, E.K. (2014). "Genetic Influence of Host Animal on Fatty Acid Profile in Beef.", University of Alberta Kinsella Day, Kinsella, AB, Canada, August 13, 2014. (Poster)

Li, C., Dugan, M.E.R., Aalhus, J.L., Fitzsimmons, C.J., Basarab, J.A., Buchanan, F.C., Chen, L., Ekine-Dzivenu, C., Stothard, P., Curtis, J.M., Bruce, H.L., Wang, Z., and Okine, E.K. (2014). "Genetic Influence of Host Animal on Fatty Acid Profile in Beef.", Beef and Ranch Report, pp. 34-35.

## 2013

Straathof, C., Paradis, F., Block, H.C., Colazo, M.G., Yaremci, B., Li, C., Bruce, H.L., and Fitzsimmons, C.J. (2013). "Investigating RFI and diet interactions on ADG, body weight, rib and backfat thickness in pregnant Angus heifers.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P25, pp. 35. (Poster)

Chen, L., Vinsky, M.D., Ekine, C., Basarab, J.A., Aalhus, J.L., Dugan, M.E.R., Curtis, J.M., Fitzsimmons, C.J., Buchanan, F.C., Stothard, P., Liao, X.J., Wang, Z., Okine, E.K., and Li, C. (2013). "Genome-wide identification of single nucleotide polymorphisms associated with fatty acids in beef cattle.", Livestock Gentec Conference, Edmonton, Canada, October, 2013. (Abstract)

Thompson, S., Schaefer, A.L., Crow, G.H., Basarab, J.A., Colyn, J.J., Wittenberg, K.M., Baron, V.S., Fitzsimmons, C.J., and Ominski, K.H. (2013). "Predicting residual feed intake in beef bulls by measuring radiated heat loss through infrared thermography.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O20-GS, pp. 11.

Thompson, S., Ullenboom, T.R., Crow, G.H., Basarab, J.A., Wittenberg, K.M., Baron, V.S., Fitzsimmons, C.J., and Ominski, K.H. (2013). "Repeated measures of residual feed intake in growing beef bulls fed forage and grain based diets.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P13, pp. 29. (Poster)

Foroutan, A., Stothard, P., Grant, J., Paradis, F., Guan, L.L., Dugan, M.E.R., Basu, U., McLean, K.L., and Fitzsimmons, C.J. (2013). "Transcriptional analysis in Longissimus dorsi muscle and subcutaneous fat of the cattle fed diets with supplemental flaxseed.", Livestock Gentec Conference, Edmonton, Canada, October, 2013. (Abstract)

Ekine, C., Chen, L., Vinsky, M.D., Basarab, J.A., Aalhus, J.L., Dugan, M.E.R., Curtis, J., Fitzsimmons, C.J., Wang, Z., Okine, E.K., and Li, C. (2013). "Heritability of fatty acids in longissimus dorsi muscle and subcutaneous adipose tissue of beef cattle.", Livestock Gentec Conference, Edmonton, Canada, October, 2013. (Abstract)

## 2012

Awda, B.J., Wood, K.M., McBride, B.W., Miller, S.P., Mandell, I.B., and Fitzsimmons, C.J. (2012). "The influence of feed intake on pancreatic lipase,  $\alpha$ -amylase, and trypsin activities in pregnant beef cows.", 45th Meeting Midwestern Sectional Scientific Sessions and Business Meeting, Iowa Events Center, Des Moines, IA, USA, March 19-21, 2012.

Awda, B.J., Wood, K.M., Trouten-Radford, L., McBride, B.W., Mandell, I.B., Fitzsimmons, C.J., and Swanson, K.C. (2012). "The influence of feed intake on hepatic oxygen consumption, citrate synthase activity and protein concentration in pregnant beef cows.", 45th Meeting Midwestern Sectional Scientific Sessions and Business Meeting, Iowa Events Center, Des Moines, IA, USA, March 19-21, 2012.

## 2011

Wood, K.M., Fitzsimmons, C.J., Miller, S.P., and McBride, B.W. (2011). "Molecular factors that influence feed efficiency in pregnant cows.", Ontario Ministry of Agriculture Food and Rural Affairs (OMAFRA) Sheep and Beef Research Update, Guelph, ON, Canada, 2011.

Paradis, F., Wood, K.M., Swanson, K.C., Mandell, I.B., McBride, B.W., and Fitzsimmons, C.J. (2011). "The impact of maternal nutrition during pregnancy on fetal calf growth and phenotypic characteristics.", Livestock Gentec's 2nd Annual Conference: Addressing the Gap Between Discovery and Profitable Adoption, Edmonton, AB, Canada, October 19-20, 2011.

Aalhus, J.L., Gariépy, C., Basarab, J.A., Dugan, M.E.R, Fitzsimmons, C.J., Caine, W.R., Uttaro, B., and Juárez, M. (2011). "Optimizing Canadian pork quality through integrated management strategies.", 40th Banff Pork Seminar 2011, Banff Centre, Banff, AB, Canada, January 18-21, 2011.

McLean, K.L., Dugan, M.E.R, McAllister, T.A., Basu, U., Li, C., He, M.L., Aalhus, J.L., Guan, L.L., and Fitzsimmons, C.J. (2011). "Identifying gene expression differences associated with a diet-induced increase of omega-3 fatty-acids in beef cattle.", Plant & Animal Genome XIX Conference, Town & Country Convention Center, San Diego, CA, USA, January 15-19, 2011, P708.

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## Research Publications:

2015

Floate, K.D., Watson, P.W., Coghlin, P.C., and Olfert, O.O. (2015). "Degree-day models for development of the dung beetles *Onthophagus nuchicornis*, *O. taurus* and *Digitonthophagus gazella* (Coleoptera: Scarabaeidae), and the likelihood of *O. taurus* establishment in southern Alberta, Canada.", *The Canadian Entomologist*, 147(5), pp. 617-627. doi : 10.4039/tce.2014.70

Floate, K.D., Godbout, J., Lau, M.K., Isabel, N., and Whitham, T.G. (2015). "Plant-herbivore interactions in a trispecific hybrid swarm of *Populus*: Assessing support for hypotheses of hybrid bridges, evolutionary novelty and genetic similarity.", *New Phytologist*. doi : 10.1111/nph.13622

Li, Y.-Y., Fields, P.G., Pang, B., Coghlin, P.C., and Floate, K.D. (2015). "Prevalence and diversity of *Wolbachia* bacteria infecting insect pests of stored products.", *Journal of Stored Products Research*, 62, pp. 93-100. doi : 10.1016/j.jspr.2015.04.009

Evans, L.M., Allan, G.J., DiFazio, S.P., Slavov, G.T., Wilder, J.A., Floate, K.D., Rood, S.B., and Whitham, T.G. (2015). "Geographical barriers and climate influence demographic history in narrowleaf cottonwoods.", *Heredity*, 114(4), pp. 387-396. doi : 10.1038/hdy.2014.115

Floate, K.D. and Spence, J.R. (2015). "'Outbreaks' of *Amara stephens* (Coleoptera: Carabidae) in Alberta, Canada.", *Coleopterists Bulletin*, 69(1), pp. 114-115. doi : 10.1649/0010-065X-69.1.114

2014

Li, Y.-Y., Floate, K.D., Fields, P.G., and Pang, B. (2014). "Review of treatment methods to remove *Wolbachia* bacteria from arthropods. *Symbiosis*", *Symbiosis*, 62(1), pp. 1-15. doi : 10.1007/s13199-014-0267-1

Hervet, V.A.D., Murillo, H., Fernández-Triana, J.L., Shaw, M.R., Laird, R.A., and Floate, K.D. (2014). "First report of *Cotesia vanessae* (Hymenoptera: Braconidae) in North America.", *Canadian Entomologist*, 146(5), pp. 560-566. doi : 10.4039/tce.2014.9

Kadiri, N., Lumaret, J.-P., and Floate, K.D. (2014). "Functional diversity and seasonal activity of dung beetles (Coleoptera: Scarabaeidae) on native grasslands in southern Alberta, Canada.", *The Canadian Entomologist*, 146(3), pp. 291-305. doi : 10.4039/tce.2013.75

Bell, A., Phillips, I.D., Floate, K.D., Hoemsen, B.M., and Phillips, C.E. (2014). "Effects of pitfall lid transparency and habitat structure on the catches of carabid beetles (Coleoptera: Carabidae) in an untamed pasture.", *Environmental Entomology*, 43(1), pp. 139-145. doi : 10.1603/EN13145

Holliday, N.J., Floate, K.D., Cárcamo, H.A., Stjernerberg, A., and Roughley, R.E. (2014). "Ground beetles (Coleoptera: Carabidae) of the prairie grasslands of Canada.", in Cárcamo, H. and Giberson, D. (eds.) - *Arthropods of Canadian Grasslands Volume 4*, Biological Survey of Canada (BSC), pp. 1-85.

2013

Floate, K.D. and Kyei-Poku, G.K. (2013). "Reproductive parasites: symbiotic bacteria for potential use in biological control.", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 6, pp. 43-53.

Floate, K.D. and Kadiri, N. (2013). "Dung beetles (Coleoptera: Scarabaeidae) associated with cattle dung on native grasslands of southern Alberta, Canada.", *The Canadian Entomologist*, 145(6), pp. 647-654. doi : 10.4039/tce.2013.50

LeBoldus, J.M., Isabel, N., Floate, K.D., Blenis, P.V., and Thomas, B. (2013). "Testing the 'hybrid susceptibility' and 'phenological sink' hypotheses using the *P. balsamifera* – *P. deltoides* hybrid zone and septoria leaf spot [*Septoria musiva*].", *PLoS ONE*, 8(12): Article e84437. doi : 10.1371/journal.pone.0084437

2012

Lumaret, J.-P., Errouissi, F., Floate, K.D., Römbke, J., and Wardhaugh, K.G. (2012). "A Review on the Toxicity and Non-Target Effects of Macrocyclic Lactones in Terrestrial and Aquatic Environments.", *Current Pharmaceutical Biotechnology*, 13(6), pp. 1004-1060.

Rounds, R.J. and Floate, K.D. (2012). "Diversity and Seasonal Phenology of Coprophagous Beetles at Lake City, Michigan, USA, with a New State Record for *Onthophagus taurus* (Schreber) (Coleoptera: Scarabaeidae)", *Coleopterists Bulletin*, 66(2), pp. 169-172. doi : 10.1649/072.066.0217

De Clerck-Floate, R.A., Saunders, P., and Floate, K.D. (2012). "Release and recapture of three insect species test the efficacy of trap method and airflow in insect containment.", *Canadian Entomologist*, 144(4), pp. 609-616. doi : 10.4039/tce.2012.45

2011

Jochmann, R., Blanckenhorn, W.U., Bussière, L.F., Eirkson, C.E., Lahr, J., Lumaret, J.-P., Römbke, J., Wardhaugh, K.G., and Floate, K.D. (2011). "How to test non-target effects of veterinary pharmaceutical residues in livestock dung in the field.", *Integrated Environmental Assessment and Management*, 7(2), pp. 287-296. doi : 10.1002/ieam.111

Floate, K.D. (2011). "Arthropods in cattle dung on Canada's grasslands.", in Floate, K.D. (ed.) - *Arthropods of Canadian Grasslands. Vol. 2: Inhabitants of a Changing Landscape*, Biological Survey of Canada (BSC), Chapter 4, pp. 71-88.

Taylor, G.P., Coghlin, P.C., Floate, K.D., and Perlman, S.J. (2011). "The host range of the male-killing symbiont *Arsenophonus nasoniae* in filth fly parasitoids.", *Journal of Invertebrate Pathology*, 106(3), pp. 371-379. doi : 10.1016/j.jip.2010.12.004

Floate, K.D. (Ed.) (2011). *Arthropods of Canadian Grasslands. Vol. 2: Inhabitants of a Changing Landscape.*, Biological Survey of Canada (BSC). (Book)

Tiberg, K. and Floate, K.D. (2011). "Where went the dung-breeding insects of the American bison?", *Canadian Entomologist*, 143(5), pp. 470-478. doi : 10.4039/n11-024

## Other Science Related Publications:

2015

Erlandson, M.A., Floate, K.D., and Otani, J.K. (2015). DNA markers help identify cutworm species. AAFC's Weekly Science Story – April 1, 2015.

2014

Otani, J.K., Floate, K.D., Hervet, V.A.D., Hummel, J.D., Broatch, J.S., Reid, P., Erlandson, M.A., Evenden, M.L., Meers, S., Barkley, S., Laird, R.A., Sharanowski, B., Hartley, S., and Gavloski, J.E. (2014). "Cutworm update.", *Agronomy Update*, Red Deer, AB, Canada, January 12, 2014. (Presentation)

Wilches, D., Laird, R.A., Floate, K.D., and Fields, P.G. (2014). "Effects of extreme temperatures on the survival of the quarantine stored-product pest, *Trogoderma granarium* (khapra beetle).", 11th International Working Conference on Stored Product Protection, Chiang Ma, Thailand, November 24-28, 2014. (Poster)

Hummel, J.D., Otani, J.K., Broatch, J.S., Reid, P., Erlandson, M.A., Benn, A., Loberg, K., Dufton, S., and Floate, K.D. (2014). "Cutworm outbreaks in Alberta.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014, pp. 16. (Poster)

Wilches Correal, D.M., Laird, R.A., Floate, K.D., and Fields, P.G. (2014). "Effects of extreme temperatures on the survival of the quarantine stored-product pest, *Trogoderma granarium* (khapra beetle).", Joint Annual Meeting of the Entomological Societies of Canada and Saskatchewan. Symposium: Arthropod "omics" – Impact on Management, Saskatoon, Canada, September 26-October 1, 2014.

Otani, J.K., Floate, K.D., Hervet, V.A.D., Hummel, J.D., Broatch, J.S., Reid, P., Erlandson, M.A., Evenden, M.L., Meers, S., Barkley, S., Laird, R.A., Sharanowski, B., Hartley, S., and Gavloski, J.E. (2014). "Cutworm update.", *Agronomy Update Conference* 2006, Red Deer, AB, Canada, January 10-11, 2006, pp. 5.

Philipsen, L., Woodman, S., Floate, K.D., and Goater, C.P. (2014). "Distribution of an invasive ground beetle, *Pterostichus melanarius*, in woodlands in Cypress Hills Inter-Provincial Park, Alberta.", 62nd Annual Meeting of the Entomological Society of Alberta, Lethbridge, AB, Canada, October 16-18, 2014.

Bourchier, R.S., Coghlin, P.C., Dunlop, B., Ostrander, D., LeSage, L., and Floate, K.D. (2014). "Assessment of the diversity of *Aphthona* beetles for the biological control of leafy spurge on the prairies.", 62nd Annual Meeting of the Entomological Society of Alberta, Lethbridge, AB, Canada, October 16-18, 2014. (Poster)

Dufton, S., Benn, A., Erlandson, M.A., Floate, K.D., and Otani, J.K. (2014). "2014 CARP cutworm project summary: Peace River region.", Alberta Canola Producers Commission's Regional Meetings, Rycroft, Alberta, Canada, November 26, 2014. (Presentation)

Bourchier, R.S., Coghlin, P.C., Dunlop, B., Ostrander, D., LeSage, L., and Floate, K.D. (2014). "Assessment of the diversity of *Aphthona* beetles for the biological control of leafy spurge on the prairies.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014. (Poster)

- Lahr, J., Blanckenhorn, W.U., Floate, K.D., Lumaret, J.-P., Tixier, T., Wohde, M., Düring, R.-A., and Römbke, J. (2014). "An international ring test to assess effects of ivermectin.", 24th Annual Meeting of SETAC Europe, Basel, Switzerland, May 11-15, 2014. (Poster)
- Hummel, J.D., Otani, J.K., Broatch, J.S., Reid, P., Erlandson, M.A., Benn, A., Loberg, K., Dufton, S., and Floate, K. D. (2014). "Where the cutworms are: Three years of cutworm reports and collections in Alberta.", 62nd Annual Meeting of the Entomological Society of Alberta, Lethbridge, AB, Canada, October 16-18, 2014.
- Floate, K.D. (2014). "The changing diversity of dung beetles on the Canadian prairies: a never-ending story.", 62nd Annual Meeting of the Entomological Society of Alberta, Lethbridge, AB, Canada, October 16-18, 2014.
- Wilches Correal, D.M., Laird, R.A., Floate, K.D., and Fields, P.G. (2014). "Effects of extreme temperatures on the survival of the quarantine stored-product pest, *Trogoderma granarium* (khapra beetle).", 62nd Annual Meeting of the Entomological Society of Alberta, Lethbridge, AB, Canada, October 16-18, 2014.
- Hervet, V.A.D., Laird, R.A., and Floate, K.D. (2014). "Tri-trophic influence of nitrogen on the development of a parasitoid wasp.", 62nd Annual Meeting of the Entomological Society of Alberta, Lethbridge, AB, Canada, October 16-18, 2014.
- Hervet, V.A.D., Laird, R.A., and Floate, K.D. (2014). "Effects of diet protein concentration on the development of caterpillars (Noctuidae) and their parasitoids (Braconidae).", Joint Annual Meeting of the Entomological Societies of Canada and Saskatchewan. Symposium: Arthropod "omics" – Impact on Management, Saskatoon, Canada, September 26-October 1, 2014.
- Floate, K.D. (2014). "The changing diversity of dung beetles on the Canadian prairies: a never-ending story.", Joint Annual Meeting of the Entomological Societies of Canada and Saskatchewan. Symposium: Arthropod "omics" – Impact on Management, Saskatoon, Canada, September 26-October 1, 2014.
- Li, Y.-Y., Floate, K.D., Fields, P.G., and Pang, B. (2014). "Wolbachia supergroup typing based on wsp and MLST of stored-product insect pests.", 3rd Annual Biology Graduate Research Symposium, University of Lethbridge, Lethbridge, AB, Canada, January 31, 2014.
- Hummel, J.D., Otani, J.K., Broatch, J.S., Reid, P., Erlandson, M.A., Benn, A., Loberg, K., Dufton, S., and Floate, K.D. (2014). "Cutworm outbreaks in Alberta.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014, pp. 16.
- Scheffczyk, A., Floate, K.D., Blanckenhorn, W.U., Coghlin, P.C., Düring, R.-A., Klockner, A., Lahr, J., Lumaret, J.-P., Tixier, T., Wohde, M., and Römbke, J. (2014). "Non-target effects of ivermectin residues on soil organisms at 4 grassland sites (France, Switzerland, The Netherlands, Canada).", 24th Annual Meeting of SETAC Europe, Basel, Switzerland, May 11-15, 2014. (Poster)
- Dufton, S., Benn, A., Erlandson, M.A., Floate, K.D., and Otani, J.K. (2014). "2014 CARP cutworm rearing project summary: Peace River region.", Alberta Canola Producers Commission's Regional Meetings, Falher, Alberta, Canada, November 27, 2014. (Presentation)
- Wohde, M., Blanckenhorn, W.U., Coghlin, P.C., Floate, K.D., Lahr, J., Lumaret, J.-P., Römbke, J., Scheffczyk, A., Tixier, T., and Düring, R.-A. (2014). "Dissipation of the antiparasitic agent ivermectin in cattle dung and soil at 4 parallel field studies.", 24th Annual Meeting of SETAC Europe, Basel, Switzerland, May 11-15, 2014. (Poster)
- Wilches Correal, D.M., Coghlin, P.C., and Floate, K.D. (2014). "Wolbachia and the effect of antibiotic treatments on the microbiome of *Drosophila suzukii*.", 62nd Annual Meeting of the Entomological Society of Alberta, Lethbridge, AB, Canada, October 16-18, 2014. (Poster)
- Floate, K.D. and Coghlin, P.C. (2014). "Invasion dynamics of Wolbachia bacteria in populations of the wasp, *Trichomalopsis sarcophagae* (Pteromalidae).", 62nd Annual Meeting of the Entomological Society of America, Portland, OR, USA, November 16-19, 2014. (Poster)
- Bourchier, R.S., Coghlin, P.C., Dunlop, B., Ostrander, D., LeSage, L., and Floate, K.D. (2014). "Assessment of the diversity of *Aphthona* flea beetles for biological control of leafy spurge on the prairies.", 62nd Annual Meeting of the Entomological Society of Alberta, Lethbridge, AB, Canada, October 16-18, 2014. (Poster)
- Wilches Correal, D.M., Coghlin, P.C., and Floate, K.D. (2014). "Wolbachia and the effect of antibiotic treatments on the microbiome of *Drosophila suzukii*.", Joint Annual Meeting of the Entomological Societies of Canada and Saskatchewan. Symposium: Arthropod "omics" – Impact on Management, Saskatoon, Canada, September 26-October 1, 2014. (Poster)
- Bell, A., Phillips, I.D., Floate, K.D., Hoemsen, B.M., and Phillips, C.E. (2014). "Effects of pitfall trap lid transparency on catches of carabid beetles (Coleoptera: Carabidae) in tame pasture.", Joint Annual Meeting of the Entomological Societies of Canada and Saskatchewan. Symposium: Arthropod "omics" – Impact on Management, Saskatoon, Canada, September 26-October 1, 2014. (Poster)
- Floate, K.D. and Coghlin, P.C. (2014). "The role of host genetics on the maternal transmission of Wolbachia bacteria in the wasp, *Urolepis rufipes* (Pteromalidae).", 62nd Annual Meeting of the Entomological Society of Alberta, Lethbridge, AB, Canada, October 16-18, 2014.

Hummel, J.D., Otani, J.K., Broatch, J.S., Reid, P., Erlandson, M.A., Benn, A., Loberg, K., Dufton, S., and Floate, K.D. (2014). "Where the cutworms are: Three years of cutworm reports and collections in Alberta.", 2014 Entomological Society of Alberta AGM, Canmore, AB, Canada, October 25, 2014. (Poster)

Godbout, J., Floate, K.D., Lau, M.K., Whitham, T.G., and Isabel, N. (2014). "Regional response of galling arthropods in a trispesic system of hybridizing *Populus*: a community approach.", XXII International Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2014.

2013

Floate, K.D. (2013). "Trust but verify. A field ecologist ponders the power and pitfalls of molecular methods.", 69th Annual Meeting of the Entomological Society of Manitoba, Winnipeg, MB, Canada, November 1-2, 2013.

Floate, K.D. and Coghlin, P.C. (2013). "Invasion dynamics of *Wolbachia* bacteria in populations of the wasp, *Trichomalopsis sarcophagae* (Pteromalidae).", Annual Meeting of the Canadian Society for Ecology and Evolution, University of British Columbia, Kelowna, BC, Canada, May 12-16, 2013.

Li, Y., Floate, K.D., Field, P., and Baoping, P. (2013). "How to remove *Wolbachia* bacteria from insects.", Meeting of the Minds Conference, University of Lethbridge, Lethbridge, AB, Canada, March 16, 2013. (Presentation)

Floate, K.D., Lysyk, T.J., and Gibson, G.A.P. (2013). "*Haematobia irritans* L., Horn Fly, *Musca domestica* L., House Fly, and *Stomoxys calcitrans* (L.), Stable Fly (Diptera: Muscidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, Chapter 25, pp. 182-191.

Floate, K.D., Hoover, S.E.R., and Cutler, G.C. (2013). "Open access, predatory publishers, The Canadian Entomologist, and you.", Bulletin of the Entomological Society of Canada, 45(3), pp. 131-137.

Floate, K.D. and Kadiri, N. (2013). "Seasonal activity of dung beetles (Coleoptera: Scarabaeidae) on native grasslands in southern Alberta.", 2013 Canadian Forage and Grassland Association, Olds, AB, Canada, December 10-11, 2013.

Floate, K.D. and Coghlin, P.C. (2013). "Invasion dynamics of *Wolbachia* bacteria in populations of the wasp, *Trichomalopsis sarcophagae* (Pteromalidae).", Joint Annual Meeting of the Entomological Societies of Ontario and Canada, Guelph, Ontario, Canada, October 20-23, 2013.

Hervet, V.A.D., Floate, K.D., and Laird, R.A. (2013). "Biocontrol potential for cutworms (Lepidoptera: Noctuidae) of a braconid wasp newly recorded in North America.", Joint Annual Meeting of the Entomological Societies of Ontario and Canada, Guelph, Ontario, Canada, October 20-23, 2013.

Floate, K.D. and Coghlin, P.C. (2013). "Invasion dynamics of *Wolbachia* bacteria in populations of the wasp, *Trichomalopsis sarcophagae* (Pteromalidae).", 69th Annual Meeting of the Entomological Society of Manitoba, Winnipeg, MB, Canada, November 1-2, 2013.

Hervet, V.A.D., Floate, K.D., and Laird, R.A. (2013). "*Cotesia vanessae* (Hymenoptera: Braconidae): a potential biological control agent of crop pest caterpillars.", Annual Meeting of the Canadian Society for Ecology and Evolution, University of British Columbia, Kelowna, BC, Canada, May 12-16, 2013.

Li, Y.Y., Floate, K.D., Fields, P.G., and Pang, B. (2013). "Effect of antibiotics on *Wolbachia* infections in *Tribolium confusum* and on host reproduction.", 69th Annual Meeting of the Entomological Society of Manitoba, Winnipeg, MB, Canada, November 1-2, 2013.

Hervet, V.A.D., Floate, K.D., and Laird, R.A. (2013). "Assessment of a hymenopteran parasitoid's potential as biocontrol agent of cutworms.", 61st Annual meeting of the Entomological Society of Alberta, Olds College, Olds, AB, Canada, October 10-11, 2013.

Moffat, C.E., Lalonde, R.G., Pither, J., Grosskopf-Lachat, G., and Floate, K.D. (2013). "Cryptic diversity of the *Pilosella* leaf gall wasp: geography, host or *Wolbachia*?", 98th Annual Meeting of the Ecological Society of America, Minneapolis, Minnesota, USA, August 4-9, 2013.

Floate, K.D. (2013). "Calling on more troops. New beetles help degrade dung on Canadian pastures.", Farming for Tomorrow (Alberta Edition), April/May, pp. 26-27. (Newsletter)

Floate, K.D. and Coghlin, P.C. (2013). "Invasion dynamics of *Wolbachia* bacteria in populations of the wasp, *Trichomalopsis sarcophagae* (Pteromalidae).", 61st Annual meeting of the Entomological Society of Alberta, Olds College, Olds, AB, Canada, October 10-11, 2013.

Bell, A., Phillips, I.D., Floate, K.D., Hoemsen, B.M., and Phillip, C.E. (2013). "Effects of pitfall trap lid transparency and habitat structure on the catches of carabid beetles (Coleoptera: Carabidae) in tame pasture.", XVI European Carabidologists Meeting, Prague, Czech Republic, September 21-27, 2013.

Li, Y.Y., Floate, K.D., Fields, P.G., and Pang, B. (2013). "Effect of antibiotics on *Wolbachia* infections in *Tribolium confusum* and on host reproduction.", 61st Annual meeting of the Entomological Society of Alberta, Olds College, Olds, AB, Canada, October 10-11, 2013.

Lumaret, J.-P., Römbke, J., Kadiri, N., Errouissi, F., Tixier, T., and Floate, K.D. (2013). "Antiparasitics and their impact on soil and dung fauna.", Workshop hosted by the German Federal Environment Agency titled "Pharmaceuticals in Soil, Sludge and Slurry", Dessau-Roßlau, Germany, June 18-19, 2013. (Presentation)

Li, Y.Y., Floate, K.D., Fields, P.G., and Pang, B. (2013). "Effect of antibiotics on *Wolbachia* infections in *Tribolium confusum* and on host reproduction.", Joint Annual Meeting of the Entomological Societies of Ontario and Canada, Guelph, Ontario, Canada, October 20-23, 2013.

## 2012

Bourchier, R.S., Floate, K.D., and LeSage, L. (2012). "Assessment of the diversity of biocontrol agents at historic leafy spurge release sites in Southern Alberta.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #18. (Abstract)

Floate, K.D. and Nasser, K. (2012). "Seasonal activity of dung beetles (Coleoptera: Scarabaeidae) on native grasslands in southern Alberta.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #59. (Abstract)

Floate, K.D., Blanckenhorn, W.U., Lumaret, J.-P., Tixier, T., Joost, L., and Römbke, J. (2012). "An international multi-species ring test to assess the non-target effects of residues in dung of cattle treated with veterinary pharmaceuticals.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #60. (Abstract)

Floate, K.D., Broatch, J.S., Erlandson, M.A., Evenden, M.L., Gavloski, J.E., Hartley, S., Hummel, J.D., Laird, R.A., Meers, S., Olivier, C.Y., Otani, J.K., and Sharanowski, B. (2012). "New projects for control of cutworms (Lepidoptera: Noctuidae) affecting canola crops on the prairies.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #61. (Abstract)

Hervet, V.A.D., Laird, R.A., and Floate, K.D. (2012). "*Cotesia plathyepena* Muesebeck (Hymenoptera: Braconidae): a potential biological control agent of cutworms (Lepidoptera: Noctuidae).", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #77. (Abstract)

Li, Y., Floate, K.D., Field, P., and Baoping, P. (2012). "Methods to cure symbiotic bacteria in insects.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #111. (Abstract)

Floate, K.D. (2012). "Calling on more troops. New beetles help degrade dung on Canadian pastures." (Factsheet)

Römbke, J., Blanckenhorn, W.U., Floate, K.D., Lumaret, J.-P., Tixier, T., and Lahr, J. (2012). "Effects of ivermectin application to cattle on dung fauna and dung degradation: an international comparison of field studies.", 6th SETAC World Congress/ SETAC Europe 22nd Annual Meeting, Estrel Hotel, Berlin, Germany, May 20-24, 2012.

Floate, K.D. (2012). "Non-target effects of veterinary parasiticides on the insect communities of cattle dung.", Entomological Society of America (ESA) 60th Annual Meeting, Knoxville Convention Centre, Knoxville, TN, USA, November 11-14, 2012, #1411.

Scheffczyk, A., Floate, K.D., Lumaret, J.-P., Adler, N., and Römbke, J. (2012). "Sublethal effects of Ivermectin on dung beetles of the genus *Onthophagus* (*O. taurus*, *O. nuchicornis*).", 6th SETAC World Congress/ SETAC Europe 22nd Annual Meeting, Estrel Hotel, Berlin, Germany, May 20-24, 2012.

Bourchier, R.S., Mason, P.G., and Floate, K.D. (2012). "Agriculture and Agri-Food Canada and Invasive Species.", National Invasive Species Forum, Delta Ottawa Hotel & Suites, Ottawa, ON, Canada, February 28-March 1, 2012. (Presentation)

Bourchier, R.S., Mason, P.G., and Floate, K.D. (2012). "Agriculture Information and IAS Management National Invasive Species Forum.", National Invasive Species Forum, Delta Ottawa Hotel & Suites, Ottawa, ON, Canada, February 28-March 1, 2012. (Presentation)

Mason, P.G., Floate, K.D., Brooks, S.E., Buddle, C.M., and Bennett, R.G. (2012). "Cambridge University Press – ESC's new partner for publication of *The Canadian Entomologist*.", *Bulletin of the Entomological Society of Canada*, 44(1), pp. 36.

Bourchier, R.S., Floate, K.D., and Mason, P.G. (2012). "Biocontrol Data: Agriculture and Agri-Food Canada.", National Invasive Species Forum, Delta Ottawa Hotel & Suites, Ottawa, ON, Canada, February 28-March 1, 2012. (Presentation)

## 2011

Floate, K.D., Watson, D.W., Weiss, R.M., and Olfert, O.O. (2011). "Introducing new species of dung beetles into Canada to improve pasture productivity.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting: Canadian Forum for Biological Control, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011.

Floate, K.D., Isabel, N., and Footitt, R.G. (2011). "Genetic typing of hosts and aphids provides new insights on galling arthropods of hybrid cottonwoods.", Joint Annual Meeting of the Entomological Society of Canada and Acadian Entomological Society, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011, pp. 58. (Presentation)



Isabel, N., Floate, K.D., Lamothe, M., Whitham, T.G., and Rood, S.B. (2011). "A first genomic portrait of Alberta's native poplar hybrid zones.", Poplar Council of Canada Conference & Annual Meeting - Poplars and Willows on the Prairies: Traditional Practices meet Innovative Applications, Edmonton, AB, Canada, September 18-24, 2011.

Floate, K.D., Blanckenhorn, W.U., Coghlin, P.C., Davies, I., Gray, J., Höhn, P., Kadiri, N., Lumaret, J.-P., Scheffczyk, A., Schmidt, T., Schwarz, A., Sekine, T., Taylor, C.G., Taylor, K., and Römbke, J. (2011). "Lessons learned during the selection of a dung beetle species as a test for insecticidal residues in cattle dung.", SETAC Europe 21st Annual Meeting, Milano Convention Centre, Milan, Italy, May 15-19, 2011.

Isabel, N. and Floate, K.D. (2011). "The first look at the complexity of gene exchange in a trispecific system of hybridizing cottonwoods (*Populus* spp.) and its influence on community structure of galling arthropods.", 8th Annual Cottonwood Symposium, Flagstaff, AZ, USA, February 23-25, 2011.

Floate, K.D., Blanckenhorn, W.U., Coghlin, P.C., Davies, I., Gray, J., Höhn, P., Kadiri, N., Lumaret, J.-P., Scheffczyk, A., Schmidt, T., Schwarz, A., Sekine, T., Taylor, C.G., Taylor, K., and Römbke, J. (2011). "Lessons learned during the selection of a dung beetle species as a test for insecticidal residues in cattle dung.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011.

Leggett, F.L., Floate, K.D., and Coghlin, P.C. (2011). "Detection and distribution of *Wolbachia* bacteria in insect hosts determined using confocal microscopy.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011, pp. 67.

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## Research Publications:

2015

Ghose, K., McCallum, J.L., Sweeney-Nixon, M., and Fofana, B. (2015). "Histidine 352 (His352) and tryptophan 355 (Trp355) are essential for flax UGT74S1 glucosylation activity toward secoisolariciresinol.", *PLoS ONE*, 10(2: e116248). doi: 10.1371/journal.pone.0116248

Fofana, B. and Sanderson, K.R. (2015). "AAC Sylvia-Arlene Rose for rosehip production.", *Canadian Journal of Plant Science*, 95(3), pp. 609-613. doi: 10.4141/CJPS-2014-365

Wang, Y., Fofana, B., Roy, M., Ghose, K., Yao, X.-H., Nixon, M., Nair, S., and Nyomba, G.B.L. (2015). "Flaxseed lignan secoisolariciresinol diglucoside improves insulin sensitivity through upregulation of GLUT4 expression in diet-induced obese mice.", *Journal of Functional Foods*, 18(Part A), pp. 1-9. doi: 10.1016/j.jff.2015.06.053

2014

Fofana, B., Main, D., Ghose, K., Grimmett, M.G., Peters, R.D., Martin, R.A., Mester, Z., Yang, L., Locke, S.J., and Sweeney, M. (2014). "Selenomethionine and Total Methionine Ratio is Conserved in Seed Proteins of Selenium-Treated and Non-treated Soybean, Flax, and Potato.", *Crop Science*, 54(5), pp. 2251-2261. doi: 10.2135/cropsci2013.10.0711

Ghose, K., Selvaraj, K., McCallum, J.L., Kirby, C.W., Sweeney-Nixon, M., Cloutier, S., Deyholos, M.K., Datta, R.S.S., and Fofana, B. (2014). "Identification and functional characterization of a flax UDP-glycosyltransferase glucosylating secoisolariciresinol (SECO) into secoisolariciresinol monoglucoside (SMG) and diglucoside (SDG).", *BMC Plant Biology*, 14(1: Article number 82). doi: 10.1186/1471-2229-14-82

Zarepoor, L., Lu, J.T., Zhang, C., Wu, W., Lepp, D., Robinson, L.E., Wanasundara, P.K.J.P.D., Cui, S.W., Villeneuve, S., Fofana, B., Tsao, R., Wood, G.A., and Power, K.A. (2014). "Dietary flaxseed intake exacerbates acute colonic mucosal injury and inflammation induced by dextran sodium sulfate.", *American Journal of Physiology: Gastrointestinal and Liver Physiology*, 306(12), pp. G1042-G1055. doi: 10.1152/ajpgi.00253.2013

2013

Ghose, K., McCallum, J.L., Fillmore, S.A.E., Kirby, C.W., Sanderson, K.R., Joly, S., Bruneau, A., and Fofana, B. (2013). "Structuration of the genetic and metabolite diversity among Prince Edward Island cultivated wild rose ecotypes.", *Scientia Horticulturae*, 160(27), pp. 251-263. doi: 10.1016/j.scienta.2013.01.016

2012

Rasul, G., Humphreys, D.G., Wu, J., Brûlé-Babel, A.L., Fofana, B., and Glover, K.D. (2012). "Evaluation of preharvest sprouting traits in a collection of spring wheat germplasm using genotype and genotype x environment interaction model.", *Plant Breeding*, 131(2), pp. 244-251. doi: 10.1111/j.1439-0523.2011.01931.x

2011

Kirby, C.W., McCallum, J.L., and Fofana, B. (2011). "A <sup>1</sup>H NMR study of the fatty acid distribution in developing flax bolls before and after a cooking treatment.", *Canadian Journal of Chemistry*, 89(9), pp. 1138-1142. doi: 10.1139/V11-057

Fofana, B., Cloutier, S., Kirby, C.W., McCallum, J.L., and Duguid, S.D. (2011). "A well balanced omega-6/omega-3 ratio in developing flax bolls after heating and its implications for use as a fresh vegetable by humans.", *Food Research International*, 44(8), pp. 2459-2464. doi: 10.1016/j.foodres.2010.12.018

## Other Science Related Publications:

2015

Fofana, B., Ghose, K., McCallum, J.L., You, F.M., and Cloutier, S. (2015). "UGT74S1 is a single-copy gene and is unique in controlling Secoisolariciresinol Diglucoside (SDG) formation in flax.", *Botany 2015 Joint Conference: Science and plants for people*, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-30, 2015. (Poster)

Alkhnajari, A., Ghose, K., Somalraju, A., Samis, K., and Fofana, B. (2015). "Metagenomics of the buckwheat rhizosphere's microbial diversity in wireworm-infested and non-infested soils.", UPEI Graduate Day, UPEI, MacDougall Hall, May 2015.

Fofana, B., Ghose, K., You, F.M., and Cloutier, S. (2015). "UGT74S1 Is Unique In Controlling Secoisolariciresinol Diglucoside (SDG) Formation In Flax.", XXIII Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2015, pp. 160. (Abstract)

Somalraju, A., Alkhnajari, A., Ghose, K., Main, D., and Fofana, B. (2015). "Characterizing EMS-Mutagenized pre-breeding potato lines using NGS and Phenotyping.", UPEI Graduate Day, UPEI, MacDougall Hall, May 2015. (Poster)

Somalraju, A., Alkhnajari, A., Ghose, K., Main, D., and Fofana, B. (2015). "Use of NGS and Phenotyping for Developing EMS - Mutagenized Pre-breeding Potato lines Potentially Low In Anti-nutritional Factors.", Botany 2015 Joint Conference: Science and plants for people, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-30, 2015. (Poster)

Alkhnajari, A., Somalraju, A., Ghose, K., Samis, K., and Fofana, B. (2015). "Microbial diversity of buckwheat rhizosphere in wireworm-infested and non-infested soils using metagenomics.", UPEI Multidisciplinary Graduate Research Conference, UPEI, MacDougall Hall, August 6-8, 2015. (Poster)

## 2014

Fofana, B. (2014). Breeding out glycoalkaloids: A Canadian project employs new genetic tools to speed up potato breeding. AG Annex, Reported by Treena Hein, March 2014. (Report)

Fofana, B. (2014). "Stopping potato greening: A cure may be in the works for sunburned potatoes – which is music to the industry's ears.", Spud Smart, 11(2), pp. 22-26.

Somalraju, A., Ghose, K., Carter, L., Samis, K., and Fofana, B. (2014). "Phenotypic characterization of an EMS-Mutagenized Dihaploid Potato Population.", Science Graduate Studies Day, Charlottetown, PE, Canada, May 2, 2014. (Presentation)

Cloutier, S., Rowland, G.G., Booker, H.M., Deyholos, M.K., Datla, R.S.S., Duguid, S.D., Fofana, B., Reaney, M.J.T., Selvaraj, G., Smyth, S., Wang, E., Weselake, R.J., You, F.M., Zou, J.W., and Barker, C. (2014). "The TUFGEN project.", 65th Flax Institute, Fargo, North Dakota, USA, March 27-28, 2014, Oral presentation, pp. 39-48.

Somalraju, A., Ghose, K., McCallum, J.L., and Fofana, B. (2014). "A potato without toxic compounds?/Une patate sans composés toxiques?", CLRC open House, Charlottetown, Canada, August 23, 2014. (Presentation)

Wang, Y., Fofana, B., Roy, M., and Ghose, K. (2014). "Flaxseed lignan secoisolariciresinol diglucoside improves insulin sensitivity through upregulating GLUT4 expression in diet-induced obese mice.", FASEB Meeting 2014, San Diego, USA, April 26-30, 2014, Supplement, Vol. 28 No. 1 Supplement 829.25.

Fofana, B. (2014). "How gene discovery meets plant and bioreactor genetic resources development?", UPEI – Department of Biology seminar series, Biology Department, Charlottetown, Canada, October 10, 2014. (Presentation)

Fofana, B. (2014). "So, what we do in Fofana's bioproducts and Bio-processes lab?", CBH seminar series, NRC building, Charlottetown, Canada, April 10, 2014. (Presentation)

Fofana, B. and Sanderson, K.R. (2014). "AAC Sylvia-Arlene.", Plant Varieties Journal, 93.

Fofana, B., Ghose, K., McCallum, J.L., and Cloutier, S. (2014). "Flax SDG lignan glucosylation: from gene discovery to flax lines with altered SDG profiles.", Plant Biology 2014, Portland, Oregon, USA, July 12-16, 2014. (Poster)

## 2013

Fofana, B., Ghose, K., Chapman, R.G., and Sanderson, K.R. (2013). "Genetic, Agronomy, and Metabolomics of Prince Edwards Island Wild Rose Collection and Promise for Cultivar Development", in Kulka, M. (ed.) - Using Old Solutions to New Problems - Natural Drug Discovery in the 21st Century, InTech, Open Access Publisher, Chapter 2, pp. 37-62.

Ghose, K., McCallum, J.L., Stetson, C., and Fofana, B. (2013). "Reducing potato anti-nutritional factors.", Open House (Poster), Harington, PE, Canada, August 16, 2013. (Presentation)

Fofana, B. (2013). "Lignan biosynthesis, bioactivity and bioavailability.", Genome Canada flax Tufgen project final AGM presentation, Saskatoon, Canada, November 28-29, 2013. (Presentation)

Ghose, K., Selvaraj, K., McCallum, J.L., Datla, R.S.S., Cloutier, S., and Fofana, B. (2013). "Key Catalytic Amino Acids for a Flax Secoisolariciresinol Glycosyltransferase as determined by Molecular Modeling and Site-Directed Mutagenesis.", 2013 CSPB/SCBV Annual General Meeting, Laval University, Quebec City, Canada, June 25-28, 2013.

Wang, Y., Fofana, B., and Roy, M. (2013). "Anti-Diabetic Potential of Flaxseed Lignan Secoisolariciresinol Diglucoside in Diet-Induced Obese Mice.", FASEB 2013 April Meeting, Supplement; 27:lb377. (Abstract)

## 2012

Fofana, B. (2012). "An easy way for the biofortification of field crops antioxidant capacity by increasing selenoprotein content: consequences to human health.", University of Prince Edward Island (UPEI), Biology Department Seminar Series, Duffy Science Centre, Charlottetown, PEI, Canada, January 13, 2012. (Presentation)

Power, K.A., Villeneuve, S., Mondor, M., Fustier, P., Arcand, Y., Lamarche, F., Britten, M., Cui, S.W., Tsao, R., Fofana, B., and Wanasundara, J.P.D. (2012). "Recent progress on the incorporation of flaxseed into cereal based matrices: delivery of bioactives to target sites and a comprehensive assessment of their biological effects.", 64th Flax Institute of the United States, Doublewood Inn, Fargo, ND, USA, March 29-30, 2012. (Presentation)

Fofana, B. and Selvaraj, K. (2012). "An Overview of Plant Photosynthesis Modulation by Pathogen Attacks.", in Najafpour, M.M. (ed.) - *Advances in Photosynthesis - Fundamental Aspects*, InTech, Open Access Publisher, Chapter 22, pp. 465-486.

## 2011

Kirby, C.W., McCallum, J.L., Bernard, K., and Fofana, B. (2011). "Cooked Flax Bolls: An Alternative Omega-3 Fatty Acid Source.", MOOT XXIV NMR Minisymposium, Toronto, ON, Canada, October 21-22, 2011. (Poster)

Ghose, K., Sanderson, K.R., Kirby, C.W., McCallum, J.L., and Fofana, B. (2011). "Genetic structure of Prince Edward Island wild rosehip ecotypes as revealed by single nucleotide polymorphism.", Canadian Phytopathological Society (CPS) 82nd Annual Meeting (with Plant Canada 2011), Halifax, NS, Canada, July 17-21, 2011, CSHS-9, pp. 283. (Poster)

Fofana, B., Main, D., Ghose, K., Grimmett, M.G., Kirby, C.W., McCallum, J.L., Peters, R.D., Drake, K.A., Locke, S.J., and Sweeney, M.E. (2011). "Improving the antioxidant capacity of field crops by increasing selenoprotein content.", 2011 Annual Meeting of the Canadian Phytopathological Society (with Plant Canada 2011), Halifax, NS, Canada, July 17-21, 2011, pp. 61, #1145. (Presentation)

Selvaraj, K., Ghose, K., Nixon, M., Cloutier, S., and Fofana, B. (2011). "Molecular and functional characterization of flax SDG lignan glycosyltransferases.", Canadian Society of Plant Physiologists Eastern Regional Meeting & Plant Development Workshop / Congrès de la Société Canadienne de Physiologie Végétale & Congrès de Développement Végétale (Congrès Régional de l'Est), Carleton University, Ottawa, ON, Canada, December 2-3, 2011, P22, pp. 40.

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## Research Publications:

2015

Lowery, D.T., Vickers, P.M., Bittner, L.A., Stobbs, L.W., and Foottit, R.G. (2015). "Aphid transmission of the Ontario isolate of plum pox virus.", *Journal of Economic Entomology*, 108(5), pp. 2168-2173. doi : 10.1093/jeetov172

Hales, D., Foottit, R.G., and Maw, H.E.L. (2015). "Sexual morphs of *Aphisacaenovinae* Eastop, 1961 (Hemiptera: Aphididae: Aphidinae).", *The Australian Entomologist*, 42(1), pp. 19-24.

Gwiazdowski, R.A., Foottit, R.G., Maw, H.E.L., and Hebert, P.D.N. (2015). "The Hemiptera (Insecta) of Canada: Constructing a reference library of DNA barcodes.", *PLoS ONE*, 10(4): Article number e0125635). doi : 10.1371/journal.pone.0125635

Hales, D., Foottit, R.G., and Maw, H.E.L. (2015). "Endemic aphids *Aphis carverae* sp. Nov. and *Casimera canberrae* (Eastop, 1961) on *Epilobium* (Onagraceae) threatened by introduced *Aphis oenotherae* Oestlund, 1997 (Hemiptera: Aphididae: Aphidinae).", *Austral Entomology*, 54(3), pp. 278-285. doi: 10.1111/aen.12125

Robideau, G.P., Foottit, R.G., Humble, L.M., Noseworthy, M.K., Wu, T.-Y., and Bilodeau, G.J. (2015). "Real-time PCR identification of the ambrosia beetles, *Trypodendron domesticum* (L.) and *Trypodendron lineatum* (Olivier) (Coleoptera: Scolytidae).", *Journal of Applied Entomology*, pp. 1-9. doi : 10.1111/jen.12254

2014

Foottit, R.G. and Maw, H.E.L. (2014). "Aphids (Hemiptera: Aphidoidea) of the Prairie Ecozone of Canada.", in Cárcamo, H. A. and Giberson, D.J. (eds.) - *Arthropods of Canadian Grasslands (Volume 3): Biodiversity and Systematics Part I.*, Biological Survey of Canada (BSC), pp. 347-369.

Miller, R.H., Duay, J.A., Pike, K.S., Maw, H.E.L., and Foottit, R.G. (2014). "Review and key to the aphids (Hemiptera: Aphididae) in Micronesia.", *Pacific Science*, 68(4), pp. 479-492. doi : 10.2984/68.4.3

Liu, P., Yang, Z.X., Chen, X.M., and Foottit, R.G. (2014). "The effect of the gall-forming aphid *Schlechtendalia chinensis* (Hemiptera: Aphididae) on leaf wing ontogenesis in *Rhus chinensis* (Sapindales: Anacardiaceae).", *Annals of the Entomological Society of America*, 107(1), pp. 242-250. doi : 10.1603/AN13118

Langor, D.W., Cameron, E.K., MacQuarrie, C.J.K., McBeath, A., McClay, A., Peter, B., Pybus, M., Ramsfield, T., Ryall, K.L., Scarr, T., Yemshanov, D., DeMerchant, I., Foottit, R.G., and Pohl, G.R. (2014). "Non-native species in Canada's boreal zone: Diversity, impacts, and risk.", *Environmental Reviews*, 22(4), pp. 372-418. doi: 10.1139/er-2013-0083

Duay, J.A., Miller, R.H., Wall, G.C., Pike, K.S., and Foottit, R.G. (2014). "*Pentalonia nigronervosa* coquerel and *Pentalonia caladii* van der goot (Hemiptera: Aphididae) and their relationship to banana bunchy top virus in Micronesia.", *Pacific Science*, 68(3), pp. 359-364. doi : 10.2984/68.3.5

Foottit, R.G., Maw, H.E.L., and Hebert, P.D.N. (2014). "DNA barcodes for nearctic uchenorrhyncha (Insecta: Hemiptera).", *PLoS ONE*, 9(7): Article e101385). doi : 10.1371/journal.pone.0101385

Naaum, A.M., Foottit, R.G., Maw, H.E.L., and Hanner, R.H. (2014). "Real-time PCR for identification of the soybean aphid, *Aphis glycines* Matsumura.", *Journal of Applied Entomology*, 138(7), pp. 485-489. doi: 10.1111/jen.12114

2013

Jousselin, E., Cruaud, A., Genson, G., Chevenet, F., Foottit, R.G., and Coeur d'acier, A. (2013). "Is ecological speciation a major trend in aphids? Insights from a molecular phylogeny of the conifer-feeding genus *Cinara*.", *Genome Announcements*, 10(56), pp. 1-18.

Nováková, E., Hypša, V., Klein, J.L., Foottit, R.G., von Dohlen, C.D., and Moran, N.A. (2013). "Reconstructing the phylogeny of aphids (Hemiptera: Aphididae) using DNA of the obligate symbiont *Buchnera aphidicola*.", *Molecular Phylogenetics and Evolution*, 68(1), pp. 42-54. doi : 10.1016/j.ympev.2013.03.016

Teulon, D.A.J., Stufkens, M.A.W., Drayton, G.M., Maw, H.E.L., Scott, I.A.W., Bulman, S.R., Carver, M., von Dohlen, C.D., Eastop, V.F., and Foottit, R.G. (2013). "Native aphids of New Zealand – diversity and host associations.", *Zootaxa*, 3647(4), pp. 501-517. doi : 10.11646/zootaxa.3647.4.1

Hodkinson, I.D., Babenko, A., Behan-Pelletier, V.M., Bocher, J., Boxshall, G., Brodo, F., Coulson, S.J., De Smet, W., Dószs-Farkas, K., Elias, S., Fjellberg, A., Fochetti, R., Footitt, R.G., Hessen, D., Hobaek, A., Koponen, S., Liston, A., Makarova, O.L., Marusik, Y., Michelsen, V., Mikkola, K., Pont, A.C., Rueda, P., Savage, J., Smith, H., Samchyshyna, L., Velle, G., Vikberg, V., Wall, D.D., Weider, L., Wetterich, S., Yu, Q., and Zinoviev, A. (2013). "Terrestrial and Freshwater Invertebrates", in Meltofte, H. (ed.) - Arctic Biodiversity Assessment, Arctic Council, pp. 195-223.

## 2012

Pelletier, Y., Nie, X., Giguère, M.-A., Nanayakkara, U.N., Maw, H.E.L., and Footitt, R.G. (2012). "A New Approach for the Identification of Aphid Vectors (Hemiptera: Aphididae) of Potato Virus Y.", *Journal of Economic Entomology*, 105(6), pp. 1909-1914. doi : 10.1603/EC12085

Footitt, R.G., Maw, H.E.L., Pike, K.S., and Messing, R.H. (2012). "Aphids (Hemiptera: Aphididae and Adelgidae) of Hawai'i: Annotated List and Key to Species of an Adventive Fauna.", *Pacific Science*, 66(1), pp. 1-30. doi : 10.2984/66.1.1

Naaum, A.M., Footitt, R.G., Maw, H.E.L., and Hanner, R.H. (2012). "Differentiation between *Aphis pomi* and *Aphis spiraecola* using multiplex real-time PCR based on DNA barcode sequences.", *Journal of Applied Entomology*, 136(9), pp. 704-710. doi : 10.1111/j.1439-0418.2012.01706.x

Nakahara, S. and Footitt, R.G. (2012). "Review of Chirothrips and related genera (Thysanoptera: Thripidae) of the Americas, with descriptions of one new genus and four new species.", *Zootaxa*, 3251, pp. 1-29.

Pike, K.S., Graf, G., Footitt, R.G., Maw, H.E.L., von Dohlen, C.D., Harpel, J., Pantoja, A., Emmert, S., and Hagerty, A.M. (2012). "Eriosomatine aphids (Hemiptera: Aphididae: Eriosomatinae) associated with moss and roots of conifer and willow in forests of the Pacific Northwest of North America", *The Canadian Entomologist*, 144(4), pp. 555-576. doi : 10.4039/tce.2012.49

Mier Durante, M.P.M., Footitt, R.G., von Dohlen, C.D., and Ortego, J. (2012). "First American Records of *Aphis intybi* (Hemiptera: Aphididae) with Notes on Two Other Related Adventive Species in Argentina.", *Florida Entomologist*, 95(4), pp. 1154-1162. doi : 10.1653/024.095.0446

Havill, N.P., Ravn, H.P., Akbulut, S., Footitt, R.G., Serin, M., Erdem, M., Mutun, S., and Kenis, M. (2012). "Dreyfusia nordmanniana in Northern and Central Europe: potential for biological control and comments on its taxonomy.", *Journal of Applied Entomology*. doi : 10.1111/jen.12012

## 2011

Lee, W., Kim, H., Lim, J., Choi, H.-R., Kim, Y., Kim, Y.-S., Ji, J.-Y., Footitt, R.G., and Lee, S. (2011). "Barcoding aphids (Hemiptera: Aphididae) of the Korean Peninsula: updating the global data set.", *Molecular Ecology Resources*, 11(1), pp. 32-37. doi : 10.1111/j.1755-0998.2010.02877.x

Newton, J.S., Glasier, J., Maw, H.E.L., Proctor, H.C., and Footitt, R.G. (2011). "Ants and subterranean Sternorrhyncha in a native grassland in east-central Alberta, Canada.", *Canadian Entomologist*, 143(5), pp. 518-523. doi : 10.4039/n11-034

Park, D.-S., Footitt, R.G., Maw, H.E.L., and Hebert, P.D.N. (2011). "Barcoding Bugs: DNA-Based Identification of the True Bugs (Insecta: Hemiptera: Heteroptera).", *PLoS ONE*, 6(4, Article No. e18749). doi : 10.1371/journal.pone.0018749

## Other Science Related Publications:

### 2014

Bouchard, P., Mullineux, S.-T., Lewis, C.T., Kandalaf, I., Maw, H.E.L., Humble, L.H., and Footitt, R.G. (2014). "Rapid detection of quarantine and invasive species using Next Generation Sequencing technologies.", Joint Annual Meeting of the Entomological Societies of Canada and Saskatchewan. Symposium: Arthropod "omics" – Impact on Management., Saskatoon, Canada, September 26-October 1, 2014, Oral presentation.

Bouchard, P., Bilodeau, G.J., Abbott, C.L., Footitt, R.G., Rott, M., Lewis, C.T., Macklin, J.A., Neuspiel, M., Esber, P., Sharpe, A.G., Lévesque, A., and Lévesque, C.A. (2014). "Development of novel genomic tools for the rapid detection of quarantine and invasive species in Canada: A new inter-departmental approach to address a complex problem.", Global Summit on Regulatory Science (GSRS14), Montreal, Canada, August 21-22, 2014, Invited poster presentation. (Poster)

### 2012

Duay, J.A., Miller, R.H., Pike, K.S., and Footitt, R.G. (2012). "Host switching of *Pentalonia* aphids on Guam.", Entomological Society of America (ESA) 60th Annual Meeting, Knoxville Convention Centre, Knoxville, TN, USA, November 11-14, 2012, D0519. (Poster)

2011

Floate, K.D., Isabel, N., and Footitt, R.G. (2011). "Genetic typing of hosts and aphids provides new insights on gall-forming arthropods of hybrid cottonwoods.", Joint Annual Meeting of the Entomological Society of Canada and Acadian Entomological Society, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011, pp. 58. (Presentation)

Pelletier, Y., Nie, X., and Footitt, R.G. (2011). "Identification of potato virus Y vector from trap samples.", Entomological Society of America (ESA) 59th Annual Meeting, Reno-Sparks Convention Center, Reno, NV, USA, November 13-16, 2011. (Poster)

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## Research Publications:

2015

Zebarth, B.J., Forge, T.A., Goyer, C., and Brin, L. (2015). "Effect of soil acidification on nitrification in soil.", *Canadian Journal of Soil Science*, 95(4), pp. 359-363. doi : 10.4141/CJSS-2015-040

Forge, T.A., Lamey, F.J., Kawchuk, L.M., Pearson, D.C., Koch, C.A., and Blackshaw, R.E. (2015). "Crop rotation effects on *Pratylenchus neglectus* populations in the root zone of irrigated potatoes in southern Alberta.", *Canadian Journal of Plant Pathology*, 37(3), pp. 363-368. doi : 10.1080/07060661.2015.1066864

Zebarth, B.J., Ryan, M.C., Graham, G.L., Forge, T.A., and Neilsen, D. (2015). "Groundwater monitoring to support development of BMPs for groundwater protection: The Abbotsford-Sumas Aquifer case study.", *Ground Water Monitoring and Remediation*, 35(1), pp. 82-96. doi : 10.1111/gwmmr.12092

Forge, T.A., Neilsen, G.H., Neilsen, D., O'Gorman, D.T., Hogue, E.J., and Angers, D.A. (2015). "Organic orchard soil management practices affect soil biology and organic matter.", *Acta Horticulturae (ISHS)*, 1076, pp. 77-84.

Ehret, D.L., Frey, B., Forge, T.A., Helmer, T., and Bryla, D.R. (2015). "Age-related changes in response of highbush blueberry plants to drip irrigation.", *HortScience*, 50(3), pp. 486-490.

Forge, T.A., Hashimoto, N., Neilsen, D., Kenney, E., and Zebarth, B.J. (2015). "The use of compost as a preplant amendment to minimize impacts of parasitic nematodes and improve soil health and early establishment of red raspberry.", *Acta Horticulturae (ISHS)*, 1076, pp. 225-232. doi : 10.17660/ActaHortic.2015.1076.26

2014

Neilsen, G.H., Neilsen, D., Kappel, F., and Forge, T.A. (2014). "Interaction of irrigation and soil management on sweet cherry productivity and fruit quality at different crop loads that simulate those occurring by environmental extremes.", *HortScience*, 49(2), pp. 215-220.

Neilsen, G.H., Forge, T.A., Angers, D.A., Neilsen, D., and Hogue, E.J. (2014). "Suitable orchard floor management strategies in organic apple orchards that augment soil organic matter and maintain tree performance.", *Plant and Soil*, 378(1-2), pp. 325-335. doi : 10.1007/s11104-014-2034-8

Forge, T.A., Walters, T.W., and Koch, C.A. (2014). "Use of composted dairy manure solids mulch for raspberry: Influences on soil nematode communities and N and P availability.", *Compost Science & Utilization*, 22(4), pp. 230-241. doi : 10.1080/1065657X.2014.930677

Ehret, D.L., Frey, B., Forge, T.A., Helmer, T., Bryla, D.R., and Zebarth, B.J. (2014). "Effects of nitrogen rate and application method on early production and fruit quality in highbush blueberry.", *Canadian Journal of Plant Science*, 94(7), pp. 1165-1179. doi : 10.4141/CJPS2013-401

2013

Hunt, D.E., Bittman, S., Kowalenko, C.G., Forge, T.A., Grant, C.A., Gawalko, E.J., and Raworth, D.A. (2013). "Long Term Effects of Manure.", in Bittman, S and Hunt, D. (eds.) - *Cool Forages - Advanced management of temperate forages*, Pacific Field Corn Association, Agassiz, BC, Canada.

Neilsen, G.H., Forge, T.A., Neilsen, D., O'Gorman, D.T., Hogue, E.J., Angers, D.A., and Bissonnette, N. (2013). "Soil management in organic production systems.", *Acta Horticulturae (ISHS)*, 1001, pp. 295-302.

Forge, T.A., Neilsen, G.H., Neilsen, D., Hogue, E.J., and Faubion, D. (2013). "Composted Dairy Manure and Alfalfa Hay Mulch Affect Soil Ecology and Early Production of 'Braeburn' Apple on M.9 Rootstock", *HortScience*, 48(5), pp. 645-651.

Hassan, S.E.D., Liu, A., Bittman, S., Forge, T.A., Hunt, D.E., Hijri, M., and St-Arnaud, M. (2013). "Impact of 12-year field treatments with organic and inorganic fertilizers on crop productivity and mycorrhizal community structure.", *Biology and Fertility of Soils*. doi : 10.1007/s00374-013-0813-7

Hannam, K.D., Neilsen, G.H., Forge, T.A., and Neilsen, D. (2013). "The concentration of yeast assimilable nitrogen in Merlot grape juice is increased by N fertilization and reduced irrigation.", *Canadian Journal of Plant Science*, 93(1), pp. 37-45. doi : 10.4141/cjps2012-092



Forge, T.A., Temple, W., and Bomke, A.A. (2013). "Using compost as mulch for highbush blueberry.", *Acta Horticulturae* (ISHS), 1001, pp. 369-376.

## 2012

Merchant, L.E., Rempel, H., Forge, T.A., Kannangara, T., Bittman, S., Delaquis, P.J., Topp, E., Ziebell, K.A., and Diarra, M. S. (2012). "Characterization of antibiotic-resistant and potentially pathogenic *Escherichia coli* from soil fertilized with litter of broiler chickens fed antimicrobial-supplemented diets.", *Canadian Journal of Microbiology*, 58(9), pp. 1084-1098. doi : 10.1139/M2012-082

Forge, T.A., Zasada, I.A., Pinkerton, J., and Koch, C.A. (2012). "Host status and damage potential of *Paratrichodorus renifer* and *Pratylenchus penetrans* (Nematoda) to blueberry (*Vaccinium* spp.).", *Canadian Journal of Plant Pathology*, 34(2), pp. 277-282. doi: 10.1080/07060661.2012.689261

Ehret, D.L., Frey, B., Forge, T.A., Helmer, T., and Bryla, D.R. (2012). "Effects of drip irrigation configuration and rate on yield and fruit quality of young highbush blueberry plants.", *HortScience*, 47(3), pp. 414-421.

Kempler, C., Muehlchen, A.M., and Forge, T.A. (2012). "Screening for Resistance to *Phytophthora* Root Rot in Raspberries: Identifying New Sources of Resistance.", *Acta Horticulturae* (ISHS), 926, pp. 59-64.

Valenzuela-Estrada, L.R., Bryla, D.R., Hoashi-Erhardt, W.K., Moore, P.P., and Forge, T.A. (2012). "Root Traits Associated with *Phytophthora* Root Rot Resistance in Red Raspberry.", *Acta Horticulturae* (ISHS), 946, pp. 283-288.

Gagnon, B., Demers, I., Ziadi, N., Chantigny, M.H., Parent, L.-É., Forge, T.A., Lamey, F.J., and Buckley, K.E. (2012). "Forms of phosphorus in composts and in compost-amended soils following incubation.", *Canadian Journal of Soil Science*, 92(5), pp. 711-721. doi: 10.4141/CJSS2012-032

Bittman, S., Liu, A., Hunt, D.E., Forge, T.A., Kowalenko, C.G., Chantigny, M.H., and Buckley, K.E. (2012). "Precision Placement of Separated Dairy Sludge Improves Early Phosphorus Nutrition and Growth in Corn (*Zea mays* L.).", *Journal of Environmental Quality*, 41(2), pp. 582-591. doi : 10.2134/jeq2011.0284

## 2011

Collins, D.P., Cogger, C.G., Kennedy, A.C., Forge, T.A., Collins, H.P., Bary, A.I., and Rossi, R. (2011). "Farm-scale variation of soil quality indices and association with edaphic properties.", *Soil Science Society of America Journal*, 75(2), pp. 580-590. doi : 10.2136/sssaj2010.0029

## Other Science Related Publications:

### 2015

Zebarth, B.J., Ryan, M.C., Graham, G.L., Forge, T.A., and Neilsen, D. (2015). "Addressing groundwater nitrate contamination associated with intensive agricultural production systems: The Abbotsford-Sumas Aquifer case study.", *Internal Association of Hydrogeologists—Canadian National Chapter Annual Meeting*, Waterloo, ON, Canada, October 27-30, 2015.

### 2014

Hampson, C.R., Neilsen, D., Neilsen, G.H., and Forge, T.A. (2014). Report of cooperative regional project NC-140 / British Columbia: Improving economic and environmental sustainability in tree fruit production through changes in rootstock use. <http://www.nc140.org/annualreports.html>. (Report)

Dossett, M.P., Forge, T.A., Koch, C.A., and Kempler, C. (2014). "Resistance to *Phytophthora rubi* in wild North American red raspberry germplasm.", 2014 American Society for Horticultural Science Annual Meeting, Orlando, FL, USA, July 28-31, 2014. (Abstract)

Loo, S., Ryan, M.C., Zebarth, B.J., and Forge, T.A. (2014). "Quantifying the impact of an individual agricultural field on groundwater nitrate.", Geological Society of America Conference, Vancouver, British Columbia, Canada, October 19-22, 2014. (Abstract)

Fentabil, M., Nichol, C.F., Hannam, K.D., Neilsen, D., Forge, T.A., and Neilsen, G.H. (2014). "Annual greenhouse gas fluxes in drip and microspray irrigated vineyards and orchards in the Okanagan Valley, British Columbia.", Annual meeting of the Canadian Soil Science Society, Banff, Alberta, Canada, May 4-7, 2014. (Abstract)

Forge, T.A., Neilsen, G.H., Broersma, K., and Neilsen, D. (2014). "Application of municipal biosolids alters the structure of nematode communities in rangeland soils in the southern interior of British Columbia.", Annual meeting of the Canadian Soil Science Society, Banff, Alberta, Canada, May 4-7, 2014. (Abstract)

Neilsen, G.H., Forge, T.A., and Neilsen, D. (2014). "Does organic matter matter?", 109th Annual Meeting, Wenatchee, WA, USA, pp. 314-321.

Forge, T.A., Neilsen, D., and Neilsen, G.H. (2014). "PARC Research update-root zone ecology and management", Cherry Notes Newsletter of the British Columbia Cherry Association(January), pp. 6-7.

Forge, T.A., Neilsen, G.H., Neilsen, D., and Hogue, E.J. (2014). "Assessing soil health for tree -fruit and vine crops.", 2013 Washington State Horticultural Association 109th Annual Meetings, Wenatchee, WA, USA, December 2-4, 2013.

Neilsen, G.H., Forge, T.A., and Neilsen, D. (2014). "Does organic matter?", 2013 Washington State Horticultural Association 109th Annual Meetings, Wenatchee, WA, USA, December 2-4, 2013.

Forge, T.A., Neilsen, D., and Neilsen, G.H. (2014). "PARC Research update-root zone ecology and management", Cherry Notes Newsletter of the British Columbia Cherry Association(January), pp. 6-7. (Newsletter)

Hannam, K.D., Neilsen, G.H., and Forge, T.A. (2014). Effects of three years of Big Horn Natural Compost on soil properties, vine nutrient status, fruit quality and yield - Industry report to Big Horn Compost. (Report)

Hannam, K.D., Jones, M.D., Neilsen, D., Midwood, A., Forge, T.A., Neilsen, G.H., and Millard, P. (2014). "Bicarbonates in irrigation water can alter the C13 signature and rate of soil respiration-evidence from a 10 year-old apple orchard in the Okanagan valley, British Columbia.", 2014 CSSS Annual Meeting, Banff, Alberta, Canada. (Abstract)

Hannam, K.D., Forge, T.A., Neilsen, G.H., Neilsen, D., Jones, M.D., and Nichol, C.K. (2014). "Implications of irrigation and soil amendment practices for soil nutrient dynamics and yield in a young Merlot grape (*Vitis vinifera*) vineyard.", 2014 CSSS Annual Meeting, Banff, Alberta, Canada. (Abstract)

Neilsen, D., Neilsen, G.H., and Forge, T.A. (2014). "Dwarfing rootstocks and training systems affect initial growth, cropping and nutrition in Skeena sweet cherry.", 29th International Hort. Congress, Australia, <http://www.ihc2014.org/Abstract>, pp. 95. (Abstract)

Fentabil, M., Nichol, C.F., Hannam, K.D., Neilsen, D., Forge, T.A., Neilsen, G.H., and Jones, M.D. (2014). "Nitrous oxide emissions from micro-irrigated grape and apple fields located in the semi-arid Okanagan region of British Columbia.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014, Number 96-13. (Abstract)

Hannam, K.D., Neilsen, G.H., Neilsen, D., Forge, T.A., Jones, M.J., Nichol, C.F., and Fentabil, M. (2014). "Soil nutrient dynamics and yield in a young Merlot grape (*Vitis vinifera* L.) vineyard; implications of irrigation and soil amendment practices.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014, Number 139-8. (Abstract)

Forge, T.A., Neilsen, D., Hannam, K.D., Neilsen, G.H., Jones, M.J., and Nichol, C.F. (2014). "Root growth and development of nematode communities in a young Merlot grape (*Vitis vinifera* L.) vineyard: Influence of irrigation and organic amendments", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014, Number 145-9. (Abstract)

Forge, T.A., Neilsen, G.H., and Neilsen, D. (2014). "Assessing soil health for tree fruit and vine crops.", 109th Annual Meeting, Wenatchee, WA, USA, pp. 329-334.

## 2013

Forge, T.A., Neilsen, G.H., Neilsen, D., O'Gorman, D.T., Hogue, E.J., Angers, D.A., and Bissonnette, N. (2013). "Organic orchard soil management practices affect soil biology and organic matter", II International symposium of organic matter management and compost use in horticulture III Workshop of bioproducts for agriculture and III Workshop of Ibero-american network for biological fertilizers for agriculture, Santiago, Chile, pp. 31.

Neilsen, G.H., Forge, T.A., Neilsen, D., O'Gorman, D.T., and Bissonnette, N. (2013). "Soil and nutrient management in organic orchard production.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013, SSSA division soil fertility and plant nutrition, Abstract 133-9, pp. 103. (Abstract)

Neilsen, D., Neilsen, G.H., Forge, T.A., and Cline, J.A. (2013). "The effects of crop load and water stress on yield and fruit quality of sweet cherry cultivars.", ASHS Annual Conference, HortSci. Supplement: S213. (Abstract)

Forge, T.A., Walters, T.W., Partick, M., and Koch, C.A. (2013). "Use of dairy manure solids as mulch for establishment of red raspberry: influences on soil nematode communities and N and P availability.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013, pp. 101. (Abstract)

Neilsen, D., Neilsen, G.H., and Forge, T.A. (2013). Report of cooperative regional project NC-140 /British Columbia: Improving economic and environmental sustainability in tree fruit production through changes in cherry rootstock use. <http://www.nc140.org/annualreports.html>. (Report)

Neilsen, D., Neilsen, G.H., and Forge, T.A. (2013). NC-140 BC 2013 State Report\_Cherry., Canada: Okanagan Kootenay Cherry Growers' Association (OKCGA), BC, Canada. (Report)

## 2012

Forge, T.A. (2012). "Evaluation of alternatives to fumigation.", 54th Annual Horticulture Growers' Short Course, Abbotsford, BC, Canada, January 26-28, 2012.

Forge, T.A. (2012). "Comparing Poultry Manure and Compost as Preplant Soil Amendments for Enhanced Root Health.", Compost Matters 2012 Workshop, Composting Council of Canada, Vancouver, BC, Canada, February 15-16, 2012.

Forge, T.A. (2012). "Alternative raspberry field renovation practices and the use of organic amendments: Implications for root diseases and nitrate leaching.", 57th Annual North Willamette Horticulture Society Meeting, Canby, OR, USA, January 10-12, 2012, Berry Section.

Forge, T.A. (2012). "Using composts in berries: influences on soil health.", 57th Annual North Willamette Horticulture Society Meeting, Canby, OR, USA, January 10-12, 2012, Organic Section.

Forge, T.A., Kenney, E., Neilsen, D., and Zebarth, B.J. (2012). "Alternatives to fumigation.", 54th Annual Horticulture Growers' Short Course, Abbotsford, BC, Canada, January 26-28, 2012, pp. 29-32.

## 2011

Forge, T.A., Neilsen, D., Neilsen, G.H., and Hogue, E.J. (2011). "Influences of organic mulches on development of root-lesion nematode populations in relation to indicators of soil food web structure during apple orchard establishment.", Canadian Journal of Plant Pathology, 33, pp. 276. (Abstract)

Forge, T.A., Neilsen, G.H., Neilsen, D., Walters, T.W., and Koch, C.A. (2011). "Using organic amendments and mulches to preferentially enhance biological activity and suppress plant pathogens in root zone soil under perennial fruit crops.", Soils Ecology Society Meeting 2011, University of British Columbia - Okanagan, Kelowna, BC, Canada, May 24-27, 2011.

Neilsen, D., Neilsen, G.H., Forge, T.A., Guak, S., and Herbert, L.C. (2011). "Effects of irrigation stress and crop load on yield and quality of Ambrosia/M.9 apple trees.", HortScience, 46(9), pp. S115. (Abstract)

Collins, D.P., Cogger, C.G., Kennedy, A., Forge, T.A., Collins, H.P., Bary, A.I., and Rossi, R. (2011). "Multi-scale variation of soil quality indices and association with edaphic properties.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Abstract)

Neilsen, G.H., Neilsen, D., Forge, T.A., Guak, S., and Herbert, L.C. (2011). "Irrigation strategy and crop load affect nutrition management of drip-fertigated Ambrosia/M.9 apple trees 359-2 S04 Soil fertility and plant nutrition.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011, Session: Management strategies to improve nutrient use efficiency I.

Valenzuela-Estrada, L.R., Bryla, D.R., Hoashi-Erhardt, W.K., Moore, P.P., and Forge, T.A. (2011). "Root traits associated with Phytophthora root rot resistance in red raspberry.", International Society for Horticultural Science (ISHS) 10th Rubus & Ribes Symposium, Zlatibor, Serbia, June 22-26, 2011. (Abstract)

Forge, T.A. (2011). "Soil and water management for healthy blueberry root systems.", Scotia Horticultural Congress 2011, Wolfville, NS, Canada, January 24-25, 2011.

Forge, T.A. (2011). "A better understanding of the impact of fumigation and alternatives on soils, pests and crops.", 53rd Annual Horticulture Growers' Short Course, Abbotsford, BC, Canada, January 27-29, 2011.

Forge, T.A. (2011). "Soil ecology and alternative mulches for blueberry.", COABC 2011 "The Next Generation" Conference, Sidney, BC, Canada, March 4-6, 2011.

Forge, T.A. (2011). "Sustainable soil and nutrient management for fruit crops: Implications for root health.", UBC-Okanagan, Kelowna, BC, Canada, October 20, 2011.

Forge, T.A., Neilsen, G.H., Smit, R., Neilsen, D., Bowen, P.A., Hannam, K., and Hannam, K.D. (2011). "Nematode parasites of grapevines in the Okanagan Valley: What are their potential impacts? What can we do about them?", 12th Annual Enology & Viticulture Conference and Trade Show, Penticton, BC, Canada, July 18-19, 2011.

Hannam, K.D., Neilsen, G.H., Neilsen, D., and Forge, T.A. (2011). "Improving the yeast assimilable nitrogen status of wine grape juice.", 12th Annual Enology & Viticulture Conference and Trade Show, Penticton, BC, Canada, July 18-19, 2011.

Neilsen, G.H., Neilsen, D., Forge, T.A., Hannam, K., and Hannam, K.D. (2011). "Urea spray to improve yeast assimilable N concentration in grape at harvest.", 12th Annual Enology & Viticulture Conference and Trade Show, Penticton, BC, Canada, July 18-19, 2011.

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## Research Publications:

2016

Yang, X.-T., Song, J., Du, L., Forney, C.F., Campbell-Palmer, L., Fillmore, S.A.E., Wismer, P., and Zhang, Z. (2016). "Ethylene and 1-MCP regulate major volatile biosynthetic pathways in apple fruit.", *Food Chemistry*, 194, pp. 325-336. doi : 10.1016/j.foodchem.2015.08.018

2015

Forney, C.F., Bezanson, G.S., Ellis, T.C., Fan, L., and LeBlanc, D.I. (2015). "Impact of heat sanitation of fresh whole cantaloupe on fruit quality and volatile metabolism.", *Acta Horticulturae (ISHS)*, 1079, pp. 145-151.

Song, J., Du, L., Li, L., Campbell-Palmer, L., Forney, C.F., Fillmore, S.A.E., Zhang, Z., and Li, X.H. (2015). "Targeted quantitative proteomic investigation employing multiple reaction monitoring on quantitative changes in proteins that regulate volatile biosynthesis of strawberry fruit at different ripening stages.", *Journal of Proteomics*, 126, pp. 288-295. doi : 10.1016/j.jprot.2015.06.004

Forney, C.F., Jamieson, A.R., Munro Pennell, K.D., Jordan, M.A., and Fillmore, S.A.E. (2015). "Relationships between fruit composition and storage life in air or controlled atmosphere of red raspberry.", *Postharvest Biology and Technology*, 110, pp. 121-130. doi : 10.1016/j.postharvbio.2015.07.017

Madani, B. and Forney, C.F. (2015). "Recent reports on effects of calcium on postharvest behaviour.", in Wills, R.B.H and Gol ding, J. (ed.) - *Advances in Postharvest Fruit and Vegetable Technology*, CRC Press Taylor, Boca Raton, FL, USA, Chapter 2, pp. 19-38.

Thiagarajan, A., Lada, R.R., Pepin, S., Forney, C.F., Desjardins, Y., and Dorais, M. (2015). "Vulnerability of low temperature induced needle retention in balsam fir (*Abies balsamiae* L.) to vapour pressure deficits.", *Scandinavian Journal of Forest Research*. doi : 10.1080/02827581.2015.1059484

2014

Ali, A., Ong, M.K., and Forney, C.F. (2014). "Effect of ozone pre-conditioning on quality and antioxidant capacity of papaya fruit during ambient storage.", *Food Chemistry*, 142, pp. 19-26. doi : 10.1016/j.foodchem.2013.07.039

Yeoh, W.K., Ali, A., and Forney, C.F. (2014). "Effects of ozone on major antioxidants and microbial populations of fresh-cut papaya.", *Postharvest Biology and Technology*, 89, pp. 56-58. doi : 10.1016/j.postharvbio.2013.11.006

Xie, Z.S., Forney, C.F., Cao, H., and Li, B. (2014). "Changes in water translocation in the vascular tissue of grape during fruit development.", *Pakistan Journal of Botany*, 46(2), pp. 483-488.

Ong, M.K., Ali, A., Alderson, P.G., and Forney, C.F. (2014). "Effect of different concentrations of ozone on physiological changes associated to gas exchange, fruit ripening, fruit surface quality and defence-related enzymes levels in papaya fruit during ambient storage.", *Scientia Horticulturae*, 179, pp. 163-169. doi : 10.1016/j.scienta.2014.09.004

Song, J., Forney, C.F., and Jordan, M.A. (2014). "A method to detection of diphenylamine contamination of stored apple fruit and storages using headspace solid phase micro-extraction and gas chromatography/mass spectroscopy.", *Food Chemistry*, 160, pp. 255-259. doi : 10.1016/j.foodchem.2014.03.099

2013

Duarte-Sierra, A., Hasan, M., Michaud, D., Arul, J., and Forney, C.F. (2013). "Effect of oxidase stress on glucosinolates profile in broccoli florets during postharvest storage.", *Acta Horticulturae (ISHS)*, 1012, pp. 361-267.

Ong, M.K., Kazi, F.K., Forney, C.F., and Ali, A. (2013). "Effect of gaseous ozone on papaya anthracnose.", *Food and Bioprocess Technology*, 6(11), pp. 2996-3005. doi : 10.1007/s11947-012-1013-4

Forney, C.F. (2013). "Impact of Postharvest Technologies on the Flavour of Fresh Produce.", *Acta Horticulturae (ISHS)*, 1012, pp. 1191-1204.

Thiagarajan, A., Lada, R.R., Pepin, S., Forney, C.F., Desjardins, Y., and Dorais, M. (2013). "Temperature and Photoperiod Influence Postharvest Needle Abscission of Selected Balsam Fir (*Abies balsamea* L. (Mill.)) Genotypes by Modulating ABA Levels.", *Journal of Plant Growth Regulation*, 32(4), pp. 843-851. doi : 10.1007/s00344-013-9349-1

Ong, M.K., Fomey, C.F., Alderson, P.G., and Ali, A. (2013). "Postharvest profile of a Solo variety 'Frangi' during ripening at ambient temperature.", *Scientia Horticulturae*, 160(27), pp. 12-19. doi : 10.1016/j.scienta.2013.05.026

Li, L., Song, J., Kalt, W., Fomey, C.F., Tsao, R., Pinto, D., Chisholm, K., Campbell, L., Fillmore, S.A.E., and Li, X.-H. (2013). "Quantitative proteomic investigation employing stable isotope labeling by peptide dimethylation on proteins of strawberry fruit at different ripening stages.", *Journal of Proteomics*, 94(6), pp. 219-239. doi : 10.1016/j.jprot.2013.09.004

DeLong, J.M., Hodges, D.M., Prange, R.K., Fomey, C.F., Fan, L., Bishop, M.C., Elliot, M.L., Jordan, M.A., and Doucette, C. (2013). "The influence of cold water storage on fatty acids, antioxidant content and activity, and microbial load in ostrich fern (*Matteuccia struthiopteris*) fiddleheads.", *Canadian Journal of Plant Science*, 93(4), pp. 683-697. doi : 10.4141/cjps2012-165

## 2012

Fomey, C.F., Jordan, M.A., Fan, L., Doucette, C., and Grant, R. (2012). "Influence of Packaging on Loss of Aroma and Quality of Diced Red Onions.", *Acta Horticulturae (ISHS)*, 934, pp. 523-530.

Duarte-Sierra, A., Corcuff, R., Angers, P., Arul, J., and Fomey, C.F. (2012). "Influence of UV-C on Color Development and Free Amino Acid Profile in Broccoli Florets during Postharvest Storage.", *Acta Horticulturae (ISHS)*, 945, pp. 97-104.

LeBlanc, D.I., Vigneault, C., Boutin, J., Toussaint, V., Charlebois, D., Fomey, C.F., Bourgeois, G., Clément, A., and Bezanson, G.S. (2012). "Design and performance of a controlled environment mini-chamber for measuring produce quality deterioration.", *Journal of Agricultural Science and Technology B*, 2, pp. 391-399.

Fomey, C.F., Kalt, W., Jordan, M.A., Vinqvist-Tymchuk, M.R., and Fillmore, S.A.E. (2012). "Compositional Changes in Blueberry and Cranberry Fruit during Ripening.", *Acta Horticulturae (ISHS)*, 926, pp. 331-337.

Fomey, C.F., Kalt, W., Jordan, M.A., Vinqvist-Tymchuk, M.R., and Fillmore, S.A.E. (2012). "Blueberry and cranberry fruit composition during development.", *Journal of Berry Research*, 2(3), pp. 169-177. doi : 10.3233/JBR-2012-034

Thiagarajan, A., Lada, R.R., Pépin, S., Fomey, C.F., and Desjardins, Y. (2012). "Characterization of phytohormonal and postharvest senescence responses of balsam fir (*Abies balsamea* (L.) Mill.) exposed to short-term low temperature.", *Trees - Structure and Function*, 26(5), pp. 1545-1553. doi : 10.1007/s00468-012-0728-1

Fomey, C.F., Javorek, S.K., Jordan, M.A., and Vander Kloet, S.P. (2012). "Floral volatile composition of four species of *Vaccinium*.", *Botany*, 90(5), pp. 365-371. doi : 10.1139/B2012-008

Fomey, C.F., Kalt, W., and Vander Kloet, S.P. (2012). "Comparison of berry composition of selected *Vaccinium* species (*Ericaceae*) with *Gaylussacia dumosa*.", *Botany*, 90(5), pp. 355-363. doi : 10.1139/B11-098

## 2011

Xie, Z.S., Cao, H., Li, B., Fomey, C.F., Wang, B., Xu, W.P., and Wang, S.P. (2011). "Effects of root restriction on the ultrastructure of phloem in grape leaves.", *African Journal of Biotechnology*, 10(85), pp. 19737-19744. doi : 10.5897/AJB11.2855

Fan, L., Song, J., Fomey, C.F., and Jordan, M.A. (2011). "Fruit maturity affects the response of apples to heat stress.", *Postharvest Biology and Technology*, 62(1), pp. 35-42. doi : 10.1016/j.postharvbio.2011.04.007

DeLong, J.M., Hodges, D.M., Prange, R.K., Fomey, C.F., Toivonen, P.M.A., Bishop, M.C., Elliot, M.L., and Jordan, M.A. (2011). "The unique fatty acid and antioxidant composition of ostrich fern (*Matteuccia struthiopteris*) fiddleheads.", *Canadian Journal of Plant Science*, 91(5), pp. 919-930. doi : 10.4141/cjps2010-042

Cliff, M.A., Stanich, K., Moran Trujillo, J., Toivonen, P.M.A., and Fomey, C.F. (2011). "Determination and Prediction of Odor Thresholds for Odor Active Volatiles in a Neutral Apple Juice Matrix.", *Journal of Food Quality*, 34(3), pp. 177-186. doi : 10.1111/j.1745-4557.2011.00383.x

## Other Science Related Publications:

### 2015

Fomey, C.F., Jamieson, A.R., Munro Pennell, K.D., Jordan, M.A., and Fillmore, S.A.E. (2015). "Atmosphere Modification Effects on Red Raspberry Fruit Market Life.", *United Fresh 2015*, Chicago, IL, USA, June 9-11, 2015. (Poster)

Fan, L. and Fomey, C.F. (2015). *Quality and Safety in Fresh-cut Vegetables and Fruits. Presentation and Report to the S-294 committee meeting. The Multi-state Research Project S-294. (Report)*

Toivonen, P.M.A., DeLong, J.M., Hampson, C.R., Song, J., Fomey, C.F., and Myles, S. (2015). "Peel maturity only correlates with soft scald in a highly susceptible orchard of Ambrosia™ apple.", *HortScience*, 50(9), pp. S181. (Abstract)

Toivonen, P.M.A., DeLong, J.M., Song, J., and Fomey, C.F. (2015). "Peel Maturity only Correlates with Soft Scald in a Highly Susceptible Orchard of Ambrosia™ apple.", ASHS2015, New Orleans, Louisiana, USA, August 4-7, 2015.

Song, J., Fomey, C.F., Myles, S., Sauerteig, K.A., Du, L., Hampson, C.R., Toivonen, P.M.A., Fan, L., DeLong, J.M., and Fillmore, S.A.E. (2015). "An integrated "omics" investigation on control mechanisms and molecular markers of apple fruit storage disorders.", AG Connect 2015 Summit, Truro, NS, USA, March 31-April 1, 2015. (Poster)

Fomey, C.F., Jamieson, A.R., Munro Pennell, K.D., Jordan, M.A., and Fillmore, S.A.E. (2015). "Impact of atmosphere modification on red raspberry fruit quality.", HortScience, 90(9), pp. S181. (Abstract)

Bach, S.J., Fan, L., Fomey, C.F., and Delaquis, P.J. (2015). "Quality and Safety in Fresh-cut Vegetables and Fruits. United Fresh Produce Association Food Safety and Technology Council.", United Fresh 2015, Chicago, IL, USA, June 9-11, 2015, Oral presentation and handout information on AAFC's research activities.

## 2014

Fomey, C.F., Jordan, M.A., and Cue, K.R. (2014). "Identification of aroma-active compounds of whole and macerated 'Honeycrisp' and 'Ambrosia' apples.", 29th International Horticultural Congress Symposium on Physiology of Perennial Fruit Crops & Production Systems, Brisbane, Australia, August 17-24, 2014.

Fomey, C.F. (2014). "New blueberry juice developed.", AAFC Coastal Newsletter, 2014(Fall). (Newsletter)

Duarte Sierra, A., Angers, P., Michaud, D., Fomey, C.F., and Arul, J. (2014). "Glucosinolates are enhanced by controlled application of abiotic stresses in broccoli (*Brassica oleracea* var. *Italica*) during the postharvest storage.", 2014 American Society for Horticultural Science Annual Meeting, Orlando, FL, USA, July 28-31, 2014. (Abstract)

Fan, L., Hughes, T., Ban, Z., Bezanson, G.S., Fomey, C.F., Eils, T.C., LeBlanc, D.I., Guan, J., and Li, J.B. (2014). "Investigation of vapor heat treatment on microbial control and quality of cantaloupes.", United Fresh 2014. (Poster)

Fomey, C.F., Bezanson, G.S., Eils, T.C., Fan, L., and LeBlanc, D.I. (2014). "Impact of heat sanitation of fresh whole cantaloupe on fruit quality and volatile metabolism.", United Fresh 2014, Chicago, IL, USA, June 10-14, 2014. (Poster)

Fomey, C.F., Bezanson, G.S., Eils, T.C., Fan, L., and LeBlanc, D.I. (2014). "Impact of heat sanitation of fresh whole cantaloupe on fruit quality and volatile metabolism.", The 5th Postharvest Unlimited Conference, Conference presentation and abstract.

Fomey, C.F., Jamieson, A.R., Munro Pennell, K.D., and Jordan, M.A. (2014). "Response of raspberry cultivars and selections to controlled atmosphere storage.", 29th International Horticultural Congress Symposium on Physiology of Perennial Fruit Crops & Production Systems, Brisbane, Australia, August 17-24, 2014.

## 2013

Fomey, C.F., Fan, L., and Bezanson, G.S. (2013). Multistate Research Project S-294 Postharvest Quality and Safety in Fresh-cut Vegetables and Fruits 2013-2014 Activities Report p.4. (Report)

Fomey, C.F. and Yaganza, E.-S. (2013). "Fresh produce packaging requirements and challenges.", Packaging Films, 1, pp. 12-14.

## 2012

Mengstie Muche, M., Rupasinghe, H.P.V., Fomey, C.F., Speers, R.A., and Astatkie, T. (2012). "Impact of 1-methylcyclopropene (1-MCP) on acidity of apple juice.", International Conference and Launch of Harvest Management & Technology for Food Security (PHMVA) Network, Jimma University College of Agriculture and Veterinary Medicine, Jimma, Ethiopia, May 21-25, 2012, pp. 83. (Abstract)

Koranky, E.A., Lada, R.R., Asiedu, S.K., and Fomey, C.F. (2012). "The nature and role of volatile terpene compounds in postharvest balsam fir needle abscission.", 109th Annual Conference of the American Society for Horticultural Science (ASHS), InterContinental Miami Hotel, Miami, FL, USA, July 31-August 3, 2012, Poster #030. (Poster)

Duarte-Sierra, A., Hasan, M., Fomey, C.F., Michaud, D., and Arul, J. (2012). "Effect of stresses on glucosinolates and hydroxy-cinnamic acids profile in broccoli florets during postharvest storage.", 7th International Postharvest Symposium (IPS 2012), Putra World Trade Centre, Kuala Lumpur, Malaysia, June 25-29, 2012, pp. 39. (Abstract)

Fomey, C.F., Bezanson, G.S., Fan, L., Eils, T.C., and LeBlanc, D.I. (2012). "Development of the Low Temperature Thermal Treatment (LT3) Process to Sanitize Fresh-cut Cantaloupe.", United Fresh 2012, Dallas Convention Center, Dallas, TX, USA, May 1-23, 2012. (Poster)

Ong, M.K., Fomey, C.F., and Ali, A. (2012). "Physicochemical changes in 'Frangi' papaya (*Carica papaya* L.) during ambient storage.", 7th International Postharvest Symposium (IPS 2012), Putra World Trade Centre, Kuala Lumpur, Malaysia, June 25-29, 2012, pp. 109. (Abstract)

Fomey, C.F., Fan, L., Song, J., and Jordan, M.A. (2012). "Impact of Heat Treatments on the Volatile Composition of Apples.", United Fresh 2012, Dallas Convention Center, Dallas, TX, USA, May 1-23, 2012. (Poster)

Fomey, C.F. (2012). Regional cultivar evaluation and adaptation program, winter squash cultivar trial. Final report. In: Best, K. (Ed.) Horticulture Nova Scotia, 2012 Research Trial Report. (Report)

Duarte-Sierra, A., Corcuff, R., Fomey, C.F., Angers, P., and Arul, J. (2012). "Utilisation des stress abiotiques pour augmenter la conservation et la teneur en glucosinolates dans le brocoli (*Brassica oleracea* var. *italica*) après récolte.", Journées d'information scientifique – Légumes de champ et Petits fruits, Drummondville, QC, Canada, February 13-14, 2012. (Poster)

2011

Fomey, C.F. and Kalt, W. (2011). "Blueberries and cranberries", in Terry, L.A. (ed.) - Health-promoting properties of fruits and vegetables, CABI Publishing, Wallingford, UK, Chapter 4, pp. 51-73.

Grant, R., Fomey, C.F., Fan, L., Doucette, C., and Jordan, M.A. (2011). "Impact of modified atmosphere packaging and antimicrobial dips on the market life of diced red onion.", United Fresh 2011, New Orleans, LA, USA, May 2-5, 2011. (Poster)

Fomey, C.F., Fan, L., Song, J., and Jordan, M.A. (2011). "Heat stress and fruit maturity affects the volatile composition of apples during storage.", 108th Annual Conference of the American Society for Horticultural Science (ASHS), Hilton, Waikoloa, HI, USA, September 25-28, 2011, Published in: HortScience, 46(9), pp.S271, #222. (Poster)

Thiagarajan, A., Lada, R.R., Pépin, S., Fomey, C.F., Desjardins, Y., and Dorais, M. (2011). "Low temperature exposure increases the postharvest needle retention of balsam fir (*Abies balsamea*) genotypes.", 108th Annual Conference of the American Society for Horticultural Science (ASHS), Hilton, Waikoloa, HI, USA, September 25-28, 2011, Published in: HortScience, 46(9), pp. S394. (Abstract)

Fomey, C.F., Grant, R., Fan, L., Doucette, C., and Jordan, M.A. (2011). "Market Life of Diced Red Onion Subjected to Modified Atmosphere Packaging and Antimicrobial Dips.", 2nd ISHS International Conference on Quality Management of Fresh Cut Produce: Convenience Food for a Tasteful Life, Università degli Studi di Torino, Torino, Italy, July 17-21, 2011, pp. 31. (Abstract)

Mengstie Muche, M., Rupasinghe, H.P.V., Speers, R.A., Fomey, C.F., and Astatkie, T. (2011). "Impact of 1-Methylcyclopropene (1-MCP) on Quality of Apple Juice.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011, pp. 206. (Poster)

Duarte-Sierra, A., Corcuff, R., Fomey, C.F., Angers, P., and Arul, J. (2011). "Influence of UV-C on color development and free amino acid profile in broccoli florets during postharvest storage.", 4th International Conference Postharvest Unlimited 2011, Wenatchee, WA, USA, May 23-26, 2011. (Poster)

Fomey, C.F. and Yaganza, E.-S. (2011). "Fresh-cut produce packaging and the use of biaxial stretched films.", in DeMeuse, M.T. (ed.) - Biaxial Stretching of Film: Principles and Applications, Woodhead Publishing, Cambridge, UK, Chapter 12, pp. 143-164.

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## Research Publications:

2014

Foroud, N.A., Chatterton, S., Reid, L.M., Turkington, T.K., Tittlemier, S.A., and Gräfenhan, T. (2014). "Fusarium Diseases of Canadian Grain Crops: Impact and Disease Management Strategies.", in Goyal A, and Manoharachary C. (eds.) - Future Challenges in Crop Protection Against Fungal Pathogens, Springer New York, pp. 267-316.

2012

Foroud, N.A., McCormick, S.P., MacMillan, T., Badea, A., Kendra, D.F., Ellis, B.E., and Eudes, F. (2012). "Greenhouse studies reveal increased aggressiveness of emergent Canadian Fusarium graminearum chemotypes in wheat.", *Plant Disease*, 96(9), pp. 1271-1279. doi: 10.1094/pdis-10-11-0863-re

Foroud, N.A., Ouellet, T., Laroche, A., Oosterveen, B., Jordan, M.C., Ellis, B.E., and Eudes, F. (2012). "Differential transcriptome analyses of three wheat genotypes reveal different host response pathways associated with Fusarium head blight and trichothecene resistance.", *Plant Pathology*, 61(2), pp. 296-314. doi: 10.1111/j.1365-3059.2011.02512.x

2011

Chaudhary, P., Shank, R.A., Goettel, J.T., Foroud, N.A., Hazendonk, P., and Eudes, F. (2011). "Hydrogen-bonding interactions in T-2 toxin studied using solution and solid-state NMR.", *Toxins*, 3(10), pp. 1310-1331. doi: 10.3390/toxins3101310

Shank, R.A., Foroud, N.A., Hazendonk, P., Eudes, F., and Blackwell, B.A. (2011). "Current and future experimental strategies for structural analysis of trichothecene mycotoxins—a prospectus.", *Toxins*, 3(12), pp. 1518-1553. doi: 10.3390/toxins3121518

## Other Science Related Publications:

2015

Foroud, N.A. (2015). "Trichothecene mycotoxins: Inhibitors of eukaryotic ribosomes and virulence factors in crop diseases.", Alberta RNA Research and Training Institute (ARRTI) Speaker Series Lecture, University of Lethbridge, Lethbridge AB, Canada, April 8, 2015. (Presentation)

Taheri, A.E., Safarieskandari, S., Chatterton, S., Foroud, N.A., Gossen, B.D., and McLaren, D.L. (2015). "Pathogenic fungi associated with root rot of field pea on the Canadian prairies.", *Canadian Journal of Plant Pathology*, 37, pp. 249. (Abstract)

Pordel, R., Ryabova, D., Kovalchuk, I.E., and Foroud, N.A. (2015). "The role of plant hormones in Fusarium head blight resistance of wheat.", 1st Lethbridge Research Centre Graduate Student Symposium, Lethbridge, AB, Canada, November 26, 2015. (Poster)

Foroud, N.A. (2015). "Fusarium head blight of wheat. Mini-Lecture Series.", Invited lectures, Yangzhou University, Yangzhou, Jiangsu, China, September 15, 2015. (Presentation)

Foroud, N.A. (2015). "Characterization of in vitro selected Fusarium head blight resistant wheat.", 2015 Workshop of Joint Laboratory in Agricultural Science between AAFC and Yangzhou University, Yangzhou, Jiangsu, China, September 2015, Invited keynote speech.

Ryabova, D., Randhawa, H.S., Bihari, L., Eudes, F., Spaner, D.M., Hucl, P.J., Graf, R.J., Prus, J., Amundsen, E.J., and Foroud, N.A. (2015). "Production of double haploids with resistance to Fusarium mycotoxins.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015.

Foroud, N.A., Thakor, N., Shank, R.A., Eudes, F., and Hazendonk, P. (2015). "Understanding the mechanism Fusarium mycotoxin inhibition of protein synthesis through structure and dynamics.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015.



Goyal, R.K., West, C., Hui, L., Chiu, J., Frick, M., Chomistek, N., Ellis, B.E., Tulpan, D., Laroche, A., and Foroud, N.A. (2015). "MAP kinases and defence signalling for disease resistance in wheat.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015.

Eranthodi, A., Subramaniam, R., Rampitsch, C., Ouellet, T., Schultz, E.A., and Foroud, N.A. (2015). "Generation of *Fusarium graminearum* mutants to screen candidate pathogen-associated molecular patterns.", National Fusarium Head Blight Forum, St. Louis, MO, USA, December 6-8, 2015. (Poster)

Eranthodi, A., Subramaniam, R., Ouellet, T., Rampitsch, C., Schultz, E.A., and Foroud, N.A. (2015). "Fusarium graminearum mutant screening towards identification of pathogen-associated molecular patterns in the Fusarium head blight-wheat interaction.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015, Oral Presentation.

Foroud, N.A., Goyal, R.K., Eudes, F., Ellis, B.E., Fobert, P., and Loewen, M. (2015). "The role of plant hormones in the Fusarium head blight disease response of wheat.", 13th European Fusarium Seminar, Martina Franca, TA., Italy, May 10-14, 2015.

Foroud, N.A., Goyal, R.K., Eranthodi, A., Zaharia, L.I., and Loewen, M. (2015). "Plant signalling hormones in the Fusarium head blight response of three wheat genotypes.", 2nd Annual Science Meeting of the Canadian Wheat Association, Saskatoon, Canada, July 14-16, 2015.

Eranthodi, A., Subramaniam, R., Ouellet, T., Rampitsch, C., Schultz, E.A., and Foroud, N.A. (2015). "Towards the identification and characterization of pathogen-associated molecular patterns from the Fusarium graminearum secretome.", 1st Lethbridge Research Centre Graduate Student Symposium, Lethbridge, AB, Canada, November 26, 2015.

Esmaeili Taheri, A., Chatterton, S., Foroud, N.A., Gossen, B.D., and McLaren, D.L. (2015). "Identity and host specificity of root rot pathogens colonizing standing pea stubble from the Canadian Prairies.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015.

## 2014

Taheri, A.E., Safarieskandari, S., Chatterton, S., Foroud, N.A., Gossen, B.D., and McLaren, D.L. (2014). "Pathogenic fungi associated with root rot of field pea on the Canadian prairies.", Canadian Phytopathological Society 2014 Meeting, Saskatoon, SK, Canada, December 11, 2014. (Abstract)

Hazendonk, P., Foroud, N.A., Shank, R.A., and Eudes, F. (2014). "Towards understanding trichothecene-mediated disruption of ribosomal function and hence its toxicity.", 2014 National Fusarium Head Blight Forum, St. Louis, MO, Canada, December 7-9, 2014. (Poster)

Taheri, A.E., Chatterton, S., Foroud, N.A., Gossen, B.D., and McLaren, D.L. (2014). "Pathogenic fungal communities invading roots, crowns, and lower stems of field pea in Canadian prairies.", 35th Meeting of the Plant Pathology Society of Alberta, Canmore, AB, Canada, October 27-29, 2014. (Poster)

Chatterton, S., Foroud, N.A., Gossen, B.D., and McLaren, D.L. (2014). "Pathogen populations associated with root rot of field pea in western Canada.", 6th International Food Legumes Research Conference, Saskatoon, SK, Canada, July 7-11, 2014. (Poster)

Foroud, N.A. and Miller, J.J. (2014). "NMR resolutions of agricultural traits: From soil chemistry to crop health.", A Symposium Celebrating NMR Spectroscopy and Fluorine Chemistry at the University of Lethbridge, Lethbridge, AB, Canada, December 5, 2014. (Presentation)

## 2011

Foroud, N.A. (2011). "Cell signalling mechanisms mediating Fusarium Head Blight resistance and other traits in wheat.", National Research Council (NRC) Plant Biotechnology Institute Seminar, NRC Plant Biotechnology Institute, Saskatoon, SK, Canada, 2011. (Presentation)

Foroud, N.A., Ouellet, T., Ellis, B.E., Jordan, M.C., Laroche, A., and Eudes, A. (2011). "Signalling mechanisms mediating resistance and susceptibility to fusarium head blight in wheat", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 53.

Hazendonk, P., Foroud, N.A., Eudes, F., and Shank, R.A. (2011). "Towards understanding the toxicity of deoxynivalenol (DON) and its implications.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 27.

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## Research Publications:

2015

McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M., Pozniak, C.J., Uauy, C., Förster, R.J., Ordon, F., Sharpe, A.G., Fobert, P., Fox, S.L., You, F.M., Thomas, J., Hiebert, C.W., Jordan, M.C., and Costamagna, A. (2015). "Management of Wheat Midge with Host Genetics.", Department of Entomology Seminar Series, University of Manitoba, Winnipeg, MB, Canada, January 27, 2015, Invited presentation.

2014

Gruninger, R.J., Puniya, A.K., Callaghan, T.M., Edwards, J.E., Youssef, N., Dagar, S.S., Fliegerova, K., Griffith, G.W., Forster, R.J., Tsang, A., McAllister, T.A., and Elshahed, M.S. (2014). "Anaerobic fungi (phylum Neocallimastigomycota): Advances in understanding their taxonomy, life cycle, ecology, role and biotechnological potential.", *FEMS Microbiology Ecology*, 90(1), pp. 1-17. doi : 10.1111/1574-6941.12383

Forster, M.S., Paterson, L.J., and Forster, R.J. (2014). "LIIS: A web-based system for culture collections and sample annotation.", *Journal of Open Research Software*. doi : 10.6084/m9.figshare.780836

Xia, Y., Kong, Y., Seviour, R., Förster, R.J., Kisidayova, S., and McAllister, T.A. (2014). "Fluorescence in situ hybridization probing of protozoal *Entodinium* spp. and their methanogenic colonizers in the rumen of cattle fed alfalfa hay or triticale straw.", *Journal of Applied Microbiology*, 116(1), pp. 14-22. doi : 10.1111/jam.12356

Gruninger, R.J., Sensen, C.W., Forster, R.J., and McAllister, T.A. (2014). "Diversity of rumen bacteria in Canadian Cervids.", *PLoS ONE*, 9(2: Article e89682). doi : 10.1371/journal.pone.0089682

2013

Kong, Y., Xia, Y., Seviour, R., Forster, R.J., and McAllister, T.A. (2013). "Biodiversity and composition of methanogenic populations in the rumen of cows fed alfalfa hay or triticale straw.", *FEMS Microbiology Ecology*, 84(2), pp.302-315. doi : 10.1111/1574-6941.12062

Petri, R.M., Schwaiger, T., Penner, G.B., Beauchemin, K.A., Forster, R.J., McKinnon, J.J., and McAllister, T.A. (2013). "Characterization of the core rumen microbiome in cattle during transition from forage to concentrate as well as during and after an acidotic challenge.", *PLoS ONE*, 8(12), pp. e83424.

Petri, R.M., Schwaiger, T., Penner, G.B., Beauchemin, K.A., and Forster, R.J. (2013). "Characterization of the core rumen microbiome in cattle during transition from forage to concentrate as well as during and after an acidotic challenge.", *PLoS ONE*, 8(e83424). doi : 10.1371/journal.pone.0083424

Gruninger, R.J., Gong, X., Forster, R.J., and McAllister, T.A. (2013). "Biochemical and kinetic characterization of the multifunctional  $\beta$ -glucosidase/ $\beta$ -xylosidase/ $\alpha$ -arabinosidase, Bgxa1.", *Applied Microbiology and Biotechnology*, 98(7), pp. 3003-3012. doi : 10.1007/s00253-013-5191-4

Petri, R.M., Schwaiger, T., Penner, G.B., Beauchemin, K.A., Forster, R.J., McKinnon, J.J., and McAllister, T.A. (2013). "Changes in the Rumen Epimural Bacterial Diversity of Beef Cattle as Affected by Diet and Induced Ruminal Acidosis.", *Applied and Environmental Microbiology*, 79(12), pp. 3744-3755. doi : 10.1128/AEM.03983-12

Gong, X., Gruninger, R.J., Forster, R.J., Teather, R.M., and McAllister, T.A. (2013). "Biochemical analysis of a highly specific, pH stable xylanase gene identified from a bovine rumen-derived metagenomic library.", *Applied Microbiology and Biotechnology*, 97(6), pp. 2423-2431. doi : 10.1007/s00253-012-4088-y

2012

Kong, Y., Xia, Y., Seviour, R., He, M.L., McAllister, T.A., Förster, R.J. (2012). "In situ identification of carboxymethyl cellulose-digesting bacteria in the rumen of cattle fed alfalfa or triticale.", *FEMS Microbiology Ecology*, 80(1), pp. 159-167. doi : 10.1111/j.1574-6941.2011.01295.x

Petri, R.M., Förster, R.J., Yang, W.-Z., McKinnon, J.J., and McAllister, T.A. (2012). "Characterization of rumen bacterial diversity and fermentation parameters in concentrate fed cattle with and without forage.", *Journal of Applied Microbiology*, 112(6), pp. 1152-1162. doi : 10.1111/j.1365-2672.2012.05295.x

Li, Y.L., He, M.L., Li, C., Forster, R.J., Beauchemin, K.A., and Yang, W.-Z. (2012). "Effects of wheat dried distillers' grains with solubles and cinnamaldehyde on in vitro fermentation and protein degradation using the Rusitec technique.", *Archives of Animal Nutrition*, 66(2), pp. 131-148. doi: 10.1080/1745039X.2012.656479

Benchaar, C., Hassanat, F., Lettat, A., Yang, W.-Z., Forster, R.J., Petit, H.V., and Chouinard, P.Y. (2012). "Eugenol for dairy cows fed low- or high-concentrate diets: Effects on digestion, ruminal fermentation characteristics, rumen microbial populations and milk fatty acid profile.", *Animal Feed Science and Technology*, 178(3-4), pp. 139-150. doi: 10.1016/j.anifeedsci.2012.10.005

Gong, X., Gruninger, R.J., Qi, M., Paterson, L.J., Forster, R.J., Teather, R.M., and McAllister, T.A. (2012). "Cloning and identification of novel hydrolase genes from a dairy cow rumen metagenomic library and characterization of a cellulase gene.", *BMC Research Notes*, 5:566. doi: 10.1186/1756-0500-5-566

2011

Hristov, A.N., Lee, C., Cassidy, T.W., Long, M., Heyler, K. S., Corl, B.A., and Forster, R.J. (2011). "Effects of lauric and myristic acids on ruminal fermentation, production, and milk fatty acid composition in lactating dairy cows.", *Journal of Dairy Science (JDS)*, 94(1), pp. 382-395. doi: 10.3168/jds.2010-3508

Wang, P., Qi, M., Barboza, P.S., Leigh, M.B., Ungerfeld, E.M., Selinger, L.B., McAllister, T.A., and Forster, R.J. (2011). "Isolation of high-quality total RNA from rumen anaerobic bacteria and fungi, and subsequent detection of glycoside hydrolases.", *Canadian Journal of Microbiology*, 57(7), pp. 590-598. doi: 10.1139/w11-048

Ungerfeld, E.M. and Forster, R.J. (2011). "A meta-analysis of malate effects on methanogenesis in ruminal batch cultures.", *Animal Feed Science and Technology*, 166-167, pp. 282-290. doi: 10.1016/j.anifeedsci.2011.04.018

Qi, M., Wang, P., O'Toole, N., Barboza, P.S., Ungerfeld, E.M., Leigh, M.B., Selinger, L.B., Butler, G., Tsang, A., McAllister, T.A., and Forster, R.J. (2011). "Snapshot of the eukaryotic gene expression in muskoxen rumen - A metatranscriptomic approach.", *PLoS ONE*, 6(5, Article No. e20521). doi: 10.1371/journal.pone.0020521

Qi, M., Wang, P., Selinger, L.B., Yanke, L.J., Forster, R.J., and McAllister, T.A. (2011). "Isolation and characterization of a ferulic acid esterase (Fae1A) from the rumen fungus *Anaeromyces mucronatus*.", *Journal of Applied Microbiology*, 110(5), pp. 1341-1350. doi: 10.1111/j.1365-2672.2011.04990.x

Naghmouchi, K., Paterson, L.J., Förster, R.J., McAllister, T.A., Ohene-Adjei, S., Drider, D., Teather, R.M., and Baah, J. (2011). "*Paenibacillus polymyxa* JB05-01-1 and its perspectives for food conservation and medical applications.", *Archives of Microbiology*, 193(3), pp. 169-177. doi: 10.1007/s00203-010-0654-9

## Other Science Related Publications:

2015

McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M., Pozniak, C.J., Uauy, C., Förster, R.J., Ordon, F., Sharpe, A.G., Fobert, P., Fox, S.L., You, F.M., Thomas, J., Hiebert, C.W., Jordan, M.C., and Costamagna, A. (2015). "Management of Wheat Midge with Host Genetics.", Department of Entomology Seminar Series (Invited), University of Manitoba, Winnipeg, MB, Canada, January 27, 2015. (Presentation)

2012

Petri, R.M., Schwaiger, T., Penner, G.B., Beauchemin, K.A., Forster, R.J., McKinnon, J.J., and McAllister, T.A. (2012). "From Forage to Grain: Community Structures of Rumen Epithelial Bacteria in Cattle.", General Meeting of the American Society for Microbiology, San Francisco, California, USA, June 16-19, 2012.

2011

Qi, M., Wang, P., O'Toole, N., Barboza, P.S., Leigh, M.B., Selinger, L.B., Butler, G., Tsang, A., McAllister, T.A., and Forster, R.J. (2011). "Snapshot of the eukaryotic gene expression in muskoxen rumen - A metatranscriptomic approach.", 26th Fungal Genetics Conference (26thFCG), Asilomar, CA, USA, March 15-20, 2011, # 107, pp. 144. (Poster)

# Fox, Catherine A., Ph.D.

Research Scientist

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## Research Publications:

2014

Fox, C.A., Tamocai, C., Broll, G., Joschko, M., Kroetsch, D.J., and Kenney, E. (2014). "Enhanced A Horizon Framework and Field Form for Detailed Field Scale Monitoring of Dynamic Soil Properties.", Canadian Journal of Soil Science. doi : 10.4141/CJSS2013-079

2013

Kuka, K., Illerhaus, B., Fox, C.A., and Joschko, M. (2013). "X-ray computed microtomography for the study of the soil-root relationship in grassland soils.", Vadose Zone Journal, 12(4). doi : 10.2136/vzj2013.01.0014

2012

Joschko, M., Barkusky, D., Rogasik, J., Fox, C.A., Rogasik, H., Gellert, R., Buchholz, B., Ellmer, F., Reinhold, J., and Gerlach, F. (2012). "On-farm study of reduced tillage on sandy soil: Effects on soil organic carbon dynamic and earthworm abundance.", Archives of Agronomy and Soil Science, 58(Suppl. No.1), pp. S252-S260. doi : 10.1080/03650340.2012.698733

2011

Fox, C.A. and Tamocai, C. (2011). "Organic soils of Canada: Part 2. upland organic soils.", Canadian Journal of Soil Science, 91(5), pp. 823-842. doi : 10.4141/cjss10032

## Other Science Related Publications:

2014

Yang, X.M., Drury, C.F., Gregorich, E.G., Hao, X., Geng, X.Y., Reid, K., Fox, C.A., and VandenBygaart, A.J. (2014). "Mid-Infrared Spectral Characteristics of Different Agricultural Soils across Canada.", CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.

2013

Schirmann, M., Joschko, M., Gebbers, R., Barkusky, D., Kramer, E., Timmer, J., and Fox, C.A. (2013). "Potential for Upscaling Earthworm Abundance with Proximal Soil Sensing.", IUSS-Divisional 1 Conference, Soils in Space and Time, Ulm, Germany, February 10, 2013.

Kuka, K., Illerhaus, B., Fox, C.A., and Joschko, M. (2013). "Assessment of Soil Structure and Plant Root Patterns by Means of X-ray Computed Tomography in Biodiversity Exploratory Grassland Sites.", IUSS-Divisional 1 Conference, Soils in Space and Time, Ulm, Germany, February 10, 2013, Oral presentation.

Fox, C.A., Broll, G., Joschko, M., and Tamocai, C. (2013). "Electronic Field Form to Record Soil Fingerprint Codes to Enable Assessing Dynamic Soil Changes in A Horizons.", IUSS-Divisional 1 Conference, Soils in Space and Time, Ulm, Germany, February 10, 2013. (Poster)

2012

Fox, C.A., Tamocai, C., Broll, G., and Joschko, M. (2012). "New taxonomic Framework for enhancing A Horizon lowercase suffixes to enable detailed monitoring of soil change in topsoils.", 4th International Congress EUROSOIL: Soil Science for the Benefit of Mankind and Environment, Bari, Italy, July 2-6, 2012. (Poster)

Fox, C.A., Tamocai, C., Broll, G., and Joschko, M. (2012). "A Proposal for a Universal Framework of Enhanced A-Horizon Lowercase Suffixes for Addressing Dynamic Soil Change in Topsoils.", 4th Conference for Soil Classification, Lincoln, NE, USA, June 11-12, 2012, pp. 11.

# Fox, Stephen L., Ph.D.

Research Scientist

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## Research Publications:

2015

Brown, P.D., Randhawa, H.S., Fetch, J.M., Fox, S.L., Humphreys, D.G., Meiklejohn, M., Green, D.A., Wise, I.L., Fetch Jr., T.G., Gilbert, J., McCallum, B.D., and Menzies, J.G. (2015). "AAC Foray red spring wheat.", *Canadian Journal of Plant Science*, 95(4), pp. 799-803. doi: 10.4141/cjps-2015-007

Brown, P.D., Randhawa, H.S., Fetch, J.M., Meiklejohn, M., Fox, S.L., Humphreys, D.G., Green, D.A., Wise, I.L., Fetch Jr., T.G., Gilbert, J., McCallum, B.D., and Menzies, J.G. (2015). "AAC Tenacious red spring wheat.", *Canadian Journal of Plant Science*, 95(4), pp. 805-810. doi: 10.4141/cjps-2015-011

Kumar, S., Knox, R.E., Clarke, F.R., Pozniak, C.J., DePauw, R.M., Cuthbert, R.D., and Fox, S.L. (2015). "Maximizing the identification of QTL for pre-harvest sprouting resistance using seed dormancy measures in a white-grained hexaploid wheat population.", *Euphytica*, 205(1), pp. 287-309. doi: 10.1007/s10681-015-1460-x

McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M., Pozniak, C.J., Uauy, C., Förster, R.J., Ordon, F., Sharpe, A.G., Fobert, P., Fox, S.L., You, F.M., Thomas, J., Hiebert, C.W., Jordan, M.C., and Costamagna, A. (2015). "Management of Wheat Midge with Host Genetics.", Department of Entomology Seminar Series, University of Manitoba, Winnipeg, MB, Canada, January 27, 2015, Invited presentation.

2014

Fernandez, M.R., Fox, S.L., Hucl, P.J., and Singh, A.K. (2014). "Leaf spotting reaction of spring common, durum and spelt wheat, and Kamut under organic management in western Canada.", *Canadian Journal of Plant Science*, 94(5), pp. 929-935. doi: 10.4141/CJPS2013-310

Fernandez, M.R., Fox, S.L., Hucl, P.J., Singh, A.K., and Stevenson, F.C. (2014). "Root rot severity and fungal populations in spring common, durum and spelt wheat, and Kamut grown under organic management in western Canada.", *Canadian Journal of Plant Science*, 94(5), pp. 937-946. doi: 10.4141/CJPS2013-359

Smith, M.A.H., Wise, I.L., Fox, S.L., Vera, C.L., DePauw, R.M., and Lukow, O.M. (2014). "Seed damage and sources of yield loss by *Sitodiplosis mosellana* (Diptera: Cecidomyiidae) in resistant wheat varietal blends relative to susceptible wheat cultivars in western Canada.", *The Canadian Entomologist*, 146(3), pp. 335-346. doi: 10.4039/tce.2013.77

Humphreys, D.G., Townley-Smith, T.F., Lukow, O.M., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Tkachuk, V.L., Brown, P.D., and Fox, S.L. (2014). "Peace hard red spring wheat.", *Canadian Journal of Plant Science*, 94(7), pp. 1297-1302. doi: 10.4141/CJPS2013-286

2013

Randhawa, H.S., Asif, M., Pozniak, C.J., Clarke, J.M., Graf, R.J., Fox, S.L., Humphreys, D.G., Knox, R.E., DePauw, R.M., Singh, A.K., Cuthbert, R.D., Hucl, P.J., and Spaner, D.M. (2013). "Application of Molecular Markers for Wheat Breeding in Canada.", *Plant Breeding*, 132(5), pp. 458-471. doi: 10.1111/pbr.12057

Vera, C.L., Fox, S.L., DePauw, R.M., Smith, M.A.H., Wise, I.L., Clarke, F.R., Procnier, J.D., and Lukow, O.M. (2013). "Relative performance of resistant wheat varietal blends and susceptible wheat cultivars exposed to wheat midge, *Sitodiplosis mosellana* (Géhin).", *Canadian Journal of Plant Science*, 93(1), pp. 59-66. doi: 10.4141/cjps2012-019

Fox, S.L., Wise, I.L., Smith, M.A.H., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Fernandez, M.R., Despins, T., Lukow, O.M., and Niziol, D. (2013). "Shaw hard red spring wheat.", *Canadian Journal of Plant Science*, 93(2), pp. 299-305. doi: 10.4141/cjps2012-137

Fox, S.L., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Fernandez, M.R., Despins, T., and Niziol, D. (2013). "Cardale hard red spring wheat.", *Canadian Journal of Plant Science*, 93(2), pp. 307-313. doi: 10.4141/cjps2012-236

Thomas, J.B., Fox, S.L., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Wise, I.L., Smith, M.A.H., Despins, T., Niziol, D., Humphreys, D.G., and Brown, P.D. (2013). "Vesper hard red spring wheat.", *Canadian Journal of Plant Science*, 93(2), pp. 315-321. doi: 10.4141/cjps2012-233

Humphreys, D.G., Townley-Smith, T.F., Czarniecki, E.M., Lukow, O.M., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Brown, P.D., and Fox, S.L. (2013). "Snowstar hard white spring wheat.", *Canadian Journal of Plant Science*, 93(1), pp. 143-148. doi : 10.4141/cjps2012-146

## 2012

Kirk, A.P., Fox, S.L., and Entz, M.H. (2012). "Comparison of organic and conventional selection environments for spring wheat.", *Plant Breeding*, 131(6), pp. 687-694. doi : 10.1111/j.1439-0523.2012.02006.x

Knox, R.E., Clarke, F.R., Clarke, J.M., Fox, S.L., DePauw, R.M., and Singh, A.K. (2012). "Enhancing the identification of genetic loci and transgressive segregants for preharvest sprouting resistance in a durum wheat population.", *Euphytica*, 186(1), pp. 193-206. doi : 10.1007/s10681-011-0557-0

Vera, C.L., Duguid, S.D., Fox, S.L., Rashid, K.Y., Dribnenki, J.C.P., and Clarke, F.R. (2012). "Comparative effect of lodging on seed yield of flax and wheat.", *Canadian Journal of Plant Science*, 92(1), pp. 39-43. doi : 10.4141/CJPS2011-031

Fox, S.L., Lamb, R.J., McKenzie, R.I.H., Wise, I.L., Smith, M.A.H., Humphreys, D.G., Brown, P.D., Townley-Smith, T.F., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Fernandez, M.R., Despins, T., Lukow, O.M., and Niziol, D. (2012). "Registration of 'Fieldstar' Hard Red Spring Wheat.", *Journal of Plant Registrations*, 6(2), pp. 161-168. doi : 10.3198/jpr2011.06.0329crc

DePauw, R.M., Knox, R.E., Singh, A.K., Fox, S.L., Humphreys, D.G., and Hucl, P.J. (2012). "Developing standardized methods for breeding preharvest sprouting resistant wheat, challenges and successes in Canadian wheat.", *Euphytica*, 188(1), pp. 7-14. doi : 10.1007/s10681-011-0611-y

Gunnaiyah, R., Kushalappa, A.C., Duggavathi, R., Fox, S.L., and Somers, D.J. (2012). "Integrated Metabolo-Proteomic Approach to Decipher the Mechanisms by Which Wheat QTL (Fhb1) Contributes to Resistance against *Fusarium graminearum*.", *PLoS ONE*, 7(7, Article No. e40695). doi : 10.1371/journal.pone.0040695

Prashar, S., Wolfe, D., King, M.C., Vera, C.L., Fox, S.L., DePauw, R.M., Chen, G., Smith, M.A.H., Wise, I.L., Clarke, F.R., Lukow, O.M., and Procnier, J.D. (2012). "Stability of midge tolerant varietal blends over 3-4 successive generations: High-speed / high-throughput, SNP-DNA fingerprinting in grain seeds.", *Journal of Plant Biochemistry and Biotechnology*, 3(2), pp. 1-10.

## 2011

Kirk, A.P., Entz, M.H., Fox, S.L., and Tenuta, M. (2011). "Mycorrhizal colonization, P uptake and yield of older and modern wheats under organic management", *Canadian Journal of Plant Science*, 91(4), pp. 663-667. doi : 10.4141/cjps10186

DePauw, R.M., Knox, R.E., Humphreys, D.G., Thomas, J.B., Fox, S.L., Brown, P.D., Singh, A.K., Pozniak, C.J., Randhawa, H.S., Fowler, D.B., Graf, R.J., and Hucl, P.J. (2011). "New breeding tools impact Canadian commercial farmer fields.", *Czech Journal of Genetics and Plant Breeding (CJGPB)*, 47(Spec. Issue 1), pp. S28-S34.

Gharalari, A.H., Smith, M.A.H., Fox, S.L., and Lamb, R.J. (2011). "Volatile compounds from non-preferred wheat spikes reduce oviposition by *Sitotiplosis mosellana*.", *Canadian Entomologist*, 143(4), pp. 388-391. doi : 10.4039/n11-019

Lukow, O.M., Suchy, J., Adams, K., Brown, P.D., DePauw, R.M., Fox, S.L., Humphreys, D.G., McCaig, T.N., and White, N.D.G. (2011). "Effect of Wheat Maturity and Post-Harvest Temperature Treatments on the Quality of Grain and End-Products.", *Journal of Agro Crop Science*, 2(2), pp. 15-22.

## Other Science Related Publications :

### 2015

McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M., Pozniak, C.J., Uauy, C., Förster, R.J., Ordon, F., Sharpe, A.G., Fobert, P., Fox, S.L., You, F.M., Thomas, J., Hiebert, C.W., Jordan, M.C., and Costamagna, A. (2015). "Management of Wheat Midge with Host Genetics.", Department of Entomology Seminar Series (Invited), University of Manitoba, Winnipeg, MB, Canada, January 27, 2015. (Presentation)

### 2014

McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M.A.H., Pozniak, C.J., Sharpe, A.G., Fobert, P., Fox, S.L., Thomas, J.B., Hiebert, C.W., Jordan, M.C., and Costamagna, A. (2014). "Managing Wheat Midge with Host Genetics.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Abstract)

Kumar, S., Knox, R.E., Clarke, F.R., Pozniak, C.J., DePauw, R.M., Cuthbert, R.D., and Fox, S.L. (2014). "Fine mapping of pre-harvest sprouting resistance associated QTL in white-grained wheat.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

## 2013

- McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M., Fox, S.L., You, F.M., Thomas, J., Hiebert, C.W., Jordan, M.C., and Pozniak, C.J. (2013). "Efforts to manage wheat midge through host genetics.", 69th Annual Meeting of the Entomological Society of Manitoba, Winnipeg, MB, Canada, November 1-2, 2013, Invited Keynote Speech.
- Kumar, S., Knox, R.E., Clarke, F.R., Pozniak, C.J., Singh, A., DePauw, R.M., Cuthbert, R.D., Hucl, P.J., Randhawa, H.S., Fox, S.L., Fetch Jr., T.G., McCartney, C., and He, Y. (2013). "High-resolution Mapping of Agronomic and Disease Related Traits Featuring Pre-harvest Sprouting and Common Bunt Resistance.", Canadian Triticum Advancement through Genomics (CTAG) annual meeting 2014, Saskatoon, SK, Canada.
- Kassa, M.T., McCartney, C.A., You, F.M., Hiebert, C.W., Jordan, M.C., Pozniak, C.J., MacLachlan, R., McCallum, B.D., Fox, S.L., Wise, I.L., and Thomas, J.B. (2013). "Marker development for wheat leaf rust resistance gene Lr16 and wheat midge resistance gene Sm1 in Canadian wheat cultivars.", Plant & Animal Genome XXI Conference, Town & Country Convention Center, San Diego, CA, USA, January 12-16, 2013.

## 2012

- Knox, R.E., Hucl, P.J., Cuthbert, R.D., Singh, A.K., Clarke, F.R., DePauw, R.M., Pozniak, C.J., Fox, S.L., Humphreys, D.G., Clarke, J.M., Randhawa, H.S., Spaner, D.M., McCartney, C., Gaudet, D.A., Menzies, J.G., Gilbert, J.R., Fetch Jr., T.G., McCallum, B.D., and Brûlé-Babel, A.L. (2012). "Phenomics.", Canadian Triticum Advancement through Genomics (CTAG) annual meeting 2014, Saskatoon, SK, Canada.
- DePauw, R.M., McCallum, B.D., Voldeng, H.D., Knox, R.E., Edwards, N., Hatcher, D., Fetch Jr., T.G., Lukow, O.M., Fox, S.L., Pozniak, C.J., Hucl, P.J., Comeau, A., and Singh, A.K. (2012). "Canadian Triticologists: The Game Changers!", Canadian Journal of Plant Science, 92, pp. 593. (Abstract)
- Humphreys, D.G., DePauw, R.M., Knox, R.E., Singh, A.K., Cuthbert, R.D., Fox, S.L., and Randhawa, H.S. (2012). "Weathering and pre-harvest sprouting resistance.", Canadian Journal of Plant Science, 92, pp. 593. (Abstract)
- Lukow, O.M., Adams, K., Brown, P.D., DePauw, R.M., Fox, S.L., Humphreys, D.G., and Suchy, J. (2012). "Measurement of Phenolics, Carotenoids and Chlorophylls During Wheat Development in Different Environments.", Pittcon 2012, Orlando, FL, USA, March 11-16, 2012. (Poster)

## 2011

- DePauw, R.M., Somers, D.J., Cuthbert, R.D., McCallum, B.D., Knox, R.E., Voldeng, H.D., Humphreys, D.G., Fox, S.L., Singh, A.K., McCartney, C.A., and Fedak, G. (2011). "Are QTLs for fusarium head blight response additive?", 7th Canadian Workshop on Fusarium Head Blight (CWFHB)/ Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 70.
- Fox, S.L., Hucl, P.J., Spaner, D.M., and Fernandez, M.R. (2011). "Breeding wheat for organic production systems.", Organic Field Day 2011, AAFC Semiarid Prairie Agricultural Research Centre (SPARC), Swift Current, SK, Canada, July 10-14, 2011.
- DePauw, R.M., Knox, R.E., Singh, A.K., Humphreys, D.G., Fox, S.L., and Hucl, P.J. (2011). "Breeding for Pre-Harvest Sprouting Resistance in Canadian Wheat: Challenges & Successes.", 12th International Symposium on Pre-Harvest Sprouting in Cereals (ISPHSC), Red Deer, AB, Canada, July 24-27, 2011.
- Knox, R.E., Clarke, F.R., Clarke, J.M., Fox, S.L., DePauw, R.M., Singh, A.K., and Isidro-Sanchez, J. (2011). "Evaluation of methods of measurement of pre-harvest sprouting resistance in durum wheat", 12th International Symposium on Pre-Harvest Sprouting in Cereals (ISPHSC), Red Deer, AB, Canada, July 24-27, 2011.
- Fox, S.L., DePauw, R.M., Humphreys, D.G., Hucl, P.J., Singh, A.K., Pozniak, C.J., Brown, P.D., Graf, R.J., Randhawa, H.S., Voldeng, H.D., McCartney, C.A., Hiebert, C.W., Knox, R.E., Thomas, J.B., Townley-Smith, L., and Fetch Jr., T.G. (2011). "Canadian initiatives in breeding for stem rust resistance to race Ug99 and variants.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, pp. 121-126.
- DePauw, R.M., McCallum, B.D., Voldeng, H.D., Knox, R.E., Edwards, N., Fetch Jr., T.G., Lukow, O.M., Fox, S.L., Pozniak, C.J., Hucl, P.J., Singh, A.K., and Comeau, A. (2011). "Canadian Triticologists: the game changers.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.
- Fox, S.L., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Wise, I.L., Smith, M.A.H., Thomas, J.B., Hiebert, C.W., McCartney, C.A., Lukow, O.M., and Niziol, D. (2011). "Breeding for Canada's premier wheat marker class: Canadian Western Red Spring.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.
- Fox, S.L. (2011). "The future of publicly funded wheat development in Canada.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.
- Humphreys, D.G., DePauw, R.M., Knox, R.E., Singh, A.K., Cuthbert, R.D., Fox, S.L., and Randhawa, H.S. (2011). "Weathering and pre-harvest sprouting resistance.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Fenn, D., Lukow, O.M., Vera, C.L., DePauw, R.M., Fox, S.L., Smith, M.A.H., Wise, I.L., and Procnier, J.D. (2011). "Kernel quality of hard red spring wheat damaged by the Orange Wheat Blossom Midge insect.", in Chibar, R.N. and Dexter, J. (eds.) - *Wheat Science Dynamics: Challenges and Opportunities*, Agrobias International, Jodhpur, India, pp. 193-198.



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## Research Publications:

2015

Yan, W., Frégeau-Reid, J.A., Martin, R.A., Pageau, D., and Mitchell Fetch, J.W. (2015). "How many test locations and replications are needed in crop variety trials in a target region?", *Euphytica*, 202(3), pp. 361-372. doi: 10.1007/s10681-014-1253-7

Morrison, M.J., Cober, E.R., Frégeau-Reid, J.A., and Séguin, P. (2015). "Changes in Lutein and Tocopherol Concentrations in Soybean Cultivars Released Across Seven Decades in the Short-Season Region.", *Crop Science*, 55(1). doi : 10.2135/cropsci2014.04.0294

2014

Yan, W., Frégeau-Reid, J.A., and Mitchell Fetch, J.W. (2014). "Breeding for ideal milling oats.", in Chu, Y. (ed.) - *Oats Nutrition and Technology*, John Wiley & Sons, Ltd.

Chen, Q., Wood, C., Gagnon, C., Cober, E.R., Frégeau-Reid, J.A., Gleddie, S.C., and Xiao, C.W. (2014). "The  $\alpha$  subunit of  $\beta$ -conglycinin and the A1-5 subunits of glycinin are not essential for many hypolipidemic actions of dietary soy proteins in rats.", *European Journal of Nutrition*, 53(5), pp. 1195-1207. doi : 10.1007/s00394-013-0620-9

2013

Morrison, M.J., Frégeau-Reid, J.A., and Cober, E.R. (2013). "Seed protein, soaking duration and soaking temperature effects on gamma-aminobutyric acid concentration in short-season soybean.", *Crop Science*, 53(6), pp. 2563-2568. doi : 10.2135/cropsci2013.02.0088

Choo, T.-M., ter Beek, S.M., Martin, R.A., Rowse, J., and Frégeau-Reid, J.A. (2013). "AAC Azimuth hullless barley.", *Canadian Journal of Plant Science*, 93(4), pp. 755-757. doi : 10.4141/CJPS2013-031

2012

Hizbai, B.T., Gardner, K.M., Wight, C.P., Dhanda, R.K., Molnar, S.J., Frégeau-Reid, J.A., Yan, W., Rosnagel, B.G., Holland, J.B., and Tinker, N.A. (2012). "Quantitative trait loci affecting oil content, oil composition, and other agronomically important traits in oat.", *Plant Genome*, 5(3), pp. 164-175. doi : 10.3835/plantgenome2012.07.0015

Morrison, M.J., Frégeau-Reid, J.A., and Cober, E.R. (2012). "Genotype and environment influence gamma aminobutyric acid concentration in short-season soybean.", *Canadian Journal of Plant Science*, 92(6), pp. 1093-1100. doi : 10.4141/CJPS2011-271

Lee, E.A., Young, J.A., Frégeau-Reid, J.A., and Good, B. (2012). "Genetic Architecture Underlying Kernel Quality in Food-Grade Maize.", *Crop Science*, 52(4), pp. 1561-1571. doi : 10.2135/cropsci2011.10.0545

2011

Yan, W., Pageau, D., Frégeau-Reid, J.A., and Durand, J. (2011). "Assessing the Representativeness and Repeatability of Test Locations for Genotype Evaluation.", *Crop Science*, 51(4), pp. 1603-1610. doi : 10.2135/cropsci2011.01.0016

Yan, W., Mitchell Fetch, J.W., Frégeau-Reid, J.A., Rosnagel, B.G., and Ames, N.P. (2011). "Genotype x Location Interaction Patterns and Testing Strategies for Oat in the Canadian Prairies.", *Crop Science*, 51(5), pp. 1903-1914. doi : 10.2135/cropsci2010.09.0548

Yan, W., Pageau, D., Frégeau-Reid, J.A., Lajeunesse, J., Goulet, J., Durand, J., and Marois, D. (2011). "Oat mega-environments and test-locations in Quebec.", *Canadian Journal of Plant Science*, 91(4), pp. 643-649. doi : 10.4141/CJPS10139

## Other Science Related Publications:

2014

Ma, B.-L., Frégeau-Reid, J.A., Pageau, D., Vera, C.L., and Yan, W. (2014). "β-Glucan, Oil, and Protein of Oats as Affected by Variety, Location, and N Application.", American Oat Workers Conference 2014, Ottawa Marriott Hotel, Ottawa, ON, Canada, July 13-16, 2014.

2012

Gardner, K.M., Wight, C.P., Mitchell Fetch, J.W., Yan, W., Ames, N.P., Rosnagel, B.G., Herrmann, M., Molnar, S.J., Frégeau-Reid, J.A., Miller, S.S., Fetch Jr., T.G., Chong, J., Martin, R.A., Tekauz, A., Haber, S.M., Savard, M.E., and Tinker, N.A. (2012). "Prospects of whole genome selection in oat using high throughput genetic markers.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

Yan, W., Frégeau-Reid, J.A., Mitchell Fetch, J.W., Pageau, D., Martin, R.A., Rowsell, J., Beattie, A.D., and Cummiskey, A. (2012). "Breeding for an "ideal" Milling Oat: Challenges and Strategies.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012.

Frégeau-Reid, J.A., Yan, W., Martin, R.A., Cummiskey, A., Pageau, D., Sibbit, D., De Haan, B., Thomas, S., and Morasse, I. (2012). "Associations among grain yield, groat percentage, and beta-glucan in two oat genetic populations.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

Hizbai, B.T., Gardner, K.M., Wight, C.P., Dhanda, R.K., Molnar, S.J., Johnson, D.L., Frégeau-Reid, J.A., Yan, W., Rosnagel, B.G., Burrows, V.D., and Tinker, N.A. (2012). "Mapping of QTLs affecting oil content and composition in oats.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

Morrison, M.J., Cober, E.R., and Frégeau-Reid, J.A. (2012). "There Are Genotypic Differences for Gamma Aminobutyric Acid (GABA) Concentration in Short-Season Soybean.", 2012 ASA, CSSA, and SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012, Abstract 376-5. (Presentation)

2011

Comeau, A., Langevin, F., Voldeng, H.D., Haber, S.M., Gilbert, J., Randhawa, H.S., Dion, Y., Rioux, S., McCallum, B.D., Fetch Jr., T.G., Eudes, F., Blackwell, B.A., Martin, R.A., Scheeren, P., Caetano, V., Frégeau-Reid, J.A., and Fedak, G. (2011). "The systemic approach : faster genetic progress for complex goals.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Frégeau-Reid, J.A., Morrison, M.J., and Cober, E.R. (2011). "Genotype and environment influence GABA concentration in short-season soybean.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

## **French, Christopher J., Ph.D.**

Research Scientist

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### **Other Science Related Publications:**

2012

Caron, J., French, C.J., and Bouthillier, M.J. (2012). "Development of a Real-Time Polymerase Chain reaction method for the quantification of prunus necrotic ringspot virus (PRSV).", University of B.C. Undergraduate Forum. (Presentation)

# Fu, Yong-Bi, Ph.D.

Research Scientist

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## Research Publications:

2015

Fu, Y.B., Yang, M.-H., Horbach, C., Kessler, D., Diederichsen, A., You, F.M., and Wang, H. (2015). "Patterns of SSR variation in bread wheat (*Triticum aestivum* L.) seeds under ex situ genebank storage and accelerated ageing.", *Genetic Resources and Crop Evolution*, 62(8), pp. 1-14. doi: 10.1007/s10722-015-0349-9

Ahmed, Z. and Fu, Y.B. (2015). "An improved method with a wider applicability to isolate plant mitochondria for mtDNA extraction.", *Plant Methods*, 11(56), pp. 1-11. doi: 10.1186/s13007-015-0099-x

Fu, Y.B. and Dong, Y. (2015). "Genetic Erosion Under Modern Plant Breeding: Case Studies in Canadian Crop Gene Pools.", in Ahuja, M.R. and Jain, S.M. (eds.) - *Genetic Diversity and Erosion in Plants*, Springer, Chapter 4, pp. 89-104.

Fu, Y.B. and Dong, Y. (2015). "paSNP: A GBS-Based Pipeline for Protein-Associated SNP Discovery and Genotyping in Non-Model Species.", *Journal of Proteomics & Bioinformatics*. doi: 10.4172/jpb.1000368

Fu, Y.B. (2015). "Understanding crop genetic diversity under modern plant breeding.", *Theoretical and Applied Genetics (TAG)*. doi: 10.1007/s00122-015-2585-y

2014

Peterson, G.W., Dong, Y., Horbach, C., and Fu, Y.B. (2014). "Genotyping-By-Sequencing for Plant Genetic Diversity Analysis: A Lab Guide for SNP Genotyping.", *Diversity*, 6(4), pp. 665-680. doi: 10.3390/d6040665

You, F.M., Li, P., Kumar, S., Ragupathy, R., Li, Z.N., Fu, Y.B., and Cloutier, S. (2014). "Genome-wide Identification and Characterization of the Gene Families Controlling Fatty Acid Biosynthesis in Flax (*Linum usitatissimum* L.)", *Journal of Proteomics & Bioinformatics*, 7(10), pp. 310-326. doi: 10.4172/jpb.1000334

Fu, Y.B., Wangsomnuk, P.P., and Ruttawat, B. (2014). "Thai elite cassava genetic diversity was fortuitously conserved through farming with different sets of varieties.", *Conservation Genetics*, 15(6), pp. 1463-1478. doi: 10.1007/s10592-014-0631-y

Fu, Y.B. (2014). "Genetic Diversity Analysis of Highly Incomplete SNP Genotype Data with Imputations: An Empirical Assessment.", *G3: Genes, Genomes, Genetics*, 4(5), pp. 891-900. doi: 10.1534/g3.114.010942

Fu, Y.B., Cheng, B.F., and Peterson, G.W. (2014). "Genetic diversity analysis of yellow mustard (*Sinapis alba* L.) germplasm based on genotyping by sequencing", *Genetic Resources and Crop Evolution*, 61(3), pp. 579-594. doi: 10.1007/s10722-013-0058-1

2013

Momkham, T., Wangsomnuk, P.P., Fu, Y.B., Wangsomnuk, P., Jogloy, S., and Patanothai, A. (2013). "Extractions of High Quality RNA from the Seeds of Jerusalem Artichoke and Other Plant Species with High Levels of Starch and Lipid.", *Plants*, 2, pp. 302-316. doi: 10.3390/plants2020302

Biliget, B., Schellenberg, M.P., and Fu, Y.B. (2013). "Genetic diversity of side-oats grama [*Bouteloua curtipendula* (Michx.) Torr.] populations as revealed by AFLP markers.", *Canadian Journal of Plant Science*, 93, pp. 1105-1114.

Liu, Y., Fu, Y.B., and Coulman, B.E. (2013). "Evaluating genetic variation and relationships among *Puccinellia nuttalliana* populations using amplified fragment length polymorphism markers.", *Canadian Journal of Plant Science*, 93(6), pp. 1097-1104. doi: 10.4141/cjps2013-157

2012

Momkham, T., Wangsomnuk, P.P., Wangsomnuk, P., Jogloy, S., Patanothai, A., and Fu, Y.B. (2012). "Comparison of five DNA extraction methods for molecular analyses of Jerusalem artichoke (*Helianthus tuberosus* L.)", *Genetics and Molecular Research*, 11(1), pp. 572-581. doi: 10.4238/2012.March.8.5

Fu, Y.B., Diederichsen, A., and Allaby, R.G. (2012). "Locus-specific view of flax domestication history.", *Ecology and Evolution*, 2(1), pp. 139-152. doi: 10.1002/ece3.57

Fu, Y.B. (2012). "Population-based resequencing analysis of wild and cultivated barley revealed weak domestication signal of selection and bottleneck in the Rrs2 scald resistance gene region.", *Genome*, 55(2), pp. 93-104. doi : 10.1139/G11-082

Fu, Y.B. (2012). "Population-based resequencing revealed an ancestral winter group of cultivated flax: implication for flax domestication processes.", *Ecology and Evolution*, 2(3), pp. 622-635. doi : 10.1002/ece3.101

Nevo, E., Fu, Y.B., Pavlicek, T., Khalifa, S., Tavasi, M., and Beiles, A. (2012). "Evolution of wild cereals during 28 years of global warming in Israel.", *Proceedings of the National Academy of Sciences of the USA (PNAS)*, 109(9), pp. 3412-3415. doi : 10.1073/pnas.1121411109

Fu, Y.B. (2012). "Genetic structure in a core subset of cultivated barley germplasm.", *Crop Science*, 52(3), pp. 1195-1208. doi : 10.2135/cropsci2011.08.0405

Fu, Y.B. and Horbach, C. (2012). "Genetic Diversity in A Core Subset of Wild Barley Germplasm.", *Diversity*, 4(2), pp. 239-257. doi : 10.3390/d4020239

Uysal, H., Kurt, O., Fu, Y.B., Diederichsen, A., and Kusters, P.M. (2012). "Variation in phenotypic characters of pale flax (*Linum bienne* Mill.) from Turkey.", *Genetic Resources and Crop Evolution*, 59(1), pp. 19-30. doi : 10.1007/s10722-011-9663-z

Pitt, W.M., Bailey, K.L., Fu, Y.B., and Peterson, G.W. (2012). "Biological and genetic characterization of *Phoma macrostoma* isolates with bioherbicidal activity.", *Biocontrol Science and Technology*, 22(7), pp. 813-835. doi : 10.1080/09583157.2012.691159

## 2011

Wangsomnuk, P.P., Khampa, S., Jogloy, S., Srivong, T., Patanothai, A., and Fu, Y.B. (2011). "Assessing genetic structure and relatedness of Jerusalem artichoke (*Helianthus tuberosus* L.) germplasm with RAPD, ISSR and SRAP markers.", *American Journal of Physiology: Endocrinology and Metabolism*, 2, pp. 753-764. doi : 10.4236/ajps.2011.26090

Fu, Y.B. (2011). "Genetic evidence for early flax domestication with capsular dehiscence.", *Genetic Resources and Crop Evolution*, 58(8), pp. 1119-1128. doi : 10.1007/s10722-010-9650-9

Fu, Y.B., Peterson, G.W., and Richards, K.W. (2011). "Genetic Risk Assessment of a Threatened Remnant Population of Hairy Prairie-Clover (*Dalea villosa* var. *villosa*) in the Canadian Prairie.", *Diversity*, 3(3), pp. 375-389. doi : 10.3390/d30x000x

Lung'aho, C., Chemining'wa, G.N., Fu, Y.B., Shibairo, S.I., Hutchinson, M.J., and Paniagua, H.G. (2011). "Genetic diversity of Kenyan potato germplasm revealed by simple sequence repeat markers.", *American Journal of Potato Research*, 88(5), pp. 424-434. doi : 10.1007/s12230-011-9208-1

Fu, Y.B. and Peterson, G.W. (2011). "Developing genomic resources in two *Linum* species via 454 pyrosequencing and genomic reduction.", *Molecular Ecology Resources*, 12(3), pp. 492-500. doi : 10.1111/j.1755-0998.2011.03100.x

Fu, Y.B. and Peterson, G.W. (2011). "Genetic diversity analysis with 454 pyrosequencing and genomic reduction confirmed the eastern and western division in the cultivated barley gene pool.", *Plant Genome*, 4(3), pp. 226-237. doi : 10.3835/plantgenome2011.08.0022

Wangsomnuk, P.P., Khampa, S., Wangsomnuk, P., Jogloy, S., Mornkham, T., Ruttawat, B., Patanothai, A., and Fu, Y.B. (2011). "Genetic diversity of worldwide Jerusalem artichoke (*Helianthus tuberosus*) germplasm as revealed by RAPD markers.", *Genetics and Molecular Research*, 10(4), pp. 4012-4025. doi : 10.4238/2011.December.12.4

## Other Science Related Publications:

### 2015

You, F.M., Li, P., Kumar, S., Ragupathy, R., Banik, M., Duguid, S.D., Booker, H.M., Deyholos, M.K., Fu, Y.B., Sharpe, A.G., and Cloutier, S. (2015). "The refined flax genome, its evolution and application.", XXIII Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2015, P1039. (Poster)

### 2013

You, F.M., Kumar, S., Banik, M., Ragupathy, R., Deyholos, M.K., Fu, Y.B., Sharpe, A.G., and Cloutier, S. (2013). "Ordering the draft genome sequence of flax (*Linum usitatissimum*).", Plant & Animal Genome XXI Conference, Town & Country Convention Center, San Diego, CA, USA, January 12-16, 2013.

You, F.M., Kumar, S., Ragupathy, R., Deyholos, M.K., Fu, Y.B., Sharpe, A.G., and Cloutier, S. (2013). "Organization and evolution of the flax genome.", 2013 CSPB/SCBV Annual General Meeting, Laval University, Quebec City, Canada, June 25-28, 2013, Poster no. F6, page no. 89 of the abstract book. (Poster)

2012

Biliget, B., Schellenberg, M.P., and Fu, Y.B. (2012). "AFLP variation in native populations of side-oatsgrama (*Bouteloua curtipendula* (Michx.) Torr.) and its corresponding selected and multiple-site composite populations", Plant Canada 2012 (joint meeting of the Canadian Society of Agronomy (CSA), Canadian Society for Horticultural Science (CSHS), Certified Crop Advisors (CCA), North American Fruit Explorers (NAFEX)): Adapting Crops to Change, University of Saskatchewan, Saskatoon, SK, Canada, July 16-19, 2012. (Poster)

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## Research Publications:

2015

Messiga, A.J., Sharifi, M., Hammermeister, A.M., Gallant, K., Fuller, K.D., and Tango, M. (2015). "Soil quality response to cover crops and amendment in a vineyard in Nova Scotia, Canada.", *Scientia Horticulturae*, 188, pp.6-14. doi : 10.1016/j.scienta.2015.02.041

2011

Fuller, K.D., Embree, C.G., Fillmore, S.A.E., St George, E., Nichols, D.S., and Lutz, L. (2011). "Performance of Geneva®30 a pple rootstock in Nova Scotia.", *Acta Horticulturae (ISHS)*, 903, pp. 273-279.

## Other Science Related Publications:

2014

Nyiraneza, J., Thompson, B., Fuller, K.D., Bizimungu, B., Bishop, G.A., Jiang, Y., Grimmer, M.G., Khiari, L., Rodd, A.V., and Anderson, S. (2014). "Potato response to phosphorus fertilization in Atlantic Canada and assessment of the degree of soil phosphorus saturation.", *Northeast Potato Technology Forum 2014*, Fredericton, NB, Canada, March 12-13, 2014.

Fuller, K.D., Burton, D.L., Rodd, A.V., Smith, E., Grimmer, M.G., Nyiraneza, J., Jiang, Y., Khakbazan, M., and Van Roestel, J. (2014). "Improving Hayfield for Forage Quality while Minimizing Nitrate Loading of Tile Drainage in Atlantic Canada.", *ASA - CSSA-SSSA International Annual Meeting: Grand Challenges – Great Solutions*, Long Beach, CA, USA, November 2-6, 2014.

Fuller, K.D., Burton, D.L., Rodd, A.V., Smith, E., Grimmer, M.G., Nyiraneza, J., Jiang, Y., Khakbazan, M., and Van Roestel, J. (2014). "Improving Hayfield for Forage Quality while Minimizing Nitrate Loading of Tile Drainage in Atlantic Canada.", *ASA - CSSA-SSSA International Annual Meeting: Grand Challenges – Great Solutions*, Long Beach, CA, USA, November 2-6, 2014.

Fuller, K.D., Nyiraneza, J., Thompson, B., Bizimungu, B., Bishop, G.A., Jiang, Y., Grimmer, M.G., Khiari, L., Rodd, A.V., and Anderson, S. (2014). "Optimum rates of phosphorus for potato production in soils of varying P status in Atlantic Canada... an AAFC Science & Technology Branch Project.", *Scotia Horticultural Congress 2014*, Kentville, NS, Canada, January 27-28, 2014.

Rodd, A.V., Smith, E., Burton, D.L., Grimmer, M.G., Fuller, K.D., Jiang, Y., Jenkins, S., Janes, D.E., Jolliemore, L., Murray, B., Power, I., and others (2014). "Effect of Temperature Based Fall Plowing on Soil N Dynamics in Potato Production.", *Sustainable Water Footprint. Joint meeting NS Institute of Agrologists and PEI Institute of Agrologist*, Stanley Bridge, PEI, Canada, July 20-22, 2014.

Rodd, A.V., Smith, E., Burton, D.L., Grimmer, M.G., Fuller, K.D., Jiang, Y., Jenkins, S., Janes, D.E., Jolliemore, L., Murray, B., Power, I., and others (2014). "Effect of Temperature Based Fall Plowing on Soil N Dynamics in Potato Production.", *Open house s organized by AAFC, Crop and Livestock Research Centre. (Presentation)*

Rodd, A.V., Henry, R., Bezanson, G.S., Fuller, K.D., Fillmore, S.A.E., and Grimmer, M.G. (2014). "Manure storage conditions and E. coli survival. Sustainable Water Footprint.", *Joint meeting NS Institute of Agrologists and PEI Institute of Agrologists*, Stanley Bridge, PEI, Canada, July 20-22, 2014.

Rodd, A.V., Grimmer, M.G., Fuller, K.D., Bezanson, G.S., Nyiraneza, J., Henry, R., Jenkins, S., and others (2014). "Management of manure to decrease the potential for E. coli contamination.", *Open houses organized by AAFC, Crop and Livestock Research Centre. (Presentation)*

Fuller, K.D., Burton, D.L., Rodd, A.V., Smith, E., Grimmer, M.G., Nyiraneza, J., Jiang, Y., Khakbazan, M., and Van Roestel, J. (2014). "Nitrogen dynamics in twin row versus conventional row silage corn in Atlantic Canada.", *ASA - CSSA-SSSA International Annual Meeting: Grand Challenges – Great Solutions*, Long Beach, CA, USA, November 2-6, 2014.

Fuller, K.D., Burton, D.L., Rodd, A.V., Smith, E., Grimmer, M.G., Nyiraneza, J., Jiang, Y., Khakbazan, M., and Van Roestel, J. (2014). "Nitrogen dynamics in twin row versus conventional row silage corn in Atlantic Canada.", *ASA - CSSA-SSSA International Annual Meeting: Grand Challenges – Great Solutions*, Long Beach, CA, USA, November 2-6, 2014.

## 2013

Nyiraneza, J., Fuller, K.D., Bizimungu, B., Bishop, G.A., Grimmett, M.G., Rodd, A.V., Jiang, Y., Mills, A.A.S., Gregory, D., Enman, B., and others (2013). "Increasing phosphorus use efficiency in potato production in Atlantic Canada.", Open houses organized by AAFC, Crop and Livestock Research Centre, August 16, 2013. (Presentation)

Fuller, K.D., Drury, C.F., Grimmett, M.G., Burton, D.L., Franklin, J.L., Zebarth, B.J., Gordon, R.J., Van Roestel, J., and George, E. (2013). "Nitrogen leaching losses in manure amended perennial hayfield and corn-soybean-wheat rotations in Atlantic Canada.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013. (Poster)

Fuller, K.D., Burton, D.L., Drury, C.F., Grimmett, M.G., Zebarth, B.J., Franklin, J.L., Rodd, A.V., Van Roestel, J., and George, E. (2013). "Growing season denitrification losses impacted by land management practices, soil properties, and weather conditions in manure-amended perennial hayfield and corn-soybean-wheat rotations in Atlantic Canada.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013. (Poster)

## 2011

Fuller, K.D., Gordon, R.J., Grimmett, M.G., Fillmore, S.A.E., Madani, A., Van Roestel, J., Stratton, G.W., MacLeod, J.A., Embree, C.G., and St George, E. (2011). "Seasonal and crop rotational effects of manure management on nitrate-nitrogen leaching in Nova Scotia [Agriculture, Ecosystems and Environment 137 (2010) 267-275] (Corrigendum).", Agriculture, Ecosystems and Environment, 141(3-4), pp. 466.

Rodd, A.V., Grimmett, M.G., and Fuller, K.D. (2011). "Does Method of Manure Application Affect Nitrate Movement and Escherichia coli Survival?", Crops and Livestock Research Centre Open House, Charlottetown, PEI, Canada, August 6, 2011. (Poster)

Fuller, K.D., Burton, D.L., Drury, C.F., Grimmett, M.G., Zebarth, B.J., Fillmore, S.A.E., Gordon, R.J., and St George, E. (2011). "Denitrification, losses in manure amended, permanent forage, and corn-soybean-wheat rotations in Atlantic Canada.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Fuller, K.D. (2011). "Soil Health – an International Perspective.", 54th IFTA Annual Conference & Intensive Workshop, Red Lion Hotel, Pasco, WA, USA, February 26-March 4, 2011, published in Compact Fruit Tree, 44(1), pp. 12-14. (Presentation)



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## Research Publications:

2015

Stratulat, I., Britten, M., Salmieri, S., Fustier, P., St-Gelais, D., Champagne, C.P., and Lacroix, M. (2015). "Enrichment of cheese with vitamin D3 and vegetable omega-3.", *Journal of Functional Foods*, 13, pp. 300-307. doi : 10.1016/j.jff.2015.01.004

Fustier, P., Achouri, A., Tahérian, A.R., Britten, M., Pelletier, M., Sabik, H., Villeneuve, S., and Mondor, M. (2015). "Protein multilayer oil-in-water emulsions for the microencapsulation of flaxseed oil: Effect of whey and fish gelatin concentration.", *Journal of Agricultural and Food Chemistry*, 63(42), pp. 9239-9250. doi : 10.1021/acs.jafc.5b00858

2014

Amine, K.M., Champagne, C.P., Raymond, Y., St-Gelais, D., Britten, M., Fustier, P., Salmieri, S., and Lacroix, M. (2014). "Survival of microencapsulated *Bifidobacterium longum* in Cheddar cheese during production and storage.", *Food Control*, 37(1), pp. 193-199. doi : 10.1016/j.foodcont.2013.09.030

Sabik, H., Achouri, A., Alfaro, M., Pelletier, M., Bélanger, D., Britten, M., and Fustier, P. (2014). "Study of chemical stability of lemon oil components in sodium caseinate-lactose glycoconjugate-stabilized oil-in-water emulsions using solid-phase microextraction-gas chromatography.", *Food & Function*, 5(7), pp. 1495-1505. doi : 10.1039/c4fo00016a

Stratulat, I., Britten, M., Salmieri, S., Fustier, P., St-Gelais, D., Champagne, C.P., and Lacroix, M. (2014). "Enrichment of cheese with bioactive lipophilic compounds.", *Journal of Functional Foods*, 6(1), pp. 48-59. doi : 10.1016/j.jff.2013.11.023

Amine, K.M., Champagne, C.P., Salmieri, S., Britten, M., St-Gelais, D., Fustier, P., and Lacroix, M. (2014). "Effect of palmitoylated alginate microencapsulation on viability of *Bifidobacterium longum* during freeze-drying", *Food Science & Technology (London)*, 56(1), pp. 111-117. doi : 10.1016/j.lwt.2013.11.003

2013

Giroux, H.J., De Grandpré, G., Fustier, P., Champagne, C.P., St-Gelais, D., Lacroix, M., and Britten, M. (2013). "Production and characterization of Cheddar-type cheese enriched with green tea extract.", *Dairy Science & Technology*, 93(3), pp. 241-254. doi : 10.1007/s13594-013-0119-4

Stratulat, I., Britten, M., Salmieri, S., St-Gelais, D., Champagne, C.P., Fustier, P., and Lacroix, M. (2013). "Encapsulation of coenzyme Q10 in a simple emulsion-based nutraceutical formulation and application in cheese manufacturing", *Food Chemistry*, 141(3), pp. 2707-2712. doi : 10.1016/j.foodchem.2013.05.057

Lacroix, M., Han, J., Britten, M., Champagne, C.P., and Fustier, P. (2013). "Cheese Fortification.", in Victor, R.S., Preedy, R. and Patel, V.B. (eds.) - *Handbook of Food Fortification and Health - From Concepts to Public Health Applications Vol. 2*, Springer London, pp. 71-86.

Giroux, H.J., Constantineau, S., Fustier, P., Champagne, C.P., St-Gelais, D., Lacroix, M., and Britten, M. (2013). "Cheese fortification using water-in-oil-in-water double emulsions as carrier for water soluble nutrients.", *International Dairy Journal*, 29(2), pp. 107-114. doi : 10.1016/j.idairyj.2012.10.009

2011

Han, J., Britten, M., St-Gelais, D., Champagne, C.P., Fustier, P., Salmieri, S., and Lacroix, M. (2011). "Polyphenolic compounds as functional ingredients in cheese.", *Food Chemistry*, 124(4), pp. 1589-1594. doi : 10.1016/j.foodchem.2010.08.021

Fortin, M.-H., Champagne, C.P., St-Gelais, D., Britten, M., Fustier, P., and Lacroix, M. (2011). "Viability of *bifidobacterium longum* in cheddar cheese curd during manufacture and storage: Effect of microencapsulation and point of inoculation.", *Dairy Science & Technology*, 91(5), pp. 599-614. doi : 10.1007/s13594-011-0034-5

Fustier, P., St-Germain, F., Lamarche, F., and Mondor, M. (2011). "Non-enzymatic browning and ascorbic acid degradation of orange juice subjected to electroreduction and electro-oxidation treatments.", *Innovative Food Science and Emerging Technologies*, 12(4), pp. 491-498. doi : 10.1016/j.ifset.2011.07.014

Fortin, M.-H., Champagne, C.P., St-Gelais, D., Britten, M., Fustier, P., and Lacroix, M. (2011). "Effect of time of inoculation, starter addition, oxygen level and salting on the viability of probiotic cultures during Cheddar cheese production.", *International Dairy Journal*, 21(2), pp. 75-82. doi : 10.1016/j.idairyj.2010.09.007

Han, J., Britten, M., St-Gelais, D., Champagne, C.P., Fustier, P., Salmieri, S., and Lacroix, M. (2011). "Effect of polyphenolic ingredients on physical characteristics of cheese.", *Food Research International*, 44(1), pp. 494-497. doi : 10.1016/j.foodres.2010.10.026

Tahérian, A.R., Britten, M., Sabik, H., and Fustier, P. (2011). "Ability of whey protein isolate and/or fish gelatin to inhibit physical separation and lipid oxidation in fish oil-in-water beverage emulsion.", *Food Hydrocolloids*, 25(5), pp. 868-878. doi : 10.1016/j.foodhyd.2010.08.007

## **Other Science Related Publications:**

2012

Power, K.A., Villeneuve, S., Mondor, M., Fustier, P., Arcand, Y., Lamarche, F., Britten, M., Cui, S.W., Tsao, R., Fofana, B., and Wanasundara, J.P.D. (2012). "Recent progress on the incorporation of flaxseed into cereal based matrices: delivery of bioactives to target sites and a comprehensive assessment of their biological effects.", 64th Flax Institute of the United States, Doublewood Inn, Fargo, ND, USA, March 29-30, 2012. (Presentation)

# Gameda, Samuel B., Ph.D.

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## Research Publications:

2014

Mahmood, R., Pielke Sr., R.A., Hubbard, K.G., Niyogi, D., Dirmeyer, P.A., McAlpine, C., Carleton, A., Hale, R., Gameda, S.B., Beltran-Przekurat, A., Baker, B.C., McNider, R., Legates, D.R., Shepherd, M., Du, J., Blanken, P., Frauenfeld, O.W., Nair, U.S., and Fall, S. (2014). "Land cover changes and their biogeophysical effects on climate.", *International Journal of Climatology*, 34(4), pp. 929-953. doi : 10.1002/joc.3736

2013

Qian, B., De Jong, R., Gameda, S.B., Huffman, E.C., Neilsen, D., Desjardins, R.L., Wang, H., and McConkey, B.G. (2013). "Impact of climate change scenarios on Canadian agroclimatic indices.", *Canadian Journal of Soil Science*, 93(2), pp. 243-259. doi : 10.4141/CJSS2012-053

Du, Y., Huffman, E.C., Toure, S., Feng, F., Gameda, S.B., Green, M., Liu, T.T., and Shi, X.H. (2013). "Integrating socio-economic and soil biophysical assessments using a land use allocation model.", *Soil Use and Management*, 29(1), pp. 140-149. doi : 10.1111/sum.12018

2012

Qian, B., Gameda, S.B., Zhang, X., and DeJong, R. (2012). "Changing growing season observed in Canada.", *Climatic Change*, 112(2), pp. 339-353. doi: 10.1007/s10584-011-0220-8

2011

Qian, B., DeJong, R., Yang, J.Y., Gameda, S.B., and Wang, H. (2011). "Comparing simulated crop yields with observed and synthetic weather data.", *Agricultural and Forest Meteorology*, 151(12), pp. 1781-1791. doi : 10.1016/j.agrformet.2011.07.016

Qian, B., Gregorich, E.G., Gameda, S.B., Hopkins, D.W., and Wang, X.L. (2011). "Observed soil temperature trends associated with climate change in Canada.", *Journal of Geophysical Research*, 116(Article D02106). doi : 10.1029/2010JD015012

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## Research Publications:

2016

Hu, F., Gan, Y.T., Cui, H., Zhao, C., Feng, F., Yin, W., and Chai, Q. (2016). "Intercropping maize and wheat with conservation agriculture principles improves water harvesting and reduces carbon emissions in dry areas.", *European Journal of Agronomy*, 74, pp. 9-17. doi: 10.1016/j.eja.2015.11.019

Esmaeili Taheri, A., Hamel, C., and Gan, Y.T. (2016). "Cropping practices impact fungal endophytes and pathogens in durum wheat roots.", *Applied Soil Ecology*, 100, pp. 104-111. doi: 10.1016/j.apsoil.2015.12.007

2015

Hu, F., Chai, Q., Yu, A.Z., Yin, W., Cui, H., and Gan, Y.T. (2015). "Less carbon emissions of wheat–maize intercropping under reduced tillage in arid areas.", *Agronomy for Sustainable Development*, 35(2), pp. 701-711. doi: 10.1007/s13593-014-0257-y

Lupwayi, N.Z., Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Hall, L.M., Willenborg, C.J., Gan, Y.T., Lafond, G.P., May, W.E., and Grant, C.A. (2015). "Relating soil microbial properties to yields of no-till canola on the Canadian prairies.", *European Journal of Agronomy*, 62, pp. 110-119. doi: 10.1016/j.eja.2014.10.004

Harker, K.N., Yu, A.Z., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Johnson, E.N., Gan, Y.T., Kutcher, H.R., Dossall, L.M., Peng, G. (2015). "Canola rotation frequency impacts canola yield and associated pest species.", *Canadian Journal of Plant Science*, 95(1), pp. 9-20. doi: 10.4141/cjps-2014-289

Yin, W., Yu, A.Z., Chai, Q., Hu, F., Feng, F., and Gan, Y.T. (2015). "Wheat and maize relay-planting with straw covering increases water use efficiency up to 46%.", *Agronomy for Sustainable Development*, 35(2), pp. 815-825. doi: 10.1007/s13593-015-0286-1

Wang, H., Gan, Y.T., Brandt, K., He, Y., Qin, X., and Li, Z. (2015). "Can surface residue alleviate water and heat stress?", *Canadian Journal of Plant Science*, 95. doi: 10.4141/CJPS-2014-269

St. Luce, M., Grant, C.A., Zebarth, B.J., Ziadi, N., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Khakbazan, M., and Smith, E.G. (2015). "Legumes can reduce economic optimum nitrogen rates and increase yields in a wheat-canola cropping sequence in western Canada.", *Field Crops Research*, 179, pp. 12-25. doi: 10.1016/j.fcr.2015.04.003

Bazghaleh, N., Hamel, C., Gan, Y.T., Taran, B., and Knight, J.D. (2015). "Genotype specific variation in the structure of root fungal communities is related to chickpea plant productivity.", *Applied and Environmental Microbiology*, 81(7), pp. 2368-2377. doi: 10.1128/AEM.03692-14

Taheri, A.E., Hamel, C., and Gan, Y.T. (2015). "Pyrosequencing reveals the impact of foliar fungicide application to chickpea on root fungal communities of durum wheat in subsequent year.", *Fungal Ecology*, 15, pp. 73-81. doi: 10.1016/j.funeco.2015.03.005

Zhang, S., Gan, Y.T., and Xu, B. (2015). "Biocontrol potential of a native species of *Trichoderma longibrachiatum* against *Meloidogyne incognita*.", *Applied Soil Ecology*, 94, pp. 21-29. doi: 10.1016/j.apsoil.2015.04.010

Wang, H.-L., Zhang, Q., Wang, R.Y., Gan, Y.T., Niu, J., Zhang, K., Zhao, F., and Zhao, H. (2015). "Effects of air temperature increase and precipitation change on grain yield and quality of spring wheat in semiarid area of Northwest China.", *Chinese Journal of Applied Ecology*, 26(1), pp. 67-75.

Gan, Y.T., Hamel, C., O'Donovan, J.T., Cutforth, H.W., Zentner, R.P., Campbell, C.A., Niu, Y., and Poppy, L.B. (2015). "Diversifying crop rotations with pulses enhances system productivity.", *Scientific Reports*, 5(Article number: 14625), pp. 1-14. doi: 10.1038/srep14625

Li, J., Yang, P., Gan, Y.T., Yu, J., and Xie, J. (2015). "Brassinosteroid alleviates chilling-induced oxidative stress in pepper by enhancing antioxidation systems and maintenance of photosystem II.", *Acta Physiologiae Plantarum*, 37(11: Article number 222), pp. 1-11. doi: 10.1007/s11738-015-1966-9

Xie, Y.P., Gan, Y.T., Li, Y., Niu, J., Gao, Y.H., An, H., and Li, A.R. (2015). "Effect of nitrogen fertilizer on nitrogen accumulation, translocation, and use efficiency in dryland oilseed flax.", *Agronomy Journal*, 107(5), pp. 1931-1939. doi: 10.2134/agronj14.0602

Yang, C., Hamel, C., and Gan, Y.T. (2015). "Incongruous variation of denitrifying bacterial communities as soil N level rises in Canadian canola fields.", *Applied Soil Ecology*, 89, pp. 93-101. doi: 10.1016/j.apsoil.2015.01.002

## 2014

Chai, Q., Qin, A.Z., Gan, Y.T., and Yu, A.Z. (2014). "Higher yield and lower carbon emission by intercropping maize with rape, pea and wheat in arid irrigation areas.", *Agronomy for Sustainable Development*, 34(2), pp. 535-543. doi: 10.1007/s13593-013-0161-x

Khakbazan, M., Grant, C.A., Huang, J., Smith, E.G., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Lafond, G.P., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., and Lupwayi, N.Z. (2014). "Economic effects of preceding crops and nitrogen application on canola and subsequent barley.", *Agronomy Journal*, 106(6), pp. 2055-2066. doi: 10.2134/agronj14.0253

Wang, Y., Li, X.-G., Hai, L., Siddique, K.H.M., Gan, Y.T., and Li, F.-M. (2014). "Film fully-mulched ridge-furrow cropping affects soil biochemical properties and maize nutrient uptake in a rainfed semi-arid environment.", *Soil Science and Plant Nutrition*, 60(4), pp. 486-498. doi: 10.1080/00380768.2014.909709

Xie, Y.P., Niu, J., Gan, Y.T., Gao, Y.H., and Li, A.R. (2014). "Optimizing phosphorus fertilization promotes dry matter accumulation and P remobilization in oilseed flax.", *Crop Science*, 54(4), pp. 1729-1736. doi: 10.2135/cropsci2013.10.0672

Zhang, S., Gan, Y.T., Xu, B., and Xue, Y. (2014). "The parasitic and lethal effects of *Trichoderma longibrachiatum* against *Heterodera avenae*.", *Biological Control*, 72, pp. 1-8. doi: 10.1016/j.biocontrol.2014.01.009

Bainard, L.D., Bainard, J.D., Hamel, C., and Gan, Y.T. (2014). "Spatial and temporal structuring of arbuscular mycorrhizal communities is differentially influenced by abiotic factors and host crop in a semiarid prairie agroecosystem.", *FEMS Microbiology Ecology*, 88(2), pp. 333-344. doi: 10.1111/1574-6941.12300

Zhang, S., Gan, Y.T., and Xu, B. (2014). "Efficacy of *Trichoderma longibrachiatum* in the control of *Heterodera avenae*.", *BioControl*, 59(3), pp. 319-331. doi: 10.1007/s10526-014-9566-y

Chai, Q., Gan, Y.T., Turner, N.C., Zhang, R., Yang, C., Niu, Y., and Siddique, K.H.M. (2014). "Water-Saving innovations in Chinese agriculture.", *Advances in Agronomy (Book series)*, 126, pp. 149-201.

Yang, C., Gan, Y.T., Harker, K.N., Kutcher, H.R., Gulden, R.H., Irvine, R.B., May, W.E., and O'Donovan, J.T. (2014). "Up to 32 % yield increase with uniform canola stands in western Canada.", *Agronomy for Sustainable Development*, 34(4), pp. 793-801. doi: 10.1007/s13593-014-0218-5

Guan, Y., Song, C., Gan, Y.T., and Li, F.-M. (2014). "Increased maize yield using slow release attapulgite-coated fertilizers.", *Agronomy for Sustainable Development*, 34(3), pp. 657-665. doi: 10.1007/s13593-013-0193-2

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Turkington, T.K., Lupwayi, N.Z., Stevenson, F.C., McLaren, D.L., Khakbazan, M., and Smith, E.G. (2014). "Rotational effects of legumes and non-legumes on hybrid canola and malting barley.", *Agronomy Journal*, 106(6), pp. 1921-1932. doi: 10.2134/agronj14.0236

Gan, Y.T., Liang, C., Chai, Q., Lemke, R.L., Campbell, C.A., and Zentner, R.P. (2014). "Improving farming practices reduce the carbon footprint of spring wheat production.", *Nature Communications*, 5(Article number 5012). doi: 10.1038/ncomms5012

Pageni, B.B., Lupwayi, N.Z., Akter, Z., Lamey, F.J., Kawchuk, L.M., and Gan, Y.T. (2014). "Plant growth-promoting and phytopathogen-antagonistic properties of bacterial endophytes from potato (*Solanum tuberosum* L.) cropping systems.", *Canadian Journal of Plant Science*, 94(5), pp. 835-844. doi: 10.4141/CJPS2013-356

Liu, C., Gan, Y.T., and Poppy, L.B. (2014). "Evaluation of on-farm crop management decisions on canola productivity.", *Canadian Journal of Plant Science*, 94(1), pp. 131-139. doi: 10.4141/cjps2013-121

## 2013

Dai, M., Bainard, L.D., Hamel, C., Gan, Y.T., and Lynch, D.H. (2013). "Impact of land use on arbuscular mycorrhizal fungal communities in rural Canada.", *Applied and Environmental Microbiology*, 79(21), pp. 6719-6729. doi: 10.1128/AEM.01333-13

Ellouze, W., Hamel, C., Vujanovic, V., Gan, Y.T., Bouzid, S., and St-Arnaud, M. (2013). "Chickpea genotypes shape the soil microbiome and affect the establishment of the subsequent durum wheat crop in the semiarid North American Great Plains.", *Soil Biology & Biochemistry*, 63, pp. 129-141. doi: 10.1016/j.soilbio.2013.04.001

Yang, C., Hamel, C., Gan, Y.T., and Vujanovic, V. (2013). "Pyrosequencing reveals how pulses influence rhizobacterial communities with feedback on wheat growth in the semiarid Prairie.", *Plant and Soil*, 367(1-2), pp. 493-505. doi: 10.1007/s11104-012-1485-z

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Kawchuk, L.M., and Gan, Y.T. (2013). "Populations, diversity and identities of bacterial endophytes in potato (*Solanum tuberosum* L.) cropping systems.", *Canadian Journal of Plant Science*, 93, pp. 1125-1142. doi: 10.4141/CJPS2013-166

Yang, R., Su, Y.-Z., Gan, Y.T., Du, M.-W., and Wang, M. (2013). "Field-scale spatial distribution characteristics of soil nutrients in a newly reclaimed sandy cropland in the Hexi Corridor of Northwest China.", *Environmental Earth Sciences*, 70, pp. 2987-2996. doi : 10.1007/s12665-013-2356-5

Gan, Y.T., Siddique, K.H.M., Turner, N.C., Li, X.-G., Niu, J., Yang, C., and Liu, L. (2013). "Chapter Seven - Ridge-Furrow Mulching Systems - An Innovative Technique for Boosting Crop Productivity in Semiarid Rain-Fed Environments.", *Advances in Agronomy (Bookseries)*, 118, pp. 429-476. doi: 10.1016/B978-0-12-405942-9.00007-4

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Hall, L.M., Willenborg, C.J., Kutcher, H.R., Gan, Y.T., Lafond, G.P., May, W.E., Grant, C.A., Barthelet, V., McDonald, T., Wispinski, D., and Hartman, M. (2013). "Effect of agronomic inputs and crop rotation on biodiesel quality and fatty acid profiles of direct-seeded canola.", *Canadian Journal of Plant Science*, 93(4), pp. 577-588. doi : 10.4141/cjps2012-277

## 2012

May, W.E., Lafond, G.P., Gan, Y.T., Hucl, P.J., Holzapfel, C.B., Johnston, A.M., and Stevenson, C. (2012). "Yield variability in *Phalaris canariensis* L. due to seeding date, seeding rate and nitrogen fertilizer.", *Canadian Journal of Plant Science*, 92(4), pp. 651-669. doi : 10.4141/CJPS2011-126

Zhou, L.-M., Jin, S.-L., Liu, C.-A., Xiong, Y.-C., Si, Jian-Ting, Li, X.-G., Gan, Y.T., and Li, F.-M. (2012). "Ridge-furrow and plastic-mulching tillage enhances maize-soil interactions: Opportunities and challenges in a semiarid agroecosystem.", *Field Crops Research*, 126(2), pp. 181-188. doi: 10.1016/j.fcr.2011.10.010

Gan, Y.T., Liang, C., Huang, G., Malhi, S.S., Brandt, S.A., and Katepa-Mupondwa, F. (2012). "Carbon footprint of canola and mustard is a function of the rate of N fertilizer.", *International Journal of Life Cycle Assessment*, 17(1), pp. 58-68. doi : 10.1007/s11367-011-0337-z

Yang, C., Hamel, C., Gan, Y.T., and Vujanovic, V. (2012). "Bacterial endophytes mediate positive feedback effects of early legume termination times on the yield of subsequent durum wheat crops.", *Canadian Journal of Microbiology*, 58(12), pp. 1368-1377. doi : 10.1139/w2012-114

Dosdall, L.M., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Kutcher, H.R., Gan, Y.T., and Johnson, E.N. (2012). "Crop Sequence Effects on Root Maggot (Diptera: Anthomyiidae: *Delia* spp.) Infestations in Canola.", *Journal of Economic Entomology*, 105(4), pp. 1261-1267. doi: 10.1603/EC11440

Wang, X., Gan, Y.T., Hamel, C., Lemke, R.L., and McDonald, C.L. (2012). "Water use profiles across the rooting zones of various pulse crops.", *Field Crops Research*, 134, pp. 130-137. doi: 10.1016/j.fcr.2012.06.002

Yang, C., Hamel, C., Gan, Y.T., and Vujanovic, V. (2012). "Tag-encoded pyrosequencing analysis of the effects of fungicide application and plant genotype on rhizobacterial communities.", *Applied Soil Ecology*, 60, pp. 92-97. doi : 10.1016/j.apsoil.2012.03.010

Cruz, A.F., Hamel, C., Yang, C., Mastubara, T., Gan, Y.T., Singh, A.K., Kuwada, K., and Ishii, T. (2012). "Phytochemicals to suppress *Fusarium* head blight in wheat-chickpea rotation.", *Phytochemistry*, 78, pp. 72-80. doi : 10.1016/j.phytochem.2012.03.003

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Klein-Gebbinck, H.W., Dosdall, L.M., Hall, L.M., Willenborg, C.J., Kutcher, H.R., Malhi, S.S., Vera, C.L., Gan, Y.T., Lafond, G.P., May, W.E., Grant, C.A., and McLaren, D.L. (2012). "High-yield no-till canola production on the Canadian prairies.", *Canadian Journal of Plant Science*, 92(2), pp. 221-233. doi: 10.4141/CJPS2011-125

ElLouze, W., Hamel, C., Cruz, A.F., Ishii, T., Gan, Y.T., Bouzid, S., and St-Arnaud, M. (2012). "Phytochemicals and spore germination: At the root of AMF host preference?", *Applied Soil Ecology*, 60(September), pp. 98-104. doi : 10.1016/j.apsoil.2012.02.004

Yang, C., Hamel, C., Vujanovic, V., and Gan, Y.T. (2012). "Nontarget effects of foliar fungicide application on the rhizosphere: diversity of *nifH* gene and nodulation in chickpea field.", *Journal of Applied Microbiology*, 112(5), pp. 966-974. doi : 10.1111/j.1365-2672.2012.05262.x

Gan, Y.T., Liang, C., May, W.E., Malhi, S.S., Niu, J., and Wang, X. (2012). "Carbon footprint of spring barley in relation to preceding oilseeds and N fertilization.", *International Journal of Life Cycle Assessment*, 17(5), pp. 635-645. doi : 10.1007/s11367-012-0383-1

Gan, Y.T., Liang, C., Campbell, C.A., Zentner, R.P., Lemke, R.L., Wang, H., and Yang, C. (2012). "Carbon footprint of spring wheat in response to fallow frequency and soil carbon changes over 25 years on the semiarid Canadian prairie.", *European Journal of Agronomy*, 43, pp. 175-184. doi: 10.1016/j.eja.2012.07.004

## 2011

Gan, Y.T., Liang, B.C., Liu, L.P., Wang, X., and McDonald, C.L. (2011). "C:N ratios and carbon distribution profile across rooting zones in oilseed and pulse crops.", *Crop & Pasture Science*, 62(6), pp. 496-503. doi: 10.1071/CP10360

Gan, Y.T. and Yang, R.-C. (2011). "Advanced statistical tools and their applications to agricultural research: An introduction (Preface).", *Canadian Journal of Plant Science*, 91(4), pp. 599-601. doi: 10.4141/cjps11505

Taheri, A.E., Hamel, C., Gan, Y.T., and Vujanovic, V. (2011). "First report of *Fusarium redolens* from Saskatchewan and its comparative pathogenicity.", *Canadian Journal of Plant Pathology*, 33(4), pp. 559-564. doi : 10.1080/07060661.2011.620631

Yang, C., Hamel, C., Vujanovic, V., and Gan, Y.T. (2011). "Fungicide: modes of action and possible impact on non-target microorganisms - Review Article", *ISRN Ecology*, 2011 (Article ID 130289), pp. 8 pages. doi : 10.5402/2011/130289

Bing, D.-J., Gan, Y.T., and Warkentin, T.D. (2011). "Yields in mixtures of resistant and susceptible field pea cultivars infested with powdery mildew - defining thresholds for a possible strategy for preserving resistance.", *Canadian Journal of Plant Science*, 91(5), pp. 873-880. doi : 10.4141/CJPS2010-011

Banniza, S., Armstrong-Cho, C., Gan, Y.T., and Chongo, G. (2011). "Evaluation of fungicide efficacy and application frequency for the control of ascochyta blight in chickpea.", *Canadian Journal of Plant Pathology*, 33(2), pp. 135-149. doi : 10.1080/07060661.2011.561875

Gan, Y.T., Liu, L., Cutforth, H.W., Wang, X-Y., and Ford, G. (2011). "Vertical distribution profiles and temporal growth patterns of roots in selected oilseeds, pulses and spring wheat.", *Crop & Pasture Science*, 62(6), pp. 457-466. doi : 10.1071/CP10406

Gan, Y.T., Liang, C., Hamel, C., Cutforth, H.W., and Wang, H. (2011). "Strategies for reducing the carbon footprint of field crops for semiarid areas. A review.", *Agronomy for Sustainable Development*, 31(4), pp. 643-656. doi : 10.1007/s13593-011-0011-7

Gan, Y.T., Liang, C., Wang, X., and McConkey, B.G. (2011). "Lowering carbon footprint of durum wheat by diversifying cropping systems.", *Field Crops Research*, 122(3), pp. 199-206. doi : 10.1016/j.fcr.2011.03.020

Liu, L., Gan, Y.T., Bueckert, R., and Van Rees, K. (2011). "Rooting systems of oilseed and pulse crops I: Temporal growth patterns across the plant developmental periods.", *Field Crops Research*, 122(3), pp. 256-263. doi : 10.1016/j.fcr.2011.04.002

Liu, L., Gan, Y.T., Bueckert, R., and Van Rees, K. (2011). "Rooting systems of oilseed and pulse crops. II: Vertical distribution patterns across the soil profile.", *Field Crops Research*, 122(3), pp. 248-255. doi : 10.1016/j.fcr.2011.04.003

Siddique, K.H.M., Johansen, C., Turner, N.C., Jeuffroy, M.-H., Hashem, A., Sakar, D., Gan, Y.T., and Alghamdi, S.S. (2011). "Innovations in agronomy for food legumes. A review.", *Agronomy for Sustainable Development*, 32(1), pp. 45-64. doi : 10.1007/s13593-011-0021-5

Blackshaw, R.E., Johnson, E.N., Gan, Y.T., May, W.E., McAndrew, D.W., Barthet, V., McDonald, T., and Wispinski, D. (2011). "Alternative oilseed crops for biodiesel feedstock on the Canadian prairies.", *Canadian Journal of Plant Science*, 91(5), pp. 889-896. doi : 10.4141/cjps2011-002

## Other Science Related Publications:

2015

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Johnson, E.N., Kutcher, H.R., Willenborg, C.J., Gan, Y.T., Dossdall, L.M., Hall, L.M., Peng, G., Irvine, R.B., and Mohr, R.M. (2015). "Sustainable canola production increases with cropping system diversity.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. (Poster)

Gan, Y.T., Harker, K.N., Kutcher, H.R., Gulden, R.H., Irvine, R.B., May, W.E., O'Donovan, J.T., and Yang, C. (2015). "Uniform plant stands enhance the synergy of pod formation and seed yield in canola.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. (Poster)

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2015). "Legumes in rotation affect hybrid canola and malting barley.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015, Keynote Theme D oral presentation.

2014

Olfert, O.O., Cárcamo, H.A., Elliott, R.H., Gan, Y.T., McLaren, D.L., Olivier, C.Y., Otani, J.K., Peng, G., and Soroka, J.J. (2014). Detection, surveillance and management of weed, insect and disease pests that threaten the economic viability of crop production and the environmental health of prairie agro-ecosystems. Annual Report to Canola Science Cluster (4 pages). (Report)

O'Donovan, J.T., Blackshaw, R.E., Grant, C.A., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., and Turkington, T.K. (2014). "Legume crops grown in rotation enhance canola and barley productivity in western Canada.", 13th Congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014, pp. 357-358.

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Lafond, G.P., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2014). "Rotational Effects of Legumes and Non-Legumes on Hybrid Canola, and Maltng Barley.", American Society of Agronomy Annual Meeting 2014, Long Beach, CA, USA, November 3-5, 2014.

Gan, Y.T., Chang, L., Lemke, R.L., Campbell, C.A., and Zentner, R.P. (2014). "Carbon Footprints for Wheat Cropping Systems in Semiarid Prairies.", Soils and Crops Workshop 2014, University of Saskatchewan, Saskatoon, SK, Canada, March 11-12, 2014.

Blackshaw, R.E., Harker, K.N., O'Donovan, J.T., Johnson, E.N., Gan, Y.T., and Peng, G. (2014). "How frequently can oilseed rape be grown in sustainable cropping systems.", 13th Congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014, Available online at <http://www.esa2014.hu/news/post-conference-updates-8.html>, pp. 331-332. (Poster)

## 2013

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Turkington, T.K., Johnson, E.N., Lafond, G.P., May, W.E., Gan, Y.T., Edney, M., and Juskiw, P.E. (2013). "Effect of legume crops grown two years prior to barley on malting barley yield and quality.", ASA/CSSA/SSSA International annual meeting: Water, Food, Energy and Innovation for a Sustainable World, Tampa, Florida, USA, November 3-6, 2013.

## 2012

Liu, C., Fernando, W.G.D., Gan, Y.T., Kutcher, H.R., and Peng, G. (2012). "Baseline sensitivity of *Leptosphaeria maculans* to strobilurin fungicides.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012. (Poster)

Gan, Y.T. (2012). "Lowering Carbon Footprint by Diversifying Cropping Systems.", 24th Annual Conference of the Saskatchewan Soil Conservation Association (SSCA), Saskatoon Inn, Saskatoon, SK, Canada, January 11, 2012.

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Kawchuk, L.M., Pearson, D.C., Blackshaw, R.E., and Gan, Y.T. (2012). "Preceding crop, rotation length and soil management effects on bacterial endophytes.", 49th Annual Alberta Soil Science Workshop, Ramada Inn, Edmonton, AB, Canada, February 14-16, 2012. (Abstract)

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Kawchuk, L.M., Pearson, D.C., Blackshaw, R.E., and Gan, Y.T. (2012). "Characterization of bacterial endophytes associated with *Solanum tuberosum* in irrigated cropping systems.", 112th General Meeting of American Society for Microbiology, San Francisco, CA, USA, June 15-19, 2012. (Abstract)

## 2011

O'Donovan, J.T., Blackshaw, R.E., Grant, C.A., Harker, K.N., Lafond, G.P., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., and Lupwayi, N.Z. (2011). "Legume Crops to Improve Soil Fertility for Enhanced Canola Production.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Poster)

Gan, Y.T. (2011). "Science behind rotation agronomy.", Agronomy Update, University of Saskatchewan, Saskatoon, SK, Canada, December 8, 2011. (Presentation)

Wang, X. and Gan, Y.T. (2011). "Biological nitrogen fixation and nodulation characterization of various pulse species, market classes and varieties in semiarid northern latitudes.", Canadian Society of Plant Physiologists Eastern Regional Meeting & Plant Development Workshop / Congrès de la Société Canadienne de Physiologie Végétale & Congrès de Développement Végétale (Congrès Régional de l'Est), Carleton University, Ottawa, ON, Canada, December 2-3, 2011, P38, pp. 48. (Poster)

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Kawchuk, L.M., Pearson, D.C., Blackshaw, R.E., and Gan, Y.T. (2011). "Preceding crop, rotation length and soil management effects on bacterial endophytes.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011. (Abstract)

Yang, C., Hamel, C., Gan, Y.T., and Vujanovic, V. (2011). "Isolation of hydrogen-oxidizing bacteria with positive effects on plant growth from chickpea field.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011.

Knight, J.D., Chao, T., Bazghaleh, N., Navarro, A., Taheri, A.E., Hamel, C., and Gan, Y.T. (2011). "Crop Rotation Effects on Soil Biology.", Agronomy Update Conference 2011, Lethbridge, AB, Canada, January 18-19, 2011.

Hamel, C., Yang, C., Taheri, A.E., Bazghaleh, N., Navarro-Borrell, A., Cruz, A.F., Ishii, T., Vujanovic, V., Knight, J.D., Gemida, J.J., and Gan, Y.T. (2011). "Microbial pipeline to next generation pulses.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011, pp. 5.

Bazghaleh, N., Hamel, C., Knight, J.D., Gan, Y.T., Ishii, T., and Cruz, A.F. (2011). "Chickpea root antifungal activity and mycorrhization.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011, pp. 17.



- Ellouze, W., St-Arnaud, M., Hamel, C., Gan, Y.T., Cruz, A.F., and Ishii, T. (2011). "Phytochemicals and spore germination: at the root of AMF host preference?", Soils Ecology Society Meeting 2011, University of British Columbia - Okanagan, Kelowna, BC, Canada, May 24-27, 2011, pp. 64.
- Navarro-Borrell, A., Hamel, C., Hanson, K.G., McDonald, C.L., Germida, J.J., and Gan, Y.T. (2011). "Pulse and wheat crops' influence on soil dehydrogenase activity, soil nutrient content and microbial community.", Soils Ecology Society Meeting 2011, University of British Columbia - Okanagan, Kelowna, BC, Canada, May 24-27, 2011, pp. 67.
- Navarro-Borrell, A., Hamel, C., Germida, J.J., and Gan, Y.T. (2011). "Dark septate endophytes and arbuscular mycorrhiza fungi colonization patterns related with plant nutrient content in pulse and wheat.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011, pp. 4.
- Navarro-Borrell, A., Hamel, C., Germida, J.J., and Gan, Y.T. (2011). "Arbuscular mycorrhiza fungi and dark septate endophytes colonization patterns are related with nutrient content in pulse and wheat Brown in the semiarid Canadian Prairie.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011, pp. 18.
- Navarro-Borrell, A., Hamel, C., Germida, J.J., and Gan, Y.T. (2011). "Elucidating the tripartite association plant-Arbuscular mycorrhizal fungi-dark septate endophytes [CD-Rom].", Soils and Crops Workshop 2011, Prairieland Park, Saskatoon, SK, Canada, March 15-16, 2011.
- DePauw, R.M., Malhi, S.S., Bullock, P.R., Gan, Y.T., McKenzie, R.H., Lamey, F.J., Janzen, H.H., Cutforth, H.W., and Wang, H. (2011). "Wheat Production in Northern High Latitudes – Canadian example.", in Bonjean, A., Angus, W., and Van Ginkel, M. (eds.) - The World Wheat Book A History of Wheat Breeding. Vol. 2, Lavoisier Techet Doc, Paris, France, pp. 607-651.

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## Research Publications:

2015

Soladoye, P.O., Shand, P.J., Aalhus, J.L., Gariépy, C., and Juárez, M. (2015). "Review: Porkbelly quality, bacon properties and recent consumer trends.", *Canadian Journal of Animal Science*, 95(3), pp. 325-340. doi: 10.4141/CJAS-2014-121

Scheeren, M.B., Sabik, H., Gariépy, C., Terra, N.N., and Arul, J. (2015). "Determination of N-nitrosamines in processed meats by liquid extraction combined with gas chromatography-methanol chemical ionisation/mass spectrometry.", *Food Additives and Contaminants: Part A: Chemistry, Analysis, Control, Exposure & Risk Assessment*, 32(9), pp. 1436-1447. doi: 10.1080/19440049.2015.1066037

Li, H.J., Gariépy, C., Jin, Y., Font-i-Furnols, M., Fortin, J., Rocha, L.M., and Faucitano, L. (2015). "Effects of ractopamine administration and castration method on muscle fibre characteristics and sensory quality of the longissimus muscle in two Piétrain genotypes.", *Meat Science*, 102, pp. 27-34. doi: 10.1016/j.meatsci.2014.10.027

2014

Huang, H., Liu, L., Ngadi, M.O., Gariépy, C., and Prasher, S.O. (2014). "Near-infrared spectral image analysis of pork marbling based on Gabor filter and wide line detector techniques.", *Applied Spectroscopy*, 68(3), pp. 332-339. doi: 10.1366/13-07242

Huang, H., Liu, L., Ngadi, M.O., and Gariépy, C. (2014). "Rapid and Non-invasive Quantification of Intramuscular Fat Content of Intact Pork Cuts.", *Talanta*, 119, pp. 385-395. doi: 10.1016/j.talanta.2013.11.015

Huang, H., Liu, L., Ngadi, M.O., and Gariépy, C. (2014). "Predicting intramuscular fat content and marbling score of pork along the longissimus muscle based on the last rib.", *International Journal of Food Science and Technology*, 49(8), pp. 1781-1787. doi: 10.1111/ijfs.12530

Pouliot, É., Gariépy, C., Thériault, M., and Castonguay, F.W. (2014). "Use of electrical stimulation and chilling to enhance meat tenderness of heavy lambs.", *Canadian Journal of Animal Science*, 94(4), pp. 627-637. doi: 10.4141/CJAS-2014-076

2013

Huang, H., Liu, L., Ngadi, M.O., and Gariépy, C. (2013). "Prediction of pork marbling scores using pattern analysis techniques.", *Food Control*, 31(1), pp. 224-229. doi: 10.1016/j.foodcont.2012.09.034

2012

Liu, L., Ngadi, M.O., Prasher, S.O., and Gariépy, C. (2012). "Objective determination of pork marbling scores using the wide line detector.", *Journal of Food Engineering*, 110(3), pp. 497-504. doi: 10.1016/j.jfoodeng.2011.11.008

Pouliot, É., Gariépy, C., Thériault, M., Avezard, C., Fortin, J., Simmons, N.J., and Castonguay, F.W. (2012). "Effects of low-voltage electrical stimulation and aging on lamb meat quality.", *Canadian Journal of Animal Science*, 92(1), pp. 59-66. doi: 10.4141/cjas2011-076

2011

Parenteau-Bareil, R., Gauvin, R., Cliché, S., Gariépy, C., Germain, L., and Berthod, F. (2011). "Comparative study of bovine, porcine and avian collagens for the production of a tissue engineered dermis.", *Acta Biomaterialia*, 7(10), pp. 3757-3765. doi: 10.1016/j.actbio.2011.06.020

Kazemi, S., Ngadi, M.O., and Gariépy, C. (2011). "Protein Denaturation in Pork Longissimus Muscle of Different Quality Groups.", *Food and Bioprocess Technology*, 4(1), pp. 102-106. doi: 10.1007/s11947-009-0201-3

Schmaier, A.A., Stalker, T.J., Runge, J.J., Lee, D., Nagaswami, C., Mericko, P., Chen, M., Cliché, S., Gariépy, C., Brass, L.F., Hammer, D.A., Weisel, J.W., Rosenthal, K., and Kahn, M.L. (2011). "Occlusive thrombi arise in mammals but not birds in response to arterial injury: evolutionary insight into human cardiovascular disease.", *Blood*, 118(13), pp. 3661-3669. doi: 10.1182/blood-2011-02-338244

## Other Science Related Publications:

2015

D'Astous-Pagé, J., Gariépy, C., Blouin, R., Cliché, S., Sullivan, B., and Palin, M.-F. (2015). "Carnosine levels in the porcine longissimus muscle and its association with meat quality traits and carnosine-related genes expression.", Canadian Society of Animal Science (CSAS) and Canadian Meat Council Annual Joint Meeting, Ottawa, Canada, May 6-7, 2015, Abstract P22-GS. (Abstract)

Soladoye, P.O., Shand, P.J., Gariépy, C., Aalhus, J.L., and Juárez, M. (2015). "Effect of cooking method and storage time on lipid oxidation and sensory attributes of bacon.", 61st International Congress of Meat Science and Technology (ICoMST), Clermont-Ferrand, France, August 23-28, 2015.

Soladoye, P.O., López-Campos, Ó., Aalhus, J.L., Prieto, N., Gariépy, C., Shand, P.J., and Juárez, M. (2015). "Evaluating the accuracy of Dual Energy X-ray Absorptiometry (DEXA) in predicting carcass composition from varying pig populations.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2015 Annual Conference and Technical Symposium, Ottawa, Canada, May, 2015.

Soladoye, P.O., Aalhus, J.L., López-Campos, Ó., Prieto, N., Uttaro, B., Dugan, M.E.R., Gariépy, C., Zhang, H., Ye, J., Shand, P.J., and Juárez, M. (2015). "Alternative management strategies for pork differentiation in Canada.", Banff Pork Seminar 2015, Banff, AB, Canada, January 20-22, 2015.

Soladoye, P.O., López-Campos, Ó., Aalhus, J.L., Prieto, N., Gariépy, C., Shand, P.J., and Juárez, M. (2015). "Accuracy of Dual Energy X-ray Absorptiometry (DEXA) in assessing carcass composition from different pig populations.", Banff Pork Seminar 2015, Banff, AB, Canada.

2014

Palin, M.-F., Jafarikia, M., Gariépy, C., Fortin, F.-A., Maignel, L., Wyss, S., and Sullivan, B. (2014). "Association of SNPs and Haplotypes in Adiponectin and Adiponectin Receptors with Pig Meat Quality Traits.", 10th World Congress on Genetics Applied to Livestock Production (WCGALP), Vancouver, Canada, August 17-22, 2014. (Abstract)

2013

Scheeren, M.B., Arul, J., and Gariépy, C. (2013). "Comparison of different methods for nitrite and nitrate determination in meat products.", 59th International Congress of Meat Science and Technology (ICoMST2013), Izmir, Turkey, August 18-23, 2013.

2012

Palin, M.-F., Gariépy, C., Méthot, S., Beaudry, D., Cliché, S., Leblanc, C., Fortin, F.-A., Jafarikia, M., Maignel, L., Wyss, S., and Sullivan, B. (2012). "Candidate genes mRNA abundance in the longissimus muscle of pigs with divergent carcass and meat quality traits.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2012 Annual Conference and Technical Symposium, Québec City, QC, Canada, May 29-June 1, 2012, pp. 10. (Abstract)

Palin, M.-F., Gariépy, C., Méthot, S., Beaudry, D., Cliché, S., Leblanc, C., Fortin, F.-A., Jafarikia, M., Maignel, L., Wyss, S., and Sullivan, B. (2012). "mRNA abundance of selected genes in the loin muscle of pigs with divergent carcass and meat quality traits.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012, Abs. C64. (Poster)

Palin, M.-F., Gariépy, C., Méthot, S., Beaudry, D., Cliché, S., Leblanc, C., Fortin, F.-A., Jafarikia, M., Maignel, L., Wyss, S., and Sullivan, B. (2012). "Grappe porcine: Expression des gènes dans la longe de porcs présentant différents caractères de carcasse et de qualité de la viande.", Journée des innovations – Expo-congrès du porc du Québec (à la rencontre de l'innovation et de la production porcine), Lévis, QC, Canada, April 4, 2012. (Poster)

Gariépy, C. (2012). "Selection for deep quality traits.", Canadian Centre for Swine Improvement genetic committee meeting, Ottawa, ON, Canada, May 3-4, 2012. (Presentation)

Palin, M.-F., Gariépy, C., Méthot, H., Beaudry, D., Cliché, S., Leblanc, C., Fortin, F.-A., Jafarikia, M., Maignel, L., and Sullivan, B. (2012). "Grappe Porcine: Expression de gènes sélectionnés dans la longe de porc présentant différents caractères de carcasses et de qualité de viande.", Journée des Innovations. Conseil Canadien des Viandes, Congrès Annuel, Québec City, QC, Canada, June 1, 2012.

Palin, M.-F., Gariépy, C., Méthot, S., Beaudry, D., Cliché, S., Leblanc, C., Fortin, F.-A., Jafarikia, M., Maignel, L., Wyss, S., and Sullivan, B. (2012). "mRNA abundance of selected genes in the longissimus muscle of pigs with divergent carcass and meat quality traits.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2012 Annual Conference and Technical Symposium, Québec City, QC, Canada, May 29-June 1, 2012. (Abstract)

Van Calsteren, M.-R., Peuchot, M., Guertin, N., Cliché, S., and Gariépy, C. (2012). "Low-field 1H nuclear magnetic resonance relaxometry study of pork meat.", MOOT XXV Mini NMR Symposium, Université Laval, Québec City, QC, Canada, October 20-21, 2012.

Brassard, M., Tessier, L., Gervais, R., Pouliot, É., Gariépy, C., Tremblay, G.F., Chouinard, P.Y., and Cinq-Mars, D. (2012). "Adipose tissue and meat ultimate pH and color in goat kids as influenced by breed and feeding system.", XI International Conference on Goats, Canary Islands, Spain, September 24-27, 2012. (Abstract)

Berthiaume, R.R., Lafrenière, C., Fortin, J., Gariépy, C., Mandell, I.B., and Faucitano, L. (2012). "Growth, feed efficiency, carcass quality and consumer perception of beef cattle fed PM vs AM cut grass or a red clover-grass mixture.", XVI International Silage Conference, Hämeenlinna, Finland, July 2-4, 2012. (Abstract)

## 2011

Gariépy, C. (2011). "Perspectives nouvelles pour la réduction en sodium des produits carnés.", Rencontre technologique CQVB. Réduction du sodium dans les produits alimentaires: défis et pistes de solutions, Beloeil, QC, Canada, March 24, 2011.

Aalhus, J.L., Gariépy, C., Basarab, J.A., Dugan, M.E.R., Fitzsimmons, C.J., Caine, W.R., Uttaro, B., and Juárez, M. (2011). "Optimizing Canadian pork quality through integrated management strategies.", 40th Banff Pork Seminar 2011, Banff Centre, Banff, AB, Canada, January 18-21, 2011.

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## Research Publications:

2015

Abram, P.K., Doyon, J., Brodeur, J., Gariepy, T.D., and Boivin, G. (2015). "Susceptibility of *Halyomorpha halys* (Hemiptera: Pentatomidae) eggsto different life stages of three generalist predators.", *The Canadian Entomologist*, 147(2), pp. 222-226. doi : 10.4039/tce.2014.41

Jakobs, R., Gariepy, T.D., and Sinclair, B.J. (2015). "Adult plasticity of cold tolerance in a continental-temperate population of *Drosophila suzukii*.", *Journal of Insect Physiology*, 79, pp. 1-9. doi : 10.1016/j.jinsphys.2015.05.003

Gariepy, T.D., Bruin, A.J., Haye, T., Milonas, P., and Vétek, G. (2015). "Occurrence and genetic diversity of new populations of *Halyomorpha halys* in Europe.", *Journal of Pest Science*, 88(3), pp. 451-460. doi : 10.1007/s10340-015-0672-0

Renkema, J.M., Telfer, Z., Gariepy, T.D., and Hallett, R.H. (2015). "*Dalotia coriaria* as a predator of *Drosophila suzukii*: Functional responses, reduced fruit infestation and molecular diagnostics.", *Biological Control*, 89, pp. 1-10. doi : 10.1016/j.biocontrol.2015.04.024

Cutler, G.C., Gariepy, T.D., De Silva, E.C.A., and Hillier, N.K. (2015). "High rates of parasitism of blueberry spanworm (Lepidoptera: Geometridae) by Ichneumonidae and Tachinidae in commercial lowbush blueberry fields.", *Journal of Pest Science*, 88(2), pp. 219-223. doi : 10.1007/s10340-015-0650-6

Haye, T., Fischer, S., Zhang, J., and Gariepy, T.D. (2015). "Can native egg parasitoids adopt the invasive brown marmorated stink bug, *Halyomorpha halys* (Heteroptera: Pentatomidae), in Europe?", *Journal of Pest Science*. doi : 10.1007/s10340-015-0671-1

Haye, T., Gariepy, T.D., Hoelmer, K., Rossi, J.-P., Streito, J.-C., Tassus, X., and Desneux, N. (2015). "Range expansion of the invasive brown marmorated stinkbug, *Halyomorpha halys*: an increasing threat to field, fruit and vegetable crops worldwide.", *Journal of Pest Science*. doi : 10.1007/s10340-015-0670-2

2014

Haye, T., Abdallah, S., Gariepy, T.D., and Wyniger, D. (2014). "Phenology, life table analysis and temperature requirements of the invasive brown marmorated stinkbug, *Halyomorpha halys*, in Europe.", *Journal of Pest Science*, 87(3), pp. 407-418. doi : 10.1007/s10340-014-0560-z

Rice, K.B., Bergh, C.J., Bergmann, E.J., Biddinger, D., Dieckhoff, C., Dively, G., Fraser, H.M., Gariepy, T.D., Hamilton, G., and Haye, T. (2014). "Biology, Ecology, and Management of Brown Marmorated Stink Bug (Hemiptera: Pentatomidae).", *Journal of Integrated Pest Management*, 5(3), pp. A1-A13. doi : 10.1603/IPM14002

Gariepy, T.D., Haye, T., Fraser, H.M., and Zhang, J. (2014). "Occurrence, genetic diversity, and potential pathways of entry of *Halyomorpha halys* in newly invaded areas of Canada and Switzerland.", *Journal of Pest Science*, 87(1), pp. 17-28. doi : 10.1007/s10340-013-0529-3

Abram, P.K., Gariepy, T.D., Boivin, G., and Brodeur, J. (2014). "An invasive stinkbug as an evolutionary trap for an indigenous egg parasitoid.", *Biological Invasions*, 16(7), pp. 1387-1395. doi : 10.1007/s10530-013-0576-y

Gariepy, T.D., Fraser, H., and Scott-Dupree, C.D. (2014). "Brown marmorated stinkbug (Hemiptera: Pentatomidae) in Canada: Recent establishment, occurrence, and pest status in southern Ontario.", *The Canadian Entomologist*, 146(5), pp. 579-582. doi : 10.4039/tce.2014.4

2013

Haye, T., Olfert, O.O., Weiss, R.M., Gariepy, T.D., Broadbent, A.B., and Kuhlmann, U. (2013). "Bioclimatic analyses of distributions of a parasitoid *Peristenus digoneutis* and its host species *Lygus* spp. in Europe and North America.", *Agricultural and Forest Entomology*, 15(1), pp. 43-55. doi : 10.1111/j.1461-9563.2012.00590.x

Gariepy, T.D., Haye, T., and Zhang, J. (2013). "A molecular diagnostic tool for the preliminary assessment of host-parasitoid associations in biological control programmes for a new invasive pest.", *Molecular Ecology*, 23(15), pp. 3912-3924. doi : 10.1111/mec.12515

Mechai, S., Feil, E.J., Garipey, T.D., Gregory, T.R., Lindsay, L.R., Millien, V., and Ogden, N. (2013). "Investigation of the population structure of the tick vector of Lyme disease *Ixodes scapularis* (Acari: Ixodidae) in Canada using mitochondrial Cytochrome C Oxidase subunit I gene sequences.", *Journal of Medical Entomology*, 50(3), pp. 560-570. doi : 10.1603/ME12178

Broadbent, A.B., Haye, T., Garipey, T.D., Olfert, O.O., and Kuhlmann, U. (2013). "Lygus lineolaris, tarnished plant bug.", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, pp. 221-227.

Garipey, T.D. and Roitberg, B.D. (2013). "New Tools in Biological Control.", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Wallingford, UK, pp. 22-37.

## 2012

Garipey, T.D. and Messing, R.H. (2012). "Development and use of molecular diagnostic tools to determine trophic links and interspecific interactions in aphid-parasitoid communities in Hawaii.", *Biological Control*, 60(1), pp. 26-38. doi : 10.1016/j.biocontrol.2011.06.011

Garipey, T.D., Lindsay, R., Ogden, N., and Gregory, T.R. (2012). "Identifying the last supper: utility of the DNA barcode library for bloodmeal identification in ticks.", *Molecular Ecology Resources*, 12(4), pp. 646-652. doi : 10.1111/j.1755-0998.2012.03140.x

## Other Science Related Publications:

### 2015

Erlandson, M.A., Coutu, C., Holowachuk, J., Olfert, O.O., Garipey, T.D., and Hegedus, D.D. (2015). "Developing genotyping-by-sequencing strategies for characterizing *Mamestra configurata* populations.", Joint Annual Meeting of Société d'entomologie du Québec and Entomological Society of Canada, Montreal, QC, Canada, November 8-11, 2015, Oral Presentation.

### 2014

Haye, T., Wyniger, D., and Garipey, T.D. (2014). "Recent range expansion of brown marmorated stinkbug in Europe.", in Muller, Pospischil & Robinson (eds.) - *Proceedings of the Eighth International Conference on Urban Pests*, OOK-Press, Hungary, pp. 309-314.

Leskey, T.C., Hamilton, G., Biddinger, D., Buffington, M.L., Dieckhoff, C., Dively, G., Fraser, H.M., Garipey, T.D., Hedstrom, C., and Herbert, A. (2014). *Datasheet for Halymorpha halys (Stål)*, (Hemiptera: Pentatomidae) and invasive species compendium.

Cossentine, J.E., Blatt, S.E., Mason, P.G., Franklin, J.L., Brauner, A.M., Robertson, M.C., Appleby, M.E., Grigg-McGuffin, K., Fraser, H.M., Hueppelsheuser, T., and Garipey, T.D. (2014). "Adventures in moving: The challenges in introducing a classical biological control agent into other provinces.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014, Poster Presentation.

Cossentine, J.E., Blatt, S.E., Mason, P.G., Franklin, J.L., Brauner, A.M., Robertson, M.C., Appleby, M.E., Grigg-McGuffin, K., Fraser, H.M., Hueppelsheuser, T., and Garipey, T.D. (2014). "Adventures in moving. The challenges in introducing a classical biological control agent into other provinces.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014.

Erlandson, M.A., Theilmann, D.A., Hegedus, D.L., Donly, T., Garipey, T.D., and Olfert, O.O. (2014). *Bertha armyworm (Mamestra configurata): Genomics, population dynamics and biodiversity of pest and pathogens*. Annual Project Report to AAFC-Genomics. (Report)

### 2013

Cossentine, J.E., Blatt, S.E., Mason, P.G., Franklin, J.L., Brauner, A.M., Appleby, M.E., Grigg-McGuffin, K., Fraser, H., and Garipey, T.D. (2013). "A difficult directed biological control decision.", Joint Annual Entomological Society of Ontario and Canada meeting, Guelph, ON, Canada, October, 2013. (Poster)

Garipey, T.D. (2013). "Molecular Diagnostics in Biological Control: Evaluating Trophic Interactions and Non-Target Effects of Insect Parasitoids.", 4th International Symposium on Biological Control of Arthropods, Pucón, Chile, March 4-8, 2013. (Presentation)

2012

Cárcamo, H.A., Herle, C.E., Broadbent, A.B., Garipey, T.D., and Gualtieri, L. (2012). "Neo-classical biocontrol of *Lygus* in canola in the Canadian Prairies-treading lightly.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #27. (Abstract)

Haye, T., Hohman, L., Zhang, J.X., Gillespie, D.R., Mason, P.G., and Garipey, T.D. (2012). "Egg parasitism of brown marmorated stink bug, *Halyomorpha halys*, in China and Europe and implications for biological control.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #79. (Abstract)

Garipey, T.D. (2012). "Brown Marmorated Stink Bug in Canada and Potential for Biological Control.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012.

Garipey, T.D. (2012). "Of Pests and Parasites: Modernizing Biological Control with New Tricks of the Trade.", Royal Canadian Institute (RCI), public lecture series, University of Toronto, Toronto, ON, Canada, January 2013. (Presentation)

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## Research Publications:

2015

Gaudet, D.A., Nilsson, D., Lohr, T., and Sheedy, C. (2015). "Development of a real-time immuno-PCR assay for the quantification of 17 $\beta$ -estradiol in water.", *Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Wastes*, 50(10), pp. 683-690. doi: 10.1080/03601234.2015.1048097

Graf, R.J., Beres, B.L., Randhawa, H.S., Gaudet, D.A., Laroche, A., and Eudes, F. (2015). "AAC Elevate hard red winter wheat", *Canadian Journal of Plant Science*, 95(5), pp. 1021-1027. doi: 10.4141/cjps-2015-094

2014

Wang, X.M., Gaudet, D.A., Liu, W., Frick, M., Puchalski, B., Lu, Z.-X., Leggett, F.L., and Laroche, A. (2014). "Defence responses including hypersensitive cell death, oxidative burst and defence gene expression in Moro wheat inoculated with *Puccinia striiformis*", *Canadian Journal of Plant Pathology*, 36(2), pp. 202-215. doi: 10.1080/07060661.2014.920919

Liu, W., Frick, M., Huel, R., Nykiforuk, C.L., Wang, X.M., Gaudet, D.A., Eudes, F., Conner, R.L., Kuzyk, A.D., Chen, Q., Kang, Z., and Laroche, A. (2014). "Stripe Rust Resistance Gene Yr10 Encodes an Evolutionary-conserved and Unique CC-NBS-LRR Sequence in Wheat", *Molecular Plant*, 7(12), pp. 1740-1755. doi: 10.1093/mp/ssu112

Ali, S., Laurie, J.D., Linning, R., Cervantes-Chávez, J.A., Gaudet, D.A., and Bakkeren, G. (2014). "An Immunity-Triggering Effector from the Barley Smut Fungus *Ustilago hordei* Resides in an Ustilaginaceae-Specific Cluster Bearing Signs of Transposable Element-Assisted Evolution.", *PLoS Pathogens*, 10(7): Article number e1004223. doi: 10.1371/journal.ppat.1004223

2013

Graf, R.J., Beres, B.L., Randhawa, H.S., Gaudet, D.A., Badea, A., Laroche, A., Eudes, F., and Pandeya, R.S. (2013). "AAC Gateway hard red winter wheat.", *Canadian Journal of Plant Science*, 93(3), pp. 541-548. doi: 10.4141/CJPS2012-266

Gaudet, D.A., Puchalski, B., Despins, T., McCartney, C.A., Menzies, J.G., and Graf, R.J. (2013). "Seeding date and location affect winter wheat infection by common bunt (*Tilletia tritici* and *T. laevis*) in western Canada.", *Canadian Journal of Plant Science*, 93(3), pp. 483-489. doi: 10.4141/cjps2012-176

Graf, R.J., Beres, B.L., Laroche, A., Gaudet, D.A., Eudes, F., Pandeya, R.S., Badea, A., and Randhawa, H.S. (2013). "Emerson hard red winter wheat.", *Canadian Journal of Plant Science*, 93(4), pp. 741-748. doi: 10.4141/CJPS2012-262

Gaudet, D.A. and Laroche, A. (2013). "Mechanisms of snow mold resistance.", in Imai, R., Yoshida, M., Matsumoto, N. (eds.) - *Plant and Microbe Adaptation to Cold in Changing World*, Springer, pp. 319-330.

Puchalski, B., Kundrik, K., Wogsberg, S., Wilson, M., Randhawa, H.S., and Gaudet, D.A. (2013). "Survey of stripe rust and other foliar diseases of wheat in 2012 in southern Alberta.", *Canadian Plant Disease Survey*, 93, pp. 123-124.

Knox, R.E., Campbell, H., DePauw, R.M., Gaudet, D.A., and Puchalski, B. (2013). "DNA markers for resistance to common bunt in 'McKenzie' wheat.", *Canadian Journal of Plant Pathology*. doi: 10.1080/07060661.2013.763292

2012

Graf, R.J., Thomas, J.B., Beres, B.L., Gaudet, D.A., Laroche, A., and Eudes, F. (2012). "Flourish hard red winter wheat.", *Canadian Journal of Plant Science*, 92(1), pp. 183-189. doi: 10.4141/CJPS2011-084

Graf, R.J., Thomas, J.B., Gaudet, D.A., Laroche, A., and Beres, B.L. (2012). "Broadview hard red winter wheat.", *Canadian Journal of Plant Science*, 92(1), pp. 177-181. doi: 10.4141/CJPS2011-083

Gaudet, D.A. and Menzies, J.G. (2012). "Common Bunt of Wheat: an Old Foe Remains a Current Threat.", in Sharma, I. (ed.) - *Disease Resistance in Wheat*. CABI Plant Protection Series, CABI Publishing, Wallingford, UK, Chapter 11, pp. 220-235.



Diedhiou, C., Gaudet, D.A., Liang, Y., Sun, J.-Y., Lu, Z.-X., Eudes, F., and Laroche, A. (2012). "Carbohydrate profiling in seeds and seedlings of transgenic triticale modified in the expression of sucrose:sucrose-1-fructosyltransferase (1-SST) and sucrose:fructan-6-fructosyltransferase (6-SFT).", *Journal of Bioscience and Bioengineering*, 114(4), pp. 371-378. doi : 10.1016/j.jbiosc.2012.05.008

Randhawa, H.S., Puchalski, B., Frick, M., Goyal, A., Despins, T., Graf, R.J., Laroche, A., and Gaudet, D.A. (2012). "Stripe rust resistance among western Canadian spring wheat and triticale varieties.", *Canadian Journal of Plant Science*, 92(4), pp. 713-722. doi: 10.4141/CJPS2011-252

Thomas, J.B., Gaudet, D.A., and Graf, R.J. (2012). "AC Bellatrix hard red winter wheat.", *Canadian Journal of Plant Science*, 92(1), pp. 163-168. doi : 10.4141/CJPS2011-091

## 2011

Laroche, A., Penniket, C., Frick, M., Genswein, B.M.A., Thomas, D.K., Puchalski, B., Graf, R.J., Selinger, L.B., Robert, L.S., Ouellet, T., Singh, J., and Gaudet, D.A. (2011). "Gene expression in Triticale.", in Chibar, R.N. and Dexter, J. (eds.) - *Wheat Science Dynamics: Challenges and Opportunities*, Agrobias International, Jodhpur, India, pp. 653-657.

Gao, Y., Liu, X., Stebbing, J.A., He, D., Laroche, A., Gaudet, D.A., and Xing, T. (2011). "TaFLRS, a novel mitogen-activated protein kinase in wheat defence responses.", *European Journal of Plant Pathology*, 131(4), pp. 643-651. doi : 10.1007/s10658-011-9837-8

Feng, J., Hwang, R., Hwang, S.F., Gaudet, D.A., and Strelkov, S.E. (2011). "Molecular characterization of a *Stagonospora nodorum* lipase gene LIP1.", *Plant Pathology*, 60(4), pp. 698-708. doi : 10.1111/j.1365-3059.2011.02434.x

Xu, Y., Badea, C., Tran, F., Frick, M., Schneiderman, D., Robert, L.S., Harris, L.J., Thomas, D.K., Tinker, N.A., Gaudet, D.A., and Laroche, A. (2011). "Next-Gen sequencing of the transcriptome of triticale.", *Plant Genetic Resources: Characterization and Utilization*, 9(2), pp. 181-184. doi : 10.1017/s1479262111000281

Gaudet, D.A., Wang, Y., Frick, M., Puchalski, B., Penniket, C., Ouellet, T., Robert, L.S., Singh, J., and Laroche, A. (2011). "Low temperature induced defence gene expression in winter wheat in relation to resistance to snow moulds and other wheat diseases.", *Plant Science*, 180(1), pp. 99-110. doi : 10.1016/j.plantsci.2010.07.023

## Other Science Related Publications:

### 2015

Laroche, A., Frick, M., Puchalski, B., Amundsen, E.J., Puchalski, B., Randhawa, H.S., Graf, R.J., and Gaudet, D.A. (2015). "Characterization of Stripe Rust Isolates from Western Canada Using NGS.", XXIII Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2015, pp. P0467.

### 2014

Laroche, A., Frick, M., Xu, Y., Puchalski, B., Puchalski, B., Randhawa, H.S., Graf, R.J., and Gaudet, D.A. (2014). "Comparisons of *Puccinia striiformis* sp. tritici (Pst) isolates from Southern Alberta.", Canadian Wheat Alliance 1st Annual Science Meeting, NRC-Saskatoon, Saskatoon, Canada, April 7-8, 2014.

Laroche, A., Frick, M., Xu, Y., Puchalski, B., Puchalski, B., Singh, A., Randhawa, H.S., Graf, R.J., and Gaudet, D.A. (2014). "NGS to identify, characterize and compare isolates of stripe rust, a fungal pathogen of wheat.", Canada NGS Symposia - Lethbridge NGS Symposium, University of Lethbridge, April 24, 2014. (Presentation)

Laroche, A., Frick, M., Verma, S., Gaudette, N., Dhariwal, G.K., Schussler, M., Frick, M.J., Wogsberg, S., Kundrik, K., and Gaudet, D.A. (2014). "Does abiotic stress increase wheat and triticale susceptibility to different pathogens?", 35th Plant Pathology Symposium of Alberta, Canmore, AB, Canada, October 27-29, 2014, pp. 16. (Poster)

Wang, F., Frick, M., Amundsen, E.J., Gaudet, D.A., Laroche, A., and Sheedy, C. (2014). "Detection of stripe rust spores through self-assembly antibody conjugations by RT-IPCR.", 35th Plant Pathology Symposium of Alberta, Canmore, AB, Canada, October 27-29, 2014.

Frick, M., Puchalski, B., Amundsen, E.J., Puchalski, B., Gaudet, D.A., Randhawa, H.S., Graf, R.J., and Laroche, A. (2014). "Molecular characterization of Pst races from western Canada.", 2014 Plant Pathology Symposium of Alberta, Canmore, AB, Canada, October 27-29, 2014.

Laroche, A., Frick, M., Xu, Y., Puchalski, B., Puchalski, B., Randhawa, H.S., Graf, R.J., and Gaudet, D.A. (2014). "Molecular characterization of Pst race isolates from Western Canada.", Borlaug Global Rust Initiative Technical Workshop, Obregon, México, March 22-25, 2014.

Graf, R.J., Randhawa, H.S., Gaudet, D.A., and Laroche, A. (2014). "Rust resistance in western Canadian winter wheat.", Borlaug Global Rust Initiative Technical Workshop, Obregon, México, March 22-25, 2014. (Poster)

Gaudet, D.A., Amundsen, E.J., Frick, M., Kundrik, K., and Laroche, A. (2014). "Stripe Rust in Southern Alberta in 2014.", 35th Plant Pathology Symposium of Alberta, Canmore, AB, Canada, October 27-29, 2014.

## 2013

Gaudet, D.A., Puchalski, B., Randhawa, H.S., Despina, T., and Laroche, A. (2013). "Control of stripe rust in western Canada.", Canadian Phytopathological Society Annual Meeting, Edmonton, Alberta, Canada, June 16-19, 2013. (Presentation)

Frick, M., Puchalski, B., Puchalski, B., Gaudet, D.A., Randhawa, H.S., Graf, R.J., Laroche, A., and Forbert, P. (2013). "Molecular characterization of stripe rust races from Western Canada.", 2013 Canadian Society of Plant Biologist Annual Meeting, Quebec, Canada, June 25-28, 2013.

Laroche, A., Puchalski, B., Singh, A., Puchalski, B., Gaudet, D.A., Randhawa, H.S., Graf, R.J., and Frick, M. (2013). "Next-generation sequencing to characterize Pst races from western Canada.", 5th Borlaug Global Rust Initiative Technical Workshop, New Delhi, India, August 19-22, 2013. (Poster)

McCartney, C.A., Gaudet, D.A., Knox, R.E., and Menzies, J.G. (2013). "QTL Analysis of Common Bunt Resistance in the 'Kenyon'/86ISMN 2137 Mapping Population.", XXI Plant and Animal Genome Conference, San Diego, CA, USA, January 12-16, 2013.

Gaudet, D.A., Puchalski, B., Randhawa, H.S., Despina, T., and Laroche, A. (2013). "Fungicide Control of Stripe Rust in Western Canada.", 34th Annual Meeting of the Plant Pathology Society of Alberta, Brooks, AB, Canada, November 4-6, 2013.

Laroche, A., Puchalski, B., Singh, A., Puchalski, B., Gaudet, D.A., Randhawa, H.S., Graf, R.J., and Frick, M. (2013). "Next-generation sequencing to characterize Pst races from western Canada.", Borlaug Global Rust Initiative (BGRI) Technical Workshop, New Delhi, India, August 19-22, 2013. (Presentation)

Puchalski, B., Gaudet, D.A., Randhawa, H.S., Despina, T., and Laroche, A. (2013). "The occurrence of stripe rust in Southern Alberta.", 34th Annual Meeting of the Plant Pathology Society of Alberta, Brooks, AB, Canada, November 4-6, 2013.

Randhawa, H.S., Puchalski, B., Puchalski, B., Laroche, A., Graf, R.J., and Gaudet, D.A. (2013). "Virulence analysis of Pst isolates collected from western Canada.", Borlaug Global Rust Initiative (BGRI) Technical Workshop, New Delhi, India, August 19-22, 2013. (Presentation)

Laroche, A., Frick, M., Puchalski, B., Puchalski, B., Singh, A., Randhawa, H.S., Graf, R.J., and Gaudet, D.A. (2013). "Differential make-up in older and newer stripe rust strains.", 34th Annual Meeting of the Plant Pathology Society of Alberta, Brooks, AB, Canada, November 4-6, 2013.

## 2012

Kutcher, H.R., Randhawa, H.S., Puchalski, B., Wogsberg, S., Graf, R.J., and Gaudet, D.A. (2012). "The 2011 stripe rust epidemic in western Canada.", Borlaug Global Rust Initiative (BGRI) Technical Workshop, Beijing, China, September 1-4, 2012.

Kutcher, H.R., Turkington, T.K., Gaudet, D.A., Randhawa, H.S., Puchalski, B., Wogsberg, S., and Graf, R.J. (2012). "Managing cereal and canola diseases.", Crop Talk, Prince Albert Exhibition Centre, Saskatoon, SK, Canada, March 7, 2012, (Presentation).

Knox, R.E., Hucl, P.J., Cuthbert, R.D., Singh, A.K., Clarke, F.R., DePauw, R.M., Pozniak, C.J., Fox, S.L., Humphreys, D.G., Clarke, J.M., Randhawa, H.S., Spaner, D.M., McCartney, C., Gaudet, D.A., Menzies, J.G., Gilbert, J.R., Fetch Jr., T.G., McCallum, B.D., and Brulé-Babel, A.L. (2012). "Phenomics.", Canadian Triticum Advancement through Genomics (CTAG) annual meeting 2014, Saskatoon, SK, Canada.

## 2011

Randhawa, H.S., Puchalski, B., Wogsberg, S., Graf, R.J., Kutcher, H.R., and Gaudet, D.A. (2011). "The occurrence of stripe rust epidemic in western Canada.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011. (Abstract)

Randhawa, H.S., Eudes, F., McKenzie, R.I.H., Beres, B.L., and Gaudet, D.A. (2011). "The Future of Triticale: The Growing Triticale Competitive Advantage Resulting from Continued CTBI Research.", 2011 Annual Canadian Triticale Biorefinery Initiative, Calgary, Alberta, Canada, March 7, 2011.

Puchalski, B., Gaudet, D.A., Randhawa, H.S., Graf, R.J., and Wogsberg, S. (2011). "The 2011 stripe rust epidemic in western Canada.", 32nd Annual Meeting of the Plant Pathology Society of Alberta (PPSA), University of Alberta, Edmonton, AB, Canada, November 7-9, 2011.

Beres, B.L., Randhawa, H.S., McKenzie, R.H., and Gaudet, D.A. (2011). "Triticale Today: Proven CTBI Results Showing the Promise of Triticale for the Near-Term Biorefinery.", 2011 Annual Canadian Triticale Biorefinery Initiative, Calgary, Alberta, Canada, March 7, 2011.

Puchalski, B. and Gaudet, D.A. (2011). "2010 Southern Alberta Stripe rust survey.", Canadian Plant Disease Survey, 91, pp. 68-69.

- Randhawa, H.S., Puchalski, B., Graf, R.J., Goyal, A., Despins, T., and Gaudet, D.A. (2011). "Reactions of western Canadian wheat and triticale varieties to stripe rust.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011. (Poster)
- Goyal, A., Puchalski, B., Gaudet, D.A., Graf, R.J., McCallum, B.D., and Randhawa, H.S. (2011). "Genetics of resistance to common bunt, leaf and stripe rust in N9195 spring wheat.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011. (Abstract)
- Randhawa, H.S., Gaudet, D.A., Puchalski, B., and Graf, R.J. (2011). "New virulence races of stripe rust in Western Canada.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011. (Abstract)
- Gaudet, D.A., Randhawa, H.S., Puchalski, B., Graf, R.J., Despins, T., and Laroche, A. (2011). "Stripe rust resistance among western Canadian wheat and triticale cultivars.", Canadian Phytopathological Society (CPS) 82nd Annual Meeting (with Plant Canada 2011), Halifax, NS, Canada, July 17-21, 2011.
- Gaudet, D.A., Randhawa, H.S., Puchalski, B., Frick, M., Goyal, A., Despins, T., Graf, R.J., and Laroche, A. (2011). "Stripe rust resistance among western Canadian wheat and triticale cultivars.", 32nd Annual Meeting of the Plant Pathology Society of Alberta (PPSA), University of Alberta, Edmonton, AB, Canada, November 7-9, 2011, pp. 7.
- Puchalski, B., Gaudet, D.A., Harpinder, R., Graf, R.J., and Wogsberg, S. (2011). "The 2011 stripe rust epidemic in western Canada.", 32nd Annual Meeting of the Plant Pathology Society of Alberta (PPSA), University of Alberta, Edmonton, AB, Canada, November 7-9, 2011, pp. 12.
- Puchalski, B. and Gaudet, D.A. (2011). Survey of Southern Alberta for Stripe Rust and other Foliar Diseases 2010., AAFC Lethbridge Research Centre, AB. (Report)
- Puchalski, B., Gaudet, D.A., and Graf, R.J. (2011). Spring and winter wheat stripe rust coop report., AAFC Lethbridge Research Centre, AB. (Report)
- Laroche, A., Frick, M., Puchalski, B., Graf, R.J., Randhawa, H.S., and Gaudet, D.A. (2011). "Towards the genome sequencing of Alberta races of *Puccinia striiformis*, the causal agent of stripe rust.", 32nd Annual Meeting of the Plant Pathology Society of Alberta (PPSA), University of Alberta, Edmonton, AB, Canada, November 7-9, 2011, pp. 9.

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## Research Publications:

2014

Renkema, J.M., Cutler, G.C., and Gaul, S.O. (2014). "Field type, trap type and field-edge characteristics affect *Rhagoletis mendax* captures in lowbush blueberries.", *Pest Management Science*, 70(11), pp. 1720-1727. doi : 10.1002/ps.3714

Vincent, C., Lemoyne, P., Gaul, S.O., and MacKenzie, K.C. (2014). "Extreme cold temperature to kill blueberry maggot in reusa ble containers.", *Journal of Economic Entomology*, 107(3), pp. 906-909. doi : 10.1603/EC13524

2013

Kelly, J.A., Avery, T.S., Stewart, D.T., Cutler, C.G., Gaul, S.O., MacKenzie, K.C., and Hillier, N.K. (2013). "Non-target Gelechiidae and Noctuidae attraction to *Aroga trialbamaculella* (Lepidoptera: Gelechiidae) pheromone-based trapping systems", *Canadian Entomologist*, 145(1), pp. 48-52. doi : 10.4039/tce.2012.95

## Other Science Related Publications:

2013

Vincent, C., Lemoyne, P., Gaul, S.O., and MacKenzie, K.C. (2013). "Blueberry maggot and extreme low temperatures.", Annual Meeting, Entomological Society of America, Austin, Texas, USA, November 10-13, 2013. (Poster)

2011

Gaul, S.O., Fillmore, S.A.E., and MacKenzie, K.C. (2011). "A linear degree day model to predict *Rhagoletis mendax* emergence in Nova Scotia.", Wild Blueberry Producers Association of Nova Scotia Annual Meeting, Truro, Nova Scotia, Canada, November 18, 2011.

Gaul, S.O., Estabrooks, E.N., Vincent, C., and MacKenzie, K.C. (2011). "Predicted emergence of *Rhagoletis mendax* (Diptera: Tephritidae) in lowbush blueberry and presence in north western New Brunswick, Canada.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011. (Poster)

Gaul, S.O., Vincent, C., and MacKenzie, K.C. (2011). "Influence of the bioassay and blueberry volatiles on *Rhagoletis mendax* (Diptera: Tephritidae) response.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011.

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## Research Publications:

2015

Papadopoulos, Y.A., Christie, B.R., McRae, K.B., Gehl, D.T., and Fillmore, S.A.E. (2015). "Pratt timothy.", *Canadian Journal of Plant Science*, 95(5), pp. 1047-1048. doi: 10.4141/CJPS-2015-054

2014

Bing, D.-J., Beauchesne, D., McLaren, D.L., Vera, C.L., and Gehl, D.T. (2014). "AAC Lacombe field pea.", *Canadian Journal of Plant Science*, 94(4), pp. 805-806. doi: 10.4141/cjps2013-365

Bing, D.-J., Beauchesne, D., McLaren, D.L., Vera, C.L., and Gehl, D.T. (2014). "AAC Ardill field pea.", *Canadian Journal of Plant Science*, 94(1), pp. 191-192. doi: 10.4141/cjps2013-213

2013

Bing, D.-J., Beauchesne, D., McLaren, D.L., Vera, C.L., and Gehl, D.T. (2013). "AAC Peace River field pea.", *Canadian Journal of Plant Science*, 93(2), pp. 337-339. doi: 10.4141/cjps2012-173

## Other Science Related Publications:

2011

Fernandez, M.R., Zentner, R.P., Basnyat, P., Gehl, D.T., Selles, F., Huber, D., and Kremer, R.J. (2011). "Glyphosate associations with Fusarium diseases of cereal and pulse crops.", *Canadian Journal of Plant Pathology*, 33(2), pp. 240. (Abstract)

Fernandez, M.R., Zentner, R.P., and Gehl, D.T. (2011). "Influence of Pesticides on Pathogen Populations and Biological Control Agents.", 2011 Soil and Crops Workshop, University of Saskatchewan, Extension Division, Saskatoon, SK, Canada, March 7-8, 2011. (Presentation)

Fernandez, M.R., Zentner, R.P., and Gehl, D.T. (2011). "Influence of environmental pesticides on pathogen populations and biological control agents.", 2011 Soil and Crops Workshop, University of Saskatchewan, Extension Division, Saskatoon, SK, Canada, March 7-8, 2011. (Presentation)

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## Research Publications:

2014

Gélinas, P. (2014). "Fermentation control in baker's yeast production: Mapping patents.", *Comprehensive Reviews in Food Science and Food Safety*, 13(6), pp. 1141-1164. doi : 10.1111/1541-4337.12107

2013

Rieux, C.M., Vanasse, A., Chantigny, M.H., Gélinas, P., Angers, D.A., Rochette, P., and Royer, I. (2013). "Yield and bread-making potential of spring wheat under mineral and organic fertilization.", *Crop Science*, 53(3), pp. 1139-1147. doi : 10.2135/cropsci2012.07.0448

Gélinas, P. and McKinnon, C.M. (2013). "Dietary fibre and  $\beta$ -glucan in strong bread wheat cultivars: Does it matter?", *International Journal of Food Science and Technology*, 48(3), pp. 670-672. doi : 10.1111/j.1365-2621.2012.03216.x

Gélinas, P. and McKinnon, C.M. (2013). "Experiments on dough rheology to improve screening of bread wheat cultivars.", *Journal of Food Science and Technology*, 48(9), pp. 1956-1961. doi : 10.1111/jifs.12176

Gélinas, P. (2013). "Preventing constipation: A review of the laxative potential of food ingredients.", *International Journal of Food Science and Technology*, 48(3), pp. 445-467. doi : 10.1111/j.1365-2621.2012.03207.x

2012

Gélinas, P. (2012). "In search of perfect growth media for baker's yeast production: Mapping patents.", *Comprehensive Reviews in Food Science and Food Safety*, 11(1), pp. 13-33. doi : 10.1111/j.1541-4337.2011.00168.x

2011

Gélinas, P. and McKinnon, C.M. (2011). "A finer screening of wheat cultivars based on comparison of the baking potential of whole-grain flour and white flour.", *International Journal of Food Science and Technology*, 46(6), pp. 1137-1148. doi : 10.1111/j.1365-2621.2011.02600.x

## Other Science Related Publications:

2014

Gélinas, P. (2014). "Santé : le sel laisse un goût « amer ».", *L'Actualité Alimentaire*, 11(3), pp. 68-69.

Gélinas, P. (2014). "Les allégations « santé » : la perception est critique.", *L'Actualité Alimentaire*, 11(3), pp. 32-33.

2013

Gélinas, P. (2013). "Le pain au quinoa : pour ou contre?", *L'Actualité Alimentaire*, 10(2), pp. 42, 44.

2012

Gélinas, P. (2012). "Fibres alimentaires : sept questions sur la santé.", *L'Actualité Alimentaire*, 9(6), pp. 64-66.

Gélinas, P. and McKinnon, C.M. (2012). Saving time and effort with strong gluten and whole-grain bread screening tests. (Report)

Gélinas, P. and McKinnon, C.M. (2012). "Saving time and effort with strong gluten and whole-grain bread screening tests.", *Prairie Grain Development Committee (Prairie Recommending Committee for Wheat, Rye, and Triticale) Annual Meeting, Banff, AB, Canada, February 21-23, 2012. (Presentation)*

2011

Gélinas, P. and McKinnon, C.M. (2011). "A finer screening of wheat cultivars based on comparison of the baking potential of whole-grain flour and white flour.", 2nd ICC Latin American Conference 2011, Santiago, Chile, April 10-13, 2011.

Gélinas, P. (2011). "Le blé d'aujourd'hui sera le pain de demain.", L'Actualité Alimentaire, 8(6), pp. 52, 54.

Gélinas, P. (2011). "Des farines spéciales pour du pain moins salé.", L'Actualité Alimentaire, 8(1), pp. 64-65.

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## Research Publications:

2015

Al Khatib, F., Fusu, L., Cruaud, A., Gibson, G.A.P., Borowiec, N., Rasplus, J.-Y., Delvare, G., and Ris, N. (2015). "Availability of eleven species names of Eupelmus (Hymenoptera, Eupelmidae) proposed in Al khatib et al. (2014).", *ZooKeys*, 505, pp. 137-145. doi : 10.3897/zookeys.505.9021

Gibson, G.A.P. (2015). "The presence of Notanisus Walker (Hymenoptera: Pteromalidae) in North America and revision of the oulmesiensis species group.", *Zootaxa*, 3948(3), pp. 422-450. doi : 10.11646/zootaxa.3948.3.4

Gebiola, M., Bernardo, U., Ribes, A., and Gibson, G.A.P. (2015). "An integrative study of Necremnus Thomson (Hymenoptera: Eulophidae) associated with invasive pests in Europe and North America: taxonomic and ecological implications.", *Zoological Journal of the Linnean Society*, 173(2), pp. 352-423. doi : 10.1111/zoj.12210

Haye, T., Mason, P.G., Gillespie, D.R., Miall, J.H., Gibson, G.A.P., Diaconu, A., Brauner, A.M., and Kuhlmann, U. (2015). "Determining the host specificity of the biological control agent *Trichomalus perfectus* (Hymenoptera: Pteromalidae): the importance of ecological host range.", *Biocontrol Science and Technology*, 25(1), pp. 21-47. doi : 10.1080/09583157.2014.945900

Scallion, M.L., Gibson, G.A.P., and Sharanowski, B.J. (2015). "Revision of *Paranastatus Masi* (Eupelmidae, Eupelminae) with descriptions of four new species.", *ZooKeys*.

2014

Morrison III, W.R., Gibson, G.A.P., and Szendrei, Z. (2014). "The Parasitoids of the Asparagus Miner (Diptera: Agromyzidae): Field Parasitism and the Influence of Food Resources on Life History.", *Environmental Entomology*, 43(6), pp. 1526-1534. doi : 10.1603/EN14103

Khatib, F.A.L., Fusu, L., Cruaud, A., Gibson, G.A.P., Borowiec, N., Rasplus, J.-Y., Rispaill, N., and Delvare, G. (2014). "An integrative approach to species discrimination in the *Eupelmus urozonus* complex (Hymenoptera, Eupelmidae), with the description of 11 new species from the Western Palaearctic.", *Systematic Entomology*, 39(4), pp. 806-862. doi : 10.1111/syen.12089

Mason, P.G., Miall, J.H., Bouchard, P., Brauner, A.M., Gillespie, D.R., and Gibson, G.A.P. (2014). "The parasitoid communities associated with *Ceutorhynchus* spp. (Coleoptera: Curculionidae) in Ontario and Quebec, Canada.", *Canadian Entomologist*, 146(2), pp. 224-235. doi : 10.4039/tce.2013.65

2013

Haye, T., Mason, P.G., Dossall, L.M., Gillespie, D.R., Gibson, G.A.P., and Kuhlmann, U. (2013). "*Ceutorhynchus obstrictus* (Marsham), Cabbage Seedpod Weevil (Coleoptera: Curculionidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 16, pp. 119-129.

Heraty, J.M., Burks, R.A., Cruaud, A., Gibson, G.A.P., Liljeblada, J., Munro, J., Rasplus, J.-Y., Delvare, G., Janšta, P., Gumovsky, A., Huber, J., Woolley, J.B., Krogmann, L., Heydon, S., Polaszek, A., Schmidt, S., Darling, D.C., Gates, M.W., Mottem, J., Murray, E., Dal Molin, A., Triapitsyn, S., Baur, H., Pinto, J.D., Van Noort, S., George, J., and Yoder, M.J. (2013). "A phylogenetic analysis of the megadiverse Chalcidoidea (Hymenoptera).", *Cladistics*. doi : 10.1111/cla.12006

Gibson, G.A.P. (2013). "Revision of the species of *Jaliscoa* Bouček within a review of the identity, relationships and membership of *Jaliscoa*, *Catolaccus* Thomson, *Eurydinoteloides* Girault, *Lycrus* Walker and *Trimeromicrus* Gahan (Hymenoptera: Pteromalidae).", *Zootaxa*, 3612(1), pp. 1-85. doi : 10.11646/zootaxa.3612.1.1

Korenko, S., Schmidt, S., Schwarz, M., Gibson, G.A.P., and Pekár, S. (2013). "Hymenopteran parasitoids of the ant-eating spider *Zodariion styliferum* (Simon) (Araneae, Zodariidae).", *ZooKeys*, 262, pp. 1-15. doi : 10.3897/zookeys.262.3857

Thistlewood, H.M.A., Gibson, G.A.P., Gillespie, D.R., and Fitzpatrick, S.M. (2013). "*Drosophila suzukii* (Matsumura), Spotted Wing *Drosophila* (Diptera: Drosophilidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 21, pp. 152-155.



Gibson, G.A.P. (2013). "The extinct Baltic amber genus *Propelma* Trjapitzin, a valid genus of Neanastatinae (Hymenoptera, Eupelmidae).", *ZooKeys*, 283, pp. 59-69. doi: 10.3897/zookeys.283.4665

Haye, T., Mason, P.G., Dossall, L.M., Gillespie, D.R., Gibson, G.A.P., and Kuhlmann, U. (2013). "Ceutorhynchus obstrictus (Marsham), cabbage seedpod weevil (Coleoptera: Curculionidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, pp. 119-129.

2012

Seltmann, K.C., Yoder, M.J., Mikó, I., Forshage, M., Bertone, M.A., Agosti, D., Austin, A.D., Balhoff, J.P., Borowiec, M.L., Brady, S.G., Broad, G.R., Brothers, D.J., Burks, R.A., Buffington, M.L., Campbell, H.M., Dew, K.J., Ernst, A.F., Fernández-Triana, J.L., Gates, M.W., Gibson, G.A.P., and others (2012). "A hymenopterists' guide to the Hymenoptera Anatomy Ontology: utility, clarification, and future directions.", *Journal of Hymenoptera Research*, 27(1), pp. 67-88. doi: 10.3897/JHR.27.2961

Gibson, G.A.P., Dewhurst, C., and Makai, S. (2012). "Nomenclatural changes in *Anastatus* Motschulsky and the description of *Anastatus eurycanthea* Gibson n. sp. (Eupelmidae: Eupelminae), an egg parasitoid of *Eurycantha calcarata* Lucas (Phasmida: Phasmatidae) from Papua New Guinea.", *Zootaxa*, 3419, pp. 53-61.

2011

Mason, P.G., Miall, J.H., Bouchard, P., Gillespie, D.R., Broadbent, A.B., and Gibson, G.A.P. (2011). "The parasitoid communities associated with an invasive canola pest, *Ceutorhynchus obstrictus* (Coleoptera: Curculionidae), in Ontario and Quebec, Canada.", *Canadian Entomologist*, 143(5), pp. 524-537. doi: 10.4039/n11-041

Gibson, G.A.P. (2011). "The species of *Eupelmus* (Eupelmus) Dalman and *Eupelmus* (Episolidelia) Girault (Hymenoptera: Eupelmidae) in North America north of Mexico.", *Zootaxa*, 2951, pp. 1-97.

## Other Science Related Publications:

2013

Vincent, C., Huber, J., Gibson, G.A.P., and Goulet, H. (2013). "Spotted Tentiform Leafminer, *Phyllorcyter blancardella* F. (Lepidoptera: Gracillariidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, pp. 244-247.

Floate, K.D., Lysyk, T.J., and Gibson, G.A.P. (2013). "*Haematobia irritans* L., Horn Fly, *Musca domestica* L., House Fly, and *Stomoxys calcitrans* (L.), Stable Fly (Diptera: Muscidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 25, pp. 182-191.

2012

Mason, P.G., Haye, T., Gillespie, D.R., Miall, J.H., Gibson, G.A.P., Dossall, L.M., Kuhlmann, U., and Bouchard, P. (2012). "Risk assessment of biocontrol agents: the case of cabbage seedpod weevil, *Ceutorhynchus obstrictus*.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #126. (Abstract)

Gibson, G.A.P., Marco, G., and Umberto, B. (2012). "Cryptic species of the *Necremnostidius* complex (Hym.: Eulophidae) revealed through molecules.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #68. (Abstract)

Mason, P.G., Haye, T., Gillespie, D.R., Miall, J.H., Gibson, G.A.P., Kuhlmann, U., and Bouchard, P. (2012). "Environmental risk assessment of biological control agents in Canada: the cabbage seedpod weevil, *Ceutorhynchus obstrictus*, case study.", 24th International Congress of Entomology (ICE 2012) and International Organization for Biological Control (IOBC) Global Symposium, Daegu, South Korea, August 19-25, 2012. (Presentation)

2011

Mason, P.G., Haye, T., Gillespie, D.R., Dossall, L.M., Kuhlmann, U., Broadbent, A.B., and Gibson, G.A.P. (2011). "Parasitoid communities of cabbage seedpod weevil: are native species enough?", Joint Annual Meeting of the Entomological Society of Canada and Acadian Entomological Society, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011. (Presentation)

Gibson, G.A.P. (2011). "What is *Lycrus* (Hymenoptera: Pteromalidae)?", 59th Annual Meeting of the Entomological Society of America, Reno-Sparks Convention Center, Reno, NV, USA, November 13-16, 2011. (Presentation)

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## Research Publications:

2015

Enstone, D.E., Peterson, C.A., and Gijzen, M. (2015). "Soybean Hydrophobic Protein is Present in a Matrix Secreted by the Endocarp Epidermis during Seed Development.", *Scientific Reports*, 5(Article number: 15074), pp. 1-12. doi : 10.1038/srep15074

Kamoun, S., Furzer, O., Jones, J.D., Judelson, H.S., Ali, G.S., Dalio, R.J.D., Roy, S.J., Schena, L., Zambounis, A., Panabières, F., Cahill, D., Ruocco, M., Figueiredo, A., Chen, X.R., Hulvey, J., Stam, R., Lamour, K., Gijzen, M., Tyler, B.M., Grünwald, N.J., Mukhtar, M.S., Tomé, D.F., Tör, M., Van den Ackerveken, G., McDowell, J.M., Daayf, F., Fry, W.E., Lindqvist-Kreuzer, H., Meijer, H.J.G., Petre, B., Ristaino, J.B., Yoshida, K., Birch, P.R., and Govers, F. (2015). "The Top 10 oomycete pathogens in molecular plant pathology.", *Molecular Plant Pathology*, 16(4), pp. 413-434. doi : 10.1111/mpp.12190

2014

Gijzen, M., Ishmael, C., and Shrestha, S.D. (2014). "Epigenetic control of effectors in plant pathogens.", *Frontiers in Plant Science*, 5(November), pp. 1-4. doi : 10.3389/fpls.2014.00638

Tyler, B.M. and Gijzen, M. (2014). "The *Phytophthora sojae* Genome Sequence: Foundation for a Revolution.", in Ralph A. Dean, Ann Lichens-Park, Chittaranjan Kole (eds.) - *Genomics of Plant-Associated Fungi and Oomycetes: Dicot Pathogens*, Springer, Chapter 7, pp. 133-157.

Na, R., Yu, D., Chapman, B. P., Zhang, Y., Kufu, K., Austin, R.S., Qutob, D., Zhao, J., Wang, Y., and Gijzen, M. (2014). "Genome Re-Sequencing and Functional Analysis Places the *Phytophthora sojae* Avirulence Genes *Avr1c* and *Avr1a* in a Tandem Repeat at a Single Locus.", *PLoS ONE*, 9(2: Article e89738). doi : 10.1371/journal.pone.0089738

2013

Kasuga, T. and Gijzen, M. (2013). "Epigenetics and the evolution of virulence.", *Trends in Microbiology*, 21(11), pp. 575-582. doi : 10.1016/j.tim.2013.09.003

Qutob, D., Chapman, B. P., and Gijzen, M. (2013). "Transgenerational gene silencing causes gain of virulence in a plant pathogen.", *Nature Communications*, 4:1349. doi : 10.1038/ncomms2354

Na, R., Yu, D., Qutob, D., Gijzen, M., and Zhao, J. (2013). "Deletion of the *Phytophthora sojae* avirulence gene *Avr1d* causes gain of virulence on *Rps1d*.", *Molecular Plant-Microbe Interactions*. doi : 10.1094/MPMI-02-13-0036-R

MacLean, D., Yoshida, K., Edwards, A., Crossman, L., Clavijo, A., Clark, M., Swarbreck, D., Bashton, M., Chapman, B. P., Gijzen, M., Caccamo, M., Downie, J.A., Kamoun, S., and Saunders, D.G.O. (2013). "Crowdsourcing genomic analyses of ash and ash dieback—power to the people.", *GigaScience*, 2(2), pp. 1-3. doi : 10.1186/2047-217x-2-2

2012

Dong, S., Kong, G., Qutob, D., Yu, X., Tang, J., Kang, J., Dai, T., Wang, H., Gijzen, M., and Wang, Y. (2012). "The NLP Toxin Family in *Phytophthora sojae* Includes Rapidly Evolving Groups That Lack Necrosis-Inducing Activity.", *Molecular Plant-Microbe Interactions*, 25(7), pp. 896-909. doi : 10.1094/MPMI-01-12-0023-R

2011

Chowda-Reddy, R.V., Sun, H., Chen, H., Poysa, V., Ling, H., Gijzen, M., and Wang, A.M. (2011). "Mutations in the P3 Protein of Soybean mosaic virus G2 Isolates Determine Virulence on Rsv4-Genotype Soybean.", *Molecular Plant-Microbe Interactions*, 24(1), pp. 37-43. doi : 10.1094/MPMI-07-10-0158

Dong, S., Yin, W., Kong, G., Yang, X., Qutob, D., Kale, S.D., Chen, Q., Sui, Y., Zhang, Z., Dou, D., Zheng, X., Gijzen, M., Tyler, B.M., and Wang, Y. (2011). "*Phytophthora sojae* avirulence effector *Avr3b* is a secreted NADH and ADP-ribose pyrophosphorylase that modulates plant immunity.", *PLoS Pathogens*, 7(11, Article No. e1002353). doi : 10.1371/journal.ppat.1002353

Ye, W., Wang, X., Tao, K., Lu, Y., Dai, T., Dong, S., Dou, D., Gijzen, M., and Wang, Y. (2011). "Digital gene expression profiling of the *Phytophthora sojae* transcriptome.", *Molecular Plant-Microbe Interactions*, 24(12), pp. 1530-1539. doi : 10.1094/MPMI-05-11-0106

Dong, S., Yu, D., Cui, L., Qutob, D., Tedman-Jones, J., Kale, S.D., Tyler, B.M., Wang, Y., and Gijzen, M. (2011). "Sequence variants of the *Phytophthora sojae* RXLR effector Avr3a/5 are differentially recognized by Rps3a and Rps5 in soybean.", *PLoS ONE*, 6(7, Article No. e20172). doi : 10.1371/journal.pone.0020172

Reiss, K., Kirchner, E., Gijzen, M., Zocher, G., Löffelhardt, B., Nürnberger, T., Stehle, T., and Brunner, F. (2011). "Structural and phylogenetic analyses of the GP42 transglutaminase from *Phytophthora sojae* reveal an evolutionary relationship between oomycetes and marine *Vibrio* bacteria.", *Journal of Biological Chemistry*, 286(49), pp. 42585-42593. doi : 10.1074/jbc.M111.290544

## Other Science Related Publications:

2013

Gijzen, M. (2013). "Bulk segregant analysis and next generation sequencing to map the *Phytophthora sojae* Avr1c gene.", *Oomycete Molecular Genetics Network Annual Meeting 2013, Asilomar Conference Center, Pacific Grove, CA, USA, March 10-12, 2013.*

2012

Na, R., Yu, D., Chapman, A.D., Austin, R.S., Zhao, J., and Gijzen, M. (2012). "Mapping of the *Phytophthora sojae* avirulence gene Avr1c - a combined strategy of bulk segregant analysis and next generation sequencing.", *Canadian Phytopathological Society (CPS) South Western Ontario Regional 2012 Meeting, Southern Crop Protection and Food Research Centre, AAFC, London, ON, Canada, November 3, 2012, Published in: Canadian Journal of Plant Pathology (2013), 35(1), 97 (Abstract).*

Niu, W., Gijzen, M., Sumarah, M.W., and McGarvey, B.D. (2012). "Metabolism of the Soybean-Fungus Host-Pathogen Interaction - A Plant Metabolomics Study.", *Pharmaceutical Biology*, 50(11), pp. 1371-1372. (Abstract)

Gijzen, M. (2012). "Transgenerational gene silencing of Avr effectors in *Phytophthora sojae*.", *Department of Biology Seminar, University of Saskatchewan, Saskatchewan, SK, Canada, November 7, 2012. (Presentation)*

Gijzen, M. (2012). "Transgenerational gene silencing of Avr effectors in *Phytophthora sojae*.", *Oomycete Molecular Genetics Network Annual Meeting 2012, Nanjing, China, May 26-28, 2012.*

Na, R., Yin, W., Dong, S., Qutob, D., Yu, D., Zhao, J., Wang, Y., and Gijzen, M. (2012). "Identification of the avirulence gene Avr1d from the soybean root rot pathogen *Phytophthora sojae*.", *Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: Canadian Journal of Plant Pathology, 35 (1), 120.*

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## Research Publications:

2015

Yang, X.Q., Tran, F., Youssef, M.K., and Gill, C.O. (2015). "Determination of sources of *Escherichia coli* on beef by multiple-locus variable-number tandem repeat analysis.", *Journal of Food Protection*, 78(7), pp. 1296-1302. doi : 10.4315/0362-028X.JFP-15-014

Yang, X.Q., Badoni, M., Tran, F., and Gill, C.O. (2015). "Microbiological Effects of a Routine Treatment for Decontaminating Hide-On Carcasses at a Large Beef Packing Plant", *Journal of Food Protection*, 78(2), pp. 256-263. doi : 10.4315/0362-028X.JFP-14-226

2014

Yang, X.Q., Youssef, M.K., Gill, C.O., Badoni, M., and López-Campos, Ó. (2014). "Effects of meat pH on growth of 11 species of psychrotolerant clostridia on vacuum packaged beef and blown pack spoilage of the product.", *Food Microbiology*, 39, pp. 13-18. doi : 10.1016/j.fm.2013.10.008

Yang, X.Q., Badoni, M., Wang, H., and Gill, C.O. (2014). "Effects of mild and pasteurizing heat treatments on survival of generic and verotoxigenic *Escherichia coli* from beef enrichment cultures.", *Food Control*, 39, pp. 100-104. doi : 10.1016/j.foodcont.2013.11.004

Wang, H., Gill, C.O., and Yang, X.Q. (2014). "Use of sodium lauroyl sarcosinate (sarkosyl) in viable real-time PCR for enumeration of *Escherichia coli*.", *Journal of Microbiological Methods*, 98(1), pp. 89-93. doi : 10.1016/j.mimet.2014.01.004

Wang, H., Gill, C.O., and Yang, X.Q. (2014). "Development of a real-time PCR procedure for quantification of viable *Escherichia coli* in populations of *E. coli* exposed to lactic acid, and the acid tolerance of verotoxigenic *E. coli* (VTEC) from cattle hides.", *Food Control*, 43, pp. 104-109. doi : 10.1016/j.foodcont.2014.02.039

Youssef, M.K., Gill, C.O., and Yang, X.Q. (2014). "Storage life at 2 °C or -1.5 °C of vacuum packaged boneless and bone-in cuts from decontaminated beef carcasses.", *Journal of the Science of Food and Agriculture*, 94(15), pp. 3118-3124. doi : 10.1002/jsfa.6659

Youssef, M.K., Yang, X.Q., and Gill, C.O. (2014). "The relationship between numbers of bacteria on surfaces and in deep tissues of mechanically tenderized beef.", *Food Control*, 46, pp. 502-507. doi : 10.1016/j.foodcont.2014.05.055

Youssef, M.K., Gill, C.O., Tran, F., and Yang, X.Q. (2014). "Unusual compositions of microflora of vacuum packaged beef primal cuts of very long storage life.", *Journal of Food Protection*, 77(12), pp. 2161-2167. doi : 10.4315/0362-028X.JFP-14-190

Gill, C.O., Devos, J., Youssef, M.K., and Yang, X.Q. (2014). "Effects of Selected Cooking Procedures on the Survival of *Escherichia coli* O157:H7 in Inoculated Steaks Cooked on a Hot Plate or Gas Barbecue Grill.", *Journal of Food Protection*, 77(6), pp. 919-926. doi : 10.4315/0362-028X.JFP-13-526

2013

Youssef, M.K., Yang, X.Q., Badoni, M., and Gill, C.O. (2013). "Survival of acid-adapted *Escherichia coli* O157:H7 and not-adapted *E. coli* on beef treated with 2% or 5% lactic acid.", *Food Control*, 34(1), pp. 13-18. doi : 10.1016/j.foodcont.2013.03.037

Youssef, M.K., Badoni, M., Yang, X.Q., and Gill, C.O. (2013). "Sources of *Escherichia coli* deposited on beef during breaking of carcasses carrying few *E. coli* at two packing plants.", *Food Control*, 31(1), pp. 166-171. doi : 10.1016/j.foodcont.2012.09.045

Visvalingam, J., Gill, C.O., and Holley, R.A. (2013). "Morphological and viability changes in *Escherichia coli* and *E. coli* O157:H7 cells upon rapid shift from 6 °C to 37 °C.", *Food Microbiology*, 34(1), pp. 95-99. doi : 10.1016/j.fm.2012.11.021

2012

Yang, X.Q., Badoni, M., Youssef, M.K., and Gill, C.O. (2012). "Enhanced control of microbiological contamination of product at a large beef packing plant.", *Journal of Food Protection*, 75(1), pp. 144-149. doi: 10.4315/0362-028X.JFP-11-291

Badoni, M., Rajagopal, S., Aalhus, J.L., Klassen, M.D., and Gill, C.O. (2012). "The Microbiological Condition of Canadian Beef Steaks Offered for Retail Sale in Canada.", *Journal of Food Research*, 1(4), pp. 124-133. doi: 10.5539/jfr.v1n4p124

Youssef, M.K., Yang, X.Q., Badoni, M., and Gill, C.O. (2012). "Effects of spray volume, type of surface tissue and inoculum level on the survival of *Escherichia coli* on beef sprayed with 5% lactic acid.", *Food Control*, 25(2), pp. 717-722. doi: 10.1016/j.foodcont.2011.12.021

2011

Gill, C.O., Saucier, L., and Meadus, W.J. (2011). "Mycobacterium avium subsp. paratuberculosis in Dairy Products, Meat, and Drinking Water.", *Journal of Food Protection*, 74(3), pp. 480-499. doi: 10.4315/0362-028X.JFP-10-301

Yang, X.Q., Balamurugan, S., and Gill, C.O. (2011). "Effects on the development of blown pack spoilage of the initial numbers of *Clostridium estertheticum* spores and *Leuconostoc mesenteroides* on vacuum packed beef.", *Meat Science*, 88(3), pp. 361-367. doi: 10.1016/j.meatsci.2011.01.010

Yang, X.Q., Rajagopal, S., and Gill, C.O. (2011). "Accumulation of Spores in Hot Waters Recirculated in Beef Carcass Pasteurizers.", *Internet Journal of Food Safety*, 13, pp. 321-324.

Yang, X.Q., Badoni, M., and Gill, C.O. (2011). "Use of propidium monoazide and quantitative PCR for differentiation of viable *Escherichia coli* from *E. coli* killed by mild or pasteurizing heat treatments.", *Food Microbiology*, 28(8), pp. 1478-1482. doi: 10.1016/j.fm.2011.08.013

Visvalingam, J., Gill, C.O., and Holley, R.A. (2011). "The viabilities of cells in cultures of *Escherichia coli* growing with formation of filaments at 6 °C.", *International Journal of Food Microbiology*, 153(1-2), pp. 129-134. doi: 10.1016/j.ijfoodmicro.2011.10.027

## Other Science Related Publications:

2015

Visvalingam, J., Wang, H., Youssef, M.A., Devos, J., Gill, C.O., and Yang, X.Q. (2015). "Determination of genetic diversity of the *Escherichia coli* population on beef trimmings from a large beef packaging plant.", , Portland, Oregon, USA, July 25-28, 2015. (Poster)

Yang, X.Q., Tran, F., Youssef, M.A., and Gill, C.O. (2015). "Determination of sources of *Escherichia coli* on beef by multiple-locus variable-number tandem repeat analysis.", , Portland, Oregon, USA, July 25-28, 2015, Oral presentation.

2014

Klassen, M.D., Badoni, M., Yang, X.Q., and Gill, C.O. (2014). "Provide guidance on appropriate labeling for Mechanically Tenderized Beef (MTB).", Alberta Livestock and Meat Agency Futurefare, Edmonton, Alberta, Canada, June 16-17, 2014. (Poster)

2013

Wang, H., Yang, X.Q., Gill, C.O., and Badoni, M. (2013). "Enhanced selectivity of viable real-time PCR for *Escherichia coli*.", 93rd Annual Conference of the Canadian Meat Council, Banff, AB, Canada, May 29-31, 2013, pp. 15.

Yang, X.Q., Badoni, M., Wang, H., and Gill, C.O. (2013). "Effects of the initial numbers of spores of *Clostridium estertheticum* on the development of blown pack spoilage of vacuum packaged beef of normal and intermediate pH.", 93rd Annual Conference of the Canadian Meat Council, Banff, AB, Canada, May 29-31, 2013, pp. 11.

Wang, H., Badoni, M., Gill, C.O., and Yang, X.Q. (2013). "Enumeration by viable PCR of *Escherichia coli* O157:H7 from beef that survive mild heat treatment.", Canadian Institute of Food Science and Technology Annual meeting, Edmonton, AB, Canada, May 10, 2013.

Yang, X.Q. and Gill, C.O. (2013). "Sources of Contamination of Generic *Escherichia coli* on beef.", Futurefare by Alberta Livestock and Meat Agency, Red Deer, AB, Canada, June 17-18, 2013.

Rajagopal, S., McMullen, L.M., Yang, X.Q., and Gill, C.O. (2013). "Effect of pH on the Germination of Spores of *Clostridium estertheticum* in Meat Juice Medium.", 58th Annual Meeting of the International Association of Food Protection (IAFP 2013), Charlotte Convention Center, Charlotte, NC, USA, July 28-31, 2013.

Youssef, M.K., Badoni, M., Yang, X.Q., and Gill, C.O. (2013). "Storage Lives of Canadian Vacuum Packed Boneless and Bone-in Cuts of Beef.", 93rd Annual Conference of the Canadian Meat Council, Banff, AB, Canada, May 29-31, 2013, pp. 8.

Youssef, M.K., Yang, X.Q., Badoni, M., and Gill, C.O. (2013). "Survival of acid tolerant *Escherichia coli* O157:H7 on beef surfaces sprayed with 2% or 5% lactic acid.", 93rd Annual Conference of the Canadian Meat Council, Banff, AB, Canada, May 29-31, 2013, pp. 9.

## 2012

Yang, X.Q., Badoni, M., and Gill, C.O. (2012). "Effects of mild heat treatments on numbers of survival generic and verotoxigenic *Escherichia coli* in *Escherichia coli* populations from beef enrichment cultures.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012.

Yang, X.Q., Badoni, M., and Gill, C.O. (2012). "Effect of mild heat treatments on numbers of survival generic and verotoxigenic *Escherichia coli* in populations from beef enrichment cultures.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012.

Badoni, M., Rajagopal, S., Aalhus, J.L., Klassen, M.D., and Gill, C.O. (2012). "The spoilage microflora of Canadian retail beef steaks.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012, pp. 4, SAFMICROP-20.

Youssef, M.K., Yang, X.Q., Badoni, M., and Gill, C.O. (2012). "Sources of microbiological contamination on beef from carcasses dressed without decontamination at a small packing plant.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012.

Youssef, M.K., Yang, X.J., Gill, C.O., and López-Campos, Ó. (2012). "Gas production by psychrotolerant *Clostridia* associated with 'blown pack' spoilage of vacuum packaged beef.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012, Paper 192.

## 2011

Youssef, M.K., Yang, X.Q., Badoni, M., and Gill, C.O. (2011). "Effects of spray volume, type of surface tissue and inoculum level on the survival of *Escherichia coli* on beef sprayed with 5% lactic acid.", 15th Annual Federal Food Safety and Nutrition Research Meeting (FFSNRM), Ottawa, ON, Canada, December 6, 2011.

Yang, X.Q., Rajagopal, S., and Gill, C.O. (2011). "Accumulation of Spores in Hot Waters Recirculated in Beef Carcass Pasteurizers.", 15th Annual Federal Food Safety and Nutrition Research Meeting (FFSNRM), Ottawa, ON, Canada, December 6, 2011.

Yang, X.Q., Badoni, M., Youssef, M.K., and Gill, C.O. (2011). "Enhanced Control of Microbiological Contamination of Product at a Large Beef Packing Plant.", 15th Annual Federal Food Safety and Nutrition Research Meeting (FFSNRM), Ottawa, ON, Canada, December 6, 2011.

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## Research Publications:

2015

Haye, T., Mason, P.G., Gillespie, D.R., Miall, J.H., Gibson, G.A.P., Diaconu, A., Brauner, A.M., and Kuhlmann, U. (2015). "Determining the host specificity of the biological control agent *Trichomalus perfectus* (Hymenoptera: Pteromalidae): the importance of ecological host range.", *Biocontrol Science and Technology*, 25(1), pp. 21-47. doi : 10.1080/09583157.2014.945900

Gillespie, D.R. and Gillespie, B.I. (2015). "The potential for the use of herbarium specimens to determine the host plants of *Ceutorhynchus* (Coleoptera: Curculionidae).", *The Canadian Entomologist*, pp. 1-6. doi : 10.4039/tce.2015.82

2014

Chubaty, A.M., Ma, B.O., Stein, R.W., Gillespie, D.R., Henry, L.M., Phelan, C., Pálsson, E., Simon, F.W., and Roitberg, B.D. (2014). "On the evolution of omnivory in a community context.", *Ecology and Evolution*, 4(3), pp. 251-265. doi : 10.1002/ece3.923

Roitberg, B.D. and Gillespie, D.R. (2014). "Natural enemies on the landscape - Integrating life-history theory and landscapes.", *Biological Control*, 75, pp. 39-47. doi : 10.1016/j.biocontrol.2014.02.002

Mason, P.G., Miall, J.H., Bouchard, P., Brauner, A.M., Gillespie, D.R., and Gibson, G.A.P. (2014). "The parasitoid communities associated with *Ceutorhynchus* spp. (Coleoptera: Curculionidae) in Ontario and Quebec, Canada.", *Canadian Entomologist*, 146(2), pp. 224-235. doi : 10.4039/tce.2013.65

Simon, F.W. and Gillespie, D.R. (2014). "Long handling times of *Praon unicum* by *Harmonia axyridis* result in protection from predation.", *Journal of Applied Entomology*, 138(7), pp. 551-554. doi : 10.1111/jen.12099

2013

Corrigan, J., Gillespie, D.R., De Clerck-Floate, R.A., and Mason, P.G. (2013). "*Lythrum salicaria* L., Purple Loosestrife (Lythraceae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 54, pp. 363-366.

Wogin, M.J., Gillespie, D.R., Haye, T., and Roitberg, B.D. (2013). "Female-biased sex ratio shifts in a solitary parasitoid and their effects on virginity, population dynamics, and biological control.", *Entomologia Experimentalis et Applicata*, 146(1), pp. 165-176. doi : 10.1111/eea.12009

Jandricic, S.E., Wraight, S.P., Gillespie, D.R., and Sanderson, J.P. (2013). "Oviposition behavior of the biological control agent *Aphidoletes aphidimyza* (Diptera: Cecidomyiidae) in environments with multiple pest aphid species (Hemiptera: Aphididae).", *Biological Control*, 65(2), pp. 235-245. doi : 10.1016/j.biocontrol.2013.01.013

Haye, T., Mason, P.G., Dossdall, L.M., Gillespie, D.R., Gibson, G.A.P., and Kuhlmann, U. (2013). "*Ceutorhynchus obstrictus* (Marsham), cabbage seedpod weevil (Coleoptera: Curculionidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, pp. 119-129.

Gillespie, D.R. and Mason, P.G. (2013). "Invasive alien species and future biological control targets.", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 71, pp. 474-484.

Thistlewood, H.M.A., Gibson, G.A.P., Gillespie, D.R., and Fitzpatrick, S.M. (2013). "*Drosophila suzukii* (Matsumura), Spotted Wing *Drosophila* (Diptera: Drosophilidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 21, pp. 152-155.

Cock, M.J.W., Biesmeijer, J.C., Cannon, R.J.C., Gerard, P.J., Gillespie, D.R., Jiménez, J.J., Lavelle, P.M., and Raina, S.K. (2013). "The implications of climate change for positive contributions of invertebrates to world agriculture.", *CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources*, 8(28), pp. 1-48. doi : 10.1079/PAVSNR20138028

Corrigan, J., Gillespie, D.R., De Clerck-Floate, R.A., and Mason, P.G. (2013). "*Lythrum salicaria* L., Purple Loosestrife (Lythraceae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 54, pp. 363-366.

Gillespie, D.R., Olfert, O.O., and Cock, M.J.W. (2013). "Climate Change and Biological Control in Canada.", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 3, pp. 12-22.

Haye, T., Mason, P.G., Dossall, L.M., Gillespie, D.R., Gibson, G.A.P., and Kuhlmann, U. (2013). "Ceutorhynchus obstrictus (Marsham), Cabbage Seedpod Weevil (Coleoptera: Curculionidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 16, pp. 119-129.

Mason, P.G., Kabaluk, J.T., Spencer, B., and Gillespie, D.R. (2013). "Regulation of biological control in Canada.", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, pp. 1-5.

## 2012

Acheampong, S., Gillespie, D.R., and Quiring, D.M.J. (2012). "Survey of parasitoids and hyperparasitoids (Hymenoptera) of the green peach aphid, *Myzus persicae* and the foxglove aphid, *Aulacorthum solani* (Hemiptera: Aphididae) in British Columbia.", *Journal of Entomological Science*, 109, pp. 12-22.

Cock, M.J.W., Biesmeijer, J.C., Cannon, R.J.C., Gerard, P.J., Gillespie, D.R., Jiménez, J.J., Lavelle, P.M., and Raina, S.K. (2012). "The positive contribution of invertebrates to sustainable agriculture and food security.", *CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources*, 7: 043, pp. 1-27. doi : 10.1079/PAVSNNR20127043

Gillespie, D.R., Nasreen, A., Moffat, C.E., Clarke, P.J., and Roitberg, B.D. (2012). "Effects of simulated heat waves on an experimental community of pepper plants, green peach aphids and two parasitoid species.", *Oikos*, 121(1), pp. 149-159. doi : 10.1111/j.1600-0706.2011.19512.x

## 2011

Mason, P.G., Miall, J.H., Bouchard, P., Gillespie, D.R., Broadbent, A.B., and Gibson, G.A.P. (2011). "The parasitoid communities associated with an invasive canola pest, *Ceutorhynchus obstrictus* (Coleoptera: Curculionidae), in Ontario and Quebec, Canada.", *Canadian Entomologist*, 143(5), pp. 524-537. doi : 10.4039/n11-041

Bannerman, J.A., Gillespie, D.R., and Roitberg, B.D. (2011). "The impacts of extreme and fluctuating temperatures on trait-mediated indirect aphid-parasitoid interactions.", *Ecological Entomology*, 36(4), pp. 490-498. doi : 10.1111/j.1365-2311.2011.01292.x

Lee, H-S. and Gillespie, D.R. (2011). "Life tables and development of *Amblyseius swirskii* (Acari: Phytoseiidae) at different temperatures.", *Experimental and Applied Acarology*, 53(1), pp. 17-27. doi : 10.1007/s10493-010-9385-5

Nasreen, A., Gillespie, D.R., and Mustafa, G. (2011). "Graphical marginal analysis of the economics of natural enemy production: An example using a pilot mass rearing system for green lacewing.", *Biological Control*, 57(1), pp. 44-49. doi : 10.1016/j.biocontrol.2011.01.003

Mason, P.G., Broadbent, A.B., Whittlecraft, J.W., and Gillespie, D.R. (2011). "Interpreting the host range of *Peristenus digoneutis* and *Peristenus relictus* (Hymenoptera: Braconidae) biological control agents of *Lygus* spp. (Hemiptera: Miridae) in North America.", *Biological Control*, 57(2), pp. 94-102. doi : 10.1016/j.biocontrol.2011.02.002

## Other Science Related Publications:

### 2014

Vincent, C., Mason, P.G., and Gillespie, D.R. (2014). "La lutte biologique au Canada.", Conférence à l'Unité de recherche FRE 3498-Ecologie et Dynamiques des Systèmes Anthropisés (EDYSAN), Université de Picardie Jules Verne, Amiens, France, 20 février 2014. (Presentation)

Vincent, C., Mason, P.G., and Gillespie, D.R. (2014). "Portrait de la lutte biologique au Canada.", Académie d'Agriculture de France, Paris, France, 5 février 2014. (Presentation)

### 2013

Haye, T., Mason, P.G., Gillespie, D.R., and Kuhlmann, U. (2013). "Progress and problems in host specificity testing of arthropod biological control agents.", in Mason, P.G., Gillespie, D.R., and Vincent, C. (eds.) - *Proceedings of the Fourth International Symposium on Biological Control of Arthropods*. Pucón, Chile, March 4-8, 2013, Instituto de Investigaciones Agropecuarias (INIA), Chile and Universidad de Chile.

Mason, P.G., Gillespie, D.R., and Vincent, C. (2013). "Proceedings of the Fourth International Symposium on Biological Control of Arthropods (380 pages).", 4th International Symposium on Biological Control of Arthropods, Pucón, Chile, March 4-8, 2013.



Mason, P.G. and Gillespie, D.R. (Eds.) (2013). *Biological Control Programmes in Canada 2001-2012.*, CABI Publishing, Wallingford, UK. (Book)

Mason, P.G., Gillespie, D.R., and Jian, J.D. (2013). "Risk assessment in arthropod biological control: Where are we?", 4th International Symposium on Biological Control of Arthropods, Pucón, Chile, March 4-8, 2013, in Mason, P.G. Gillespie, D.R. and Vincent, C. Vincent (Eds.), 380 p., pp. 1-2.

Gillespie, D.R., Bannerman, J.A., Roitberg, B.D., Nasreen, A., Clarke, P.J., and Hodson, C. (2013). "Performance of a biological control community under extreme temperatures.", 4th International Symposium on Biological Control of Arthropods, Pucón, Chile, March 4-8, 2013, in Mason, P.G. Gillespie, D.R. and Vincent, C. Vincent (Eds.), 380 p., pp. 8-10.

Mason, P.G., Gillespie, D.R., and Vincent, C. (2013). "Proceedings of the Fourth International Symposium on Biological Control of Arthropods.", (eds. 401 pages) at 4th International Symposium on Biological Control of Arthropods, Pucón, Chile, March 4-8, 2013.

Haye, T., Mason, P.G., Gillespie, D.R., and Kuhlmann, U. (2013). "Progress and problems in host specificity testing of arthropod biological control agents.", 4th International Symposium on Biological Control of Arthropods, Pucón, Chile, March 4-8, 2013, in Mason, P.G. Gillespie, D.R. and Vincent, C. Vincent (Eds.), 380 p., pp. 8-10.

Mason, P.G., Gillespie, D.R., and Vincent, C. (2013). "Proceedings of the 4th International Symposium on Biological Control of Arthropods.", 4th International Symposium on Biological Control of Arthropods, Pucón, Chile, March 4-8, 2013, 380 pages.

Gillespie, D.R., Bannerman, J.A., Roitberg, B.D., Nasreen, A., and Clarke, P.J. (2013). "Performance of a biological control community under extreme temperatures.", in Mason, P.G., Gillespie, D.R., and Vincent, C. (eds.) - *Proceedings of the Fourth International Symposium on Biological Control of Arthropods.* Pucón, Chile, March 4-8, 2013, Instituto de Investigaciones Agropecuarias (INIA), Chile and Universidad de Chile.

## 2012

Gillespie, D.R. and Gillespie, B.I. (2012). "Location of non-target species in an arthropod biocontrol programme.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012. (Abstract)

Mason, P.G., Haye, T., Gillespie, D.R., Miall, J.H., Gibson, G.A.P., Dodsall, L.M., Kuhlmann, U., and Bouchard, P. (2012). "Risk assessment of biocontrol agents: the case of cabbage seedpod weevil, *Ceutorhynchus obstrictus*.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #126. (Abstract)

Haye, T., Hohman, L., Zhang, J.X., Gillespie, D.R., Mason, P.G., and Garipey, T.D. (2012). "Egg parasitism of brown marmorate stink bug, *Halyomorpha halys*, in China and Europe and implications for biological control.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #79. (Abstract)

Mason, P.G., Haye, T., Gillespie, D.R., Miall, J.H., Gibson, G.A.P., Kuhlmann, U., and Bouchard, P. (2012). "Environmental risk assessment of biological control agents in Canada: the cabbage seedpod weevil, *Ceutorhynchus obstrictus*, case study.", 24th International Congress of Entomology (ICE 2012) and International Organization for Biological Control (IOBC) Global Symposium, Daegu, South Korea, August 19-25, 2012. (Presentation)

Gerard, P.J., Cock, M.J.W., and Gillespie, D.R. (2012). "Climate change and biological control: State of knowledge, risks and opportunities.", 24th International Congress of Entomology (ICE 2012) and International Organization for Biological Control (IOBC) Global Symposium, Daegu, South Korea, August 19-25, 2012.

## 2011

Mason, P.G., Haye, T., Gillespie, D.R., Dodsall, L.M., Kuhlmann, U., Broadbent, A.B., and Gibson, G.A.P. (2011). "Parasitoid communities of cabbage seedpod weevil: are native species enough?", Joint Annual Meeting of the Entomological Society of Canada and Acadian Entomological Society, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011. (Presentation)

Gillespie, D.R. (2011). "Molecular bio(geo)chemistry as a way to understand soil development and ecosystem function through time and space.", ECORC Seminar / Colloque du CRECO, Central Experimental Farm, Neatby Building / Ferme expérimentale centrale, Edifice Neatby, Ottawa, ON, Canada, November 4, 2011. (Presentation)

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## Research Publications:

2015

Duplessis, M., Mann, S., Nydam, D.V., Girard, C.L., Pellerin, D., and Overton, T.R. (2015). "Short communication: Foliates and vitamin B12 in colostrum and milk from dairy cows fed different energy levels during the dry period.", *Journal of Dairy Science (JDS)*, 98(8), pp. 5454-5459. doi: 10.3168/jds.2015-9507

Côté-Robitaille, M.-E., Girard, C.L., Guay, F., and Matte, J.J. (2015). "Oral supplementations of betaine, choline, creatine and vitamin B6 and their influence on the development of homocysteinaemia in neonatal piglets.", *Journal of Nutritional Science*, 4(e 31), pp. 1-7. doi: 10.1017/jns.2015.19

Matte, J.J., Girard, C.L., and Guay, F. (2015). "Postprandial net fluxes of Zn and Cu in portal drained viscera (PDV) of pigs fed organic or inorganic sources of these trace elements.", 13th Digestive Physiology of Pigs (DPP) Symposium, Kliczkow, Poland, May 19-21, 2015, pp. 15. (Abstract)

Brito, A.F., Chiquette, J., Stabler, S.P., Allen, R.H., and Girard, C.L. (2015). "Supplementing lactating dairy cows with a vitamin B12 precursor, 5,6-dimethylbenzimidazole, increases the apparent ruminal synthesis of vitamin B12.", *Animal*, 9(1), pp. 67-75. doi: 10.1017/S1751731114002201

Chiquette, J., Lagrost, J., Girard, C.L., Talbot, G., Li, S., Plaizier, J.C., and Hindrichsen, I.K. (2015). "Efficacy of the direct-fed microbial *Enterococcus faecium* alone or in combination with *Saccharomyces cerevisiae* or *Lactococcus lactis* during induced subacute ruminal acidosis.", *Journal of Dairy Science (JDS)*, 98(1), pp. 190-203. doi: 10.3168/jds.2014-8219

Artegoitia, V.M., de Veth, M.J., Harte, F., Ouellet, D.R., and Girard, C.L. (2015). "Short communication: Casein hydrolysate and whey proteins as excipients for cyanocobalamin to increase intestinal absorption in the lactating dairy cow.", *Journal of Dairy Science (JDS)*, 98(11), pp. 8128-8132. doi: 10.3168/jds.2015-9678

Gagnon, A.-È., Khan, D.R., Sirard, M.-A., Girard, C.L., LaForest, J.-P., and Richard, F.J. (2015). "Effects of intramuscular administration of folic acid and vitamin B12 on granulosa cell gene expression in postpartum dairy cows.", *Journal of Dairy Science (JDS)*, 98(11), pp. 7797-7809. doi: 10.3168/jds.2015-9623

Berthiaume, R.R., Lafrenière, C., Girard, C.L., Campbell, C.P., Pivotto, L.M., and Mandell, I.B. (2015). "Effects of forage silage species on yearling growth performance, carcass and meat quality, and nutrient composition in a forage based beef production system.", *Canadian Journal of Animal Science*, 95(2), pp. 173-187. doi: 10.4141/CJAS-2014-107

Mercier, J., Cinq-Mars, D., Berthiaume, R., Faucitano, L., and Girard, C.L. (2015). "Effects of dietary total non-structural carbohydrates and folic acid and vitamin B12 supplement on growth and meat quality of yearling steers in a forage-based beef production system.", *Canadian Journal of Animal Science*, 95(2), pp. 281-291. doi: 10.4141/CJAS-2014-123

Audet, I., Girard, C.L., Lessard, M., Lo Verso, L., Beaudoin, F., and Matte, J.J. (2015). "Homocysteine metabolism, growth performance, and immune responses in suckling and weaning piglets.", *Journal of Animal Science*, 93(1), pp. 147-157. doi: 10.2527/jas.2014-7872

2014

Duplessis, M., Girard, C.L., Santschi, D.E., Lefebvre, D.M., and Pellerin, D. (2014). "Milk production and composition, and body measurements of dairy cows receiving intramuscular injections of folic acid and vitamin B-12 in commercial dairy herds.", *Livestock Science*, 167(1), pp. 186-194. doi: 10.1016/j.livsci.2014.06.022

Jolicoeur, M., Brito, A.F., Santschi, D.E., Pellerin, D., Lefebvre, D.M., Berthiaume, R.R., and Girard, C.L. (2014). "Short dry period management improves peripartum ruminal adaptation in dairy cows.", *Journal of Dairy Science (JDS)*, 97(12), pp. 7655-7667. doi: 10.3168/jds.2014-8590

Matte, J.J., Britten, M., and Girard, C.L. (2014). "The importance of milk as a source of vitamin B12 for human nutrition.", *Animal Frontiers*, 4(2), pp. 32-37. doi: 10.2527/af.2014-0012

Duplessis, M., Girard, C.L., Santschi, D.E., and Pellerin, D. (2014). "An economic model evaluating the supplementation of folic acid and vitamin B12 given around parturition and in early lactation on dairy farms in Québec, Canada.", *Canadian Journal of Animal Science*, 94(4), pp. 737-747. doi: 10.4141/CJAS-2014-026

Duplessis, M., Girard, C.L., Santschi, D.E., LaForest, J.-P., Durocher, J., and Pellerin, D. (2014). "Effects of folic acid and vitamin B12 supplementation on culling rate, diseases, and reproduction in commercial dairy herds.", *Journal of Dairy Science (JDS)*, 97(4), pp. 2346-2354. doi : 10.3168/jds.2013-7369

## 2013

Artegoitia, V.M., de Veth, M.J., Harte, F., Ouellet, D.R., and Girard, C.L. (2013). "Casein and whey protein as delivery methods for synthetic vitamin B12 to increase intestinal absorption in lactating dairy cows.", *Journal of Dairy Science (JDS)*, 96(E-Suppl. 1), pp. 505.

Girard, C.L. (2013). "Biofuel: Good or bad? No easy answer!", *Animal Frontiers*, 3(2), pp. 4-5. doi : 10.2527/af.2013-0009

Castagnino, D.S., Kammes, K.L., Allen, G.R., Gervais, R., Chouinard, P.Y., Santschi, D.E., and Girard, C.L. (2013). "Apparent synthesis of riboflavin and niacin in rumen of lactating dairy cows fed alfalfa or orchardgrass silages.", *Journal of Dairy Science (JDS)*, 96(E-Suppl. 1), pp. 15-16.

Graulet, B., Martin, B., Agabriel, C., and Girard, C.L. (2013). "Vitamins in milk", in Park, Y.W. and Haenlein G.F.W. (eds.) - *Milk and dairy products in human nutrition: Production, composition and health*, John Wiley & Sons, Ltd, pp. 200-219.

Ouattara, B., Duplessis, M., and Girard, C.L. (2013). "Optimization and validation of a reversed-phase high performance liquid chromatography method for the measurement of bovine liver methylmalonyl-coenzyme a mutase activity.", *BMC Biochemistry*, 14(25). doi : 10.1186/1471-2091-14-25

## 2012

Matte, J.J., Guay, F., and Girard, C.L. (2012). "The contribution of portal drained viscera to circadian homocysteinemia in pigs.", *Journal of Animal Science*, 90(Suppl. 4), pp. 68-70. doi : 10.2527/jas.49978

## 2011

Matte, J.J., Guay, F., and Girard, C.L. (2011). "Bioavailability of vitamin B<sub>12</sub> in cows' milk.", *British Journal of Nutrition*, 107(1), pp. 61-66. doi : 10.1017/S0007114511002364

Santschi, D.E., Lefebvre, D.M., Cue, R.I., Girard, C.L., and Pellerin, D. (2011). "Economic effect of short (35-d) compared with conventional (60-d) dry period management in commercial Canadian Holstein herds.", *Journal of Dairy Science (JDS)*, 94(9), pp. 4734-4743. doi : 10.3168/jds.2010-3596

Santschi, D.E., Lefebvre, D.M., Cue, R.I., Girard, C.L., and Pellerin, D. (2011). "Incidence of metabolic disorders and reproductive performance following a short (35-d) or conventional (60-d) dry period management in commercial Holstein herds.", *Journal of Dairy Science (JDS)*, 94(7), pp. 3322-3330. doi : 10.3168/jds.2010-3595

Santschi, D.E., Lefebvre, D.M., Cue, R.I., Girard, C.L., and Pellerin, D. (2011). "Complete-lactation milk and component yields following a short (35-d) or a conventional (60-d) dry period management strategy in commercial Holstein herds.", *Journal of Dairy Science (JDS)*, 94(5), pp. 2302-2311. doi : 10.3168/jds.2010-3594

Bernier-Dodier, P., Girard, C.L., Talbot, B.G., and Lacasse, P. (2011). "Effect of dry period management on mammary gland function and its endocrine regulation in dairy cows.", *Journal of Dairy Science (JDS)*, 94(10), pp. 4922-4936. doi : 10.3168/jds.2010-4116

## Other Science Related Publications:

### 2015

Castagnino, D.S., Seck, M., Kammes, K.L., Voelker Linton, J.A., Allen, M.S., Gervais, R., Chouinard, P.Y., and Girard, C.L. (2015). "Apparent synthesis of vitamin B6 and folates in rumen of lactating dairy cows fed alfalfa or orchardgrass silages.", *Journal of Dairy Science (JDS)*, 98(E-suppl. 2), pp. 457. (Abstract)

Girard, C.L. (2015). "From the Editor – Insects as a source of nutrients: Beyond the Western prejudices.", *Animal Frontiers*, 5(2), pp. 4-6. doi : 10.2527/af.2015-0012

Plazier, J.C. and Girard, C.L. (2015). "Canadian Society of Animal Science: Annual scientific meetings of the future.", *Animal Frontiers*, 5(3), pp. 38-39.

### 2014

Beaudet, V., Gervais, R., Chouinard, P.Y., Noziere, P., Graulet, B., Doreau, A.M., and Girard, C.L. (2014). "Apparent synthesis of thiamin, riboflavin, vitamin B6 and vitamin B12 in rumen of lactating dairy cows fed 2 concentrations of nitrogen and 2 energy sources.", *Journal of Dairy Science (JDS)*, 97(E-Suppl. 1), pp. 915. (Abstract)

Castagnino, D.S., Kammes, K.L., Allen, M.S., Gervais, R., Chouinard, P.Y., Santschi, D.E., and Girard, C.L. (2014). "Apparent synthesis of thiamin and vitamin B12 in rumen of lactating dairy cows fed alfalfa or orchardgrass silages at different maturity stages.", *Journal of Dairy Science (JDS)*, 97(E-Suppl. 1), pp. 912. (Abstract)

Castagnino, D.S., Kammes, K.L., Allen, M.S., Gervais, R., Chouinard, P.Y., Santschi, D.E., and Girard, C.L. (2014). "Apparent synthesis of thiamin and vitamin B12 in rumen of lactating dairy cows fed alfalfa or orchardgrass silages of different particle lengths.", *Journal of Dairy Science (JDS)*, 97(E-Suppl. 1), pp. 915. (Abstract)

Duplessis, M., Mann, S., Nydam, D.V., Girard, C.L., Pellerin, D., and Overton, T.R. (2014). "Concentration of vitamin B12 in colostrum and milk from dairy cows fed different energy levels during the dry period.", *Journal of Dairy Science (JDS)*, 97(E-Suppl. 1), pp. 916. (Abstract)

Duplessis, M., Pellerin, D., and Girard, C.L. (2014). "Mes vaches ont-elles besoin d'un supplément d'acide folique et de vitamine B12?", *Le Producteur de Lait Québécois* (juillet/août), pp. 34-36.

Chouinard, P.Y. and Girard, C.L. (2014). "From the Editors – Nutritional Interest of Milk and Dairy Products– Some Scientific Data to Fuel the Debate.", *Animal Frontiers*, 4(2), pp. 4-6.

Audet, I., Girard, C.L., Lessard, M., Lo Verso, L., and Matte, J.J. (2014). "Homocysteinemia, growth performance, and immune responses in suckling and weanling piglets.", *Journal of Animal Science*, 92(E-Suppl.2), pp. 219. (Abstract)

Matte, J.J., Audet, I., Audet, I., and Girard, C.L. (2014). "Le transfert périnatal des vitamines et minéraux mineurs de la truie à ses porcelets: au-delà d'une seule insuffisance en fer?", published in *Journées Rech. Porcine en France*. 46:71-76.

Matte, J.J., Audet, I., Audet, I., and Girard, C.L. (2014). "The perinatal transfer of vitamins and trace elements from sows to piglets.", *Journal of Animal Science*, 92(Suppl. 2), pp. 153. (Abstract)

Artegoitia, V.M., Girard, C.L., Lapierre, H., Campagna, S.R., Harte, F., and de Veth, M.J. (2014). "Evaluation of choline metabolites in milk as potential biomarkers for choline absorption in the lactating dairy cow.", *Journal of Dairy Science (JDS)*, 97(E-Suppl.1), pp. 361. (Abstract)

## 2013

Chiquette, J., Lagrost, J., Girard, C.L., Talbot, G., Li, S., and Plaizier, K. (2013). "Combination of Bacterial and Yeast Probiotics for Lactating Cows Submitted To a Sub-Acute Rumen Acidosis Challenge.", *WCDS Advances in Dairy Technology, Canada, Volume 25*, page 381. (Abstract)

Ortega-Delgado, G., Ouattara, B., Bissonnette, N., and Girard, C.L. (2013). "Comprendre le rôle des vitamines B9 et B12 dans le métabolisme des vaches laitières.", *Journée Scientifique Annuelle, Faculté de Médecine, Université de Sherbrooke, Sherbrooke, Canada, September 13, 2013*.

Vallet, J., Laverroux, S., Chassaing, C., Girard, C.L., Agabriel, C., Martin, B., and Graulet, B. (2013). "Variations de teneurs en riboflavine du lait de vache selon les conditions de production.", *Journées Francophones de Nutrition, Bordeaux, 11-13 décembre 2013*.

Castagnino, D.S., Beaudet, V., Kammes, K.L., Allen, M.S., Gervais, R., Chouinard, P.Y., Santschi, D.E., and Girard, C.L. (2013). "Synthèse ruminale apparente de vitamines B chez des vaches en lactation recevant de l'ensilage de luzerne ou de dactyle.", *37e Symposium sur les bovins laitiers, St-Hyacinthe, QC, Canada, 30 octobre 2013*, pp. 13.

Duplessis, M., Girard, C.L., Santschi, D.E., Durocher, J., and Pellerin, D. (2013). "Metabolic disorders and reproduction in dairy cows receiving folic acid and vitamin B12 supplement.", *64th Annual Meeting of the European Association for Animal Production, Nantes, France, August 26 - 30, 2013*, pp. 522.

Audet, I., Girard, C.L., Lessard, M., and Matte, J.J. (2013). "Métabolisme de l'homocystéine et performances de croissance chez le porcelet pendant l'allaitement et après le sevrage.", *Journées d'Information scientifique en productions animales, Québec, Canada, pp. 28-29*.

## 2012

Chiquette, J., Lagrost, J., Girard, C.L., Li, S., Plaizier, J.C., and Talbot, G. (2012). "Combination of bacterial and yeast probiotics: a step forward to unravel their mode of action.", *ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, Published in: J. Anim. Sci. 90, Suppl. 3; J. Dairy Sci. 95, Suppl. 2, pp. 73, M323. (Abstract)*

Duplessis, M., Pellerin, D., and Girard, C.L. (2012). "Vitamine B12: un verre de lait, c'est bien... mais deux, c'est mieux.", *Forum Technologique NOVALAIT / IDF Dairy Science and Technology Week 2012, Hôtel et Suites Le Dauphin, Drummondville, QC, Canada, May 29, 2012*.

Chiquette, J., Lagrost, J., and Girard, C.L. (2012). "Les probiotiques et l'acidose ruminale subaiguë: Pensez-vous tout savoir?", *36e Symposium sur les bovins laitiers: Agir pour l'avenir, Drummondville, QC, Canada, November 1, 2012*, pp. 14.

Gagnon, A.-É., Sirard, M.-A., Girard, C.L., Richard, F.J., and LaForest, J.-P. (2012). "Effects of Folic Acid and Vitamin B12 Supplementation on Granulosa Cells of the Dominant Follicle of Dairy Cow.", Society for the Study of Reproduction 45th Annual Meeting and 18th Ovarian Workshop, Pennsylvania State University, State College, PA, USA, August 12-15, 2012.

Ghaemi, S.R., Richard, F.J., Girard, C.L., and LaForest, J.-P. (2012). "Effet des injections combinées d'acide folique et de vitamine B12, sur le taux de gestation après 1ère insémination artificielle chez les vaches laitières.", Forum Technologique NOVALAIT / IDF Dairy Science and Technology Week 2012, Hôtel et Suites Le Dauphin, Drummondville, QC, Canada, May 29, 2012, E2012.

Ghaemi, S.R., Richard, F.J., Girard, C.L., and LaForest, J.-P. (2012). "Caractériser l'effet des injections combinées d'acide folique et de vitamine B12 sur la reprise d'activité ovarienne postpartum chez les vaches laitières", 5ème Symposium du Réseau Québécois en Reproduction (RQR), Québec City, QC, Canada, November 14-15, 2012.

Ghaemi, S.R., Richard, F.J., Girard, C.L., and LaForest, J.-P. (2012). "La vitamine B12 et de l'acide folique, augmentent les performances de production et de reproduction des vaches laitières?", 1ère Journée de la recherche FSAA: « Mieux nourrir le monde », Université Laval, Québec City, QC, Canada, Novembre 27-28, 2012.

## 2011

Girard, C.L. (2011). "Déterminer les besoins en vitamines B chez les vaches laitières.", 47e Colloque de nutrition de l'est du Canada, Hôtel Marriott Château Champlain, Montréal, QC, Canada, May 11-12, 2011, pp. 23-31.

Ghaemi, S.R., Richard, F.J., Girard, C.L., and LaForest, J.-P. (2011). "Effet d'une injection combinée d'acide folique et de vitamine B12 sur la reprise d'activité ovarienne postpartum chez les vaches laitières.", 4ième Symposium du Réseau Québécois en Reproduction (RQR), Montréal, QC, Canada, November 15-16, 2011.

Duplessis, M., Pellerin, D., and Girard, C.L. (2011). "Effect of a combined supplement of vitamin B12 and folic acid on vitamin B12 concentration in milk of dairy cows.", Journal of Dairy Science (JDS), 94(E-Suppl. 1), pp. 622. (Abstract)

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## Research Publications:

2014

Chen, Q., Wood, C., Gagnon, C., Cober, E.R., Frégeau-Reid, J.A., Gleddie, S.C., and Xiao, C.W. (2014). "The  $\alpha$  subunit of  $\beta$ -conglycinin and the A1-5 subunits of glycinin are not essential for many hypolipidemic actions of dietary soy proteins in rats.", *European Journal of Nutrition*, 53(5), pp. 1195-1207. doi: 10.1007/s00394-013-0620-9

2013

Wang, Q., Dubé, C., Gagnon, C., Gleddie, S.C., Hao, Y.-J., and Khanizadeh, S. (2013). "Fruit Differential Protein Patterns in Strawberry Cultivars Susceptible or Resistant to Gray Mold.", *Archives of Phytopathology and Plant Protection*, 46(7), pp. 813-824. doi: 10.1080/03235408.2012.752619

2012

Kant, P., Gulati, A., Harris, L.J., Gleddie, S.C., Singh, J., and Pauls, K.P. (2012). "Transgenic corn plants with modified ribosomal protein L3 show decreased ear rot disease after inoculation with *Fusarium graminearum*.", *Australian Journal of Crop Science*, 6(12), pp. 1598-1605.

Zaidi, M.A., O'Leary, S., Wu, S., Gleddie, S.C., Eudes, F., Laroche, A., and Robert, L.S. (2012). "A molecular and proteomic investigation of proteins rapidly released from triticale pollen upon hydration.", *Plant Molecular Biology*, 79(1-2), pp. 101-121. doi: 10.1007/s11103-012-9897-y

2011

Mohammadi, M., Anoop, V., Gleddie, S.C., and Harris, L.J. (2011). "Proteomic profiling of two maize inbreds during early gibberella ear rot infection.", *Proteomics*, 11(18), pp. 3675-3684. doi: 10.1002/pmic.201100177

## Other Science Related Publications:

2013

Gleddie, S.C., Harris, L.J., Hermans, A., Mitchell, L.G., Baetz, K., and Bosnich, W. (2013). "Fusarium fungal toxins screens against yeast genome deletion collections to define novel resistance mechanisms.", *Plant & Animal Genome XIV Conference, Town & Country Convention Center, San Diego, CA, USA, January 14-18, 2006.*

Zuniga, A., Bosnich, W., Bala, K., Harris, L.J., Gleddie, S.C., and Mester, Z. (2013). "LC-MS/MS-based structural analysis of novel enniatins produced by Canadian strains of *Fusarium avenaceum* in liquid culture.", *61st American Society of Mass Spectrometry Conference, Minneapolis, MN, USA, June 9-13, 2013. (Poster)*

Bala, K., Blackwell, B.A., Morales, A.Z., Johnston, A., Brown, C., Schneiderman, D., Gleddie, S.C., and Harris, L.J. (2013). "Interactions between different *Fusarium* species to uncover multi-toxin synergistic mechanisms.", *The 12th European Fusarium Seminar, Bordeaux, France, May 12-16, 2013, pp. 100.*

Gleddie, S.C. (2013). "Characterization of soybean proteins with allergenic, anti-nutritional, or beneficial properties.", *Diamond Jubilee Seminar Series, Central Experimental Farm, Neatby Building, Ottawa, ON, Canada, April 26, 2013. (Presentation)*

2011

Harris, L.J., Bosnich, W., Johnston, A., Woldemariam, T., Reid, L.M., Schneiderman, D., Mohammadi, M., and Gleddie, S.C. (2011). "Mapping gibberella ear rot resistance in maize using a large B73 X CO441 F6 recombinant inbred population.", *7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 95.*

Gleddie, S.C., Hermans, A., Mitchell, L., Baetz, K., Bosnich, W., and Harris, L.J. (2011). "Yeast genome deletion screening identifies new cellular targets of the *Fusarium graminearum* fungal toxin deoxynivalenol.", *7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 94.*

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## Research Publications:

2015

Khakbazan, M., Huang, J., Monreal, M.A., Grant, C.A., and Glenn, A.J. (2015). "Agricultural Practices to Improve Energy Input and Resource Efficiency in Cropping Systems.", in Lac, S., McHenry, M. and Kulshreshtha, S. (eds.) - Agriculture Management for Climate Change, Nova Publishers, Chapter 3, pp. 31-42.

Khakbazan, M., Huang, J., Monreal, M.A., Grant, C.A., Glenn, A.J., and Berry, N. (2015). "Agricultural Practices to Reduce Greenhouse Gas Emissions in Cropping Systems.", in Lac, S., McHenry, M. and Kulshreshtha, S. (eds.) - Agriculture Management for Climate Change, Nova Publishers, Chapter 4, pp. 43-54.

Cardillo, M.J., Bullock, P.R., Gulden, R.H., Glenn, A.J., and Cutforth, H.W. (2015). "Stubble management effects on canola performance across different climatic regions of western Canada.", Canadian Journal of Plant Science, 95(1), pp. 149-159. doi : 10.4141/CJPS-2014-172

2014

Gilmanov, T.G., Baker, J., Bernacchi, C.J., Billesbach, D.P., Burba, G.G., Castro, S., Chen, J., Eugster, W., Fischer, M.L., Gamon, J.A., Gebremedhin, M.T., Glenn, A.J., Griffis, T.J., Hatfield, J.L., Heuer, M.W., Howard, D.M., Leclerc, M.Y., Loescher, H.W., Marloie, O., Meyers, T.P., Olioso, A., Phillips, R.L., Prueger, J.H., Skinner, R.H., Suyker, A.E., Tenuta, M., and Wylie, B.K. (2014). "Productivity and carbon dioxide exchange of the leguminous crops: Estimates from flux tower measurements.", Agronomy Journal, 106(2), pp. 545-559. doi : 10.2134/ Agronj2013.0270

Moulin, A.P., Glenn, A.J., Tenuta, M., Lobb, D.A., Dunmola, A.S., and Yapa, P. (2014). "Alternative transformations of nitrous oxide soil flux data to normal distributions.", Canadian Journal of Soil Science, 94(1), pp. 105-108. doi : 10.4141/CJSS2013-008

2013

Maas, S.E., Glenn, A.J., Tenuta, M., and Amiro, B.D. (2013). "Net CO<sub>2</sub> and N<sub>2</sub>O exchange during perennial forage establishment in an annual crop rotation in the Red River Valley, Manitoba.", Canadian Journal of Soil Science, 93(5), pp. 639-652. doi : 10.4141/CJSS2013-025

Gilmanov, T.G., Wylie, B.K., Tieszen, L.L., Meyers, T.P., Baron, V.S., Bernacchi, C.J., Billesbach, D.P., Burba, G.G., Fischer, M.L., Glenn, A.J., Hanan, N.P., Hatfield, J.L., Heuer, M.W., Hollinger, S.E., Howard, D.M., Matamala, R., Prueger, J.H., Tenuta, M., and Young, D.G. (2013). "CO<sub>2</sub> uptake and ecophysiological parameters of the grain crops of midcontinent North America: Estimates from flux tower measurements.", Agriculture, Ecosystems and Environment, 164, pp. 162-175. doi : 10.1016/j.agee.2012.09.017

2012

Glenn, A.J., Tenuta, M., Amiro, B.D., Maas, S.E., and Wagner-Riddle, C. (2012). "Nitrous oxide emissions from an annual crop rotation on poorly drained soil on the Canadian Prairies.", Agricultural and Forest Meteorology, 166-167, pp. 41-49. doi : 10.1016/j.agrformet.2012.06.015

2011

Glenn, A.J., Amiro, B.D., Tenuta, M., Wagner-Riddle, C., Drewitt, G.B., and Warland, J.S. (2011). "Contribution of crop residue carbon to soil respiration at a northern Prairie site using stable isotope flux measurements.", Agricultural and Forest Meteorology, 151(8), pp. 1045-1054. doi : 10.1016/j.agrformet.2011.03.008

## Other Science Related Publications:

2015

Cordeiro, M.R.C., Wilson, H.F., Glenn, A.J., and Vanrobbaeys, J. (2015). "Producing synthetic hourly precipitation series from daily precipitation using hourly relative humidity.", Canadian Water Resources Association 68th National Conference, Winnipeg, Manitoba, Canada, June 2-4, 2015, Presentation.

Roy, A., Glenn, A.J., Moulin, A.P., and Wilson, H.F. (2015). "Soil nitrous oxide emissions from cropland with different management", 2015 Canadian Land Reclamation Association/Manitoba Soil Science Society Joint Meeting, Winnipeg, Manitoba, Canada, June 15-18, 2015.

Glenn, A.J. and Wilson, H.F. (2015). "Net biome productivity of cropland in southern Manitoba. Presentation.", 2015 Canadian Land Reclamation Association/Manitoba Soil Science Society Joint Meeting, Winnipeg, Manitoba, Canada, June 15-18, 2015.

Roy, A., Glenn, A.J., Moulin, A.P., and Wilson, H.F. (2015). "Soil nitrous oxide emissions from cropland in southern Manitoba.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015, Presentation.

Glenn, A.J., Roy, A., Moulin, A.P., and Wilson, H.F. (2015). "Nitrous Oxide Emissions from Cropland Soils with Different Management Regimes in Manitoba, Canada.", American Geophysical Union Annual Meeting, Montreal, QC, Canada, May 3-7, 2015. (Poster)

Cardillo, M.J., Bullock, P.R., and Glenn, A.J. (2015). "Stubble Height Effects on Canola Microclimate on the Canadian Prairies.", American Geophysical Union Annual Meeting, Montreal, QC, Canada, May 3-7, 2015.

Martel, M., Kröbel, R., Hrapovic, L., Janzen, H.H., McConkey, B.G., Glenn, A.J., and Wilson, H.F. (2015). "A Canadian water budget model for water footprint assessment of crop production.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015. (Poster)

## 2014

Cardillo, M.J., Bullock, P.R., Gulden, R.H., and Glenn, A.J. (2014). "Stubble Management Effects on Canola Performance Across Different Climatic Regions of Western Canada.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

Wilson, H.F. and Glenn, A.J. (2014). "Carbon, nitrogen, and phosphorus chemistry and export in agricultural watershed of the aspen parkland ecoregion as influenced by land use and landform.", Joint Aquatic Sciences Meeting, Portland, Oregon, USA, May 18-23, 2014.

Glenn, A.J. and Moulin, A.P. (2014). "Nitrous oxide flux from a clay loam under mature no-till and variable rate N fertilizer management in western Manitoba.", 57th Annual Manitoba Soil Science Society Conference, Winnipeg, Manitoba, Canada, February 6-7, 2014. (Poster)

Glenn, A.J. and Wilson, H.F. (2014). "Direct and indirect measurements of evapotranspiration from cropland in western Manitoba, Canada.", 31st Conference on Agricultural and Forest Meteorology/2nd Conference on Atmospheric Biogeosciences, Portland, OR, USA, May 12-15, 2014.

## 2013

Moulin, A.P., Glenn, A.J., Tenuta, M., Lobb, D.A., Dunmola, A.S., and Yapa, P. (2013). "Alternative statistical distributions and transformation of nitrous oxide soil flux data.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013, Presentation.

Glenn, A.J. (2013). "Impact of climate change on integrated agricultural production in the Aspen Parkland. Presentation.", Canadian Association of Agri-Retailers, Crop Management Forum, Brandon, Manitoba, Canada, November 19, 2013. (Presentation)

Hanis, K., Tenuta, M., Amiro, B.D., Glenn, A.J., Maas, S.E., and Gervais, M. (2013). "Harvest removals negate the benefit of perennial forage in reducing greenhouse gas emissions in an annual crop rotation within the Red River Valley, Manitoba.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013, Presentation.

Glenn, A.J. and Wilson, H.F. (2013). "Carbon balance of an organic cropland in southwestern Manitoba.", Joint meeting of the Canadian Society of Soil Science, Manitoba Soil Science Society, and Canadian Society of Agricultural and Forest Meteorology, Winnipeg, Manitoba, Canada, July 22-25, 2013.

Moulin, A.P., Glenn, A.J., Tenuta, M., Lobb, D.A., Dunmola, A.S., and Yapa, P. (2013). "Alternative statistical distributions and transformation of nitrous oxide soil flux data.", Joint meeting of the Canadian Society of Soil Science, Manitoba Soil Science Society, and Canadian Society of Agricultural and Forest Meteorology, Winnipeg, Manitoba, Canada, July 22-25, 2013.

Mohr, R.M., Glenn, A.J., Irvine, R.B., Linde, C., Halabicki, P., Kostuik, J., and Chalmers, S. (2013). Evaluation of soybean cultivar growth rate and maturity under varying environmental and soil conditions in Manitoba. Canada Manitoba Crop Diversification Centre Annual Report 2013. P. 11-15. <http://www.gov.mb.ca/agriculture/innovation-and-research/diversification-centres/print,index.htm>. (Report)

Mohr, R.M., Glenn, A.J., McLaren, D.L., Irvine, R.B., Sandercock, M., Finlay, G.J., Linde, C., Halabicki, P., Kostuik, J., and Chalmers, S. (2013). Effects of row spacing and seeding rate on soybean in Manitoba. Canada Manitoba Crop Diversification Centre Annual Report 2013. P. 16-29. <http://www.gov.mb.ca/agriculture/innovation-and-research/diversification-centres/print,index.html>. (Report)



Mohr, R.M., Glenn, A.J., McLaren, D.L., Irvine, R.B., Sandercock, M., Finlay, G.J., Linde, C., Halabicki, P., Burak, K., Kostuik, J., and Chalmers, S. (2013). Agronomic management of soybeans in Manitoba. Westman Agricultural Diversification Organization 2013 Annual Report. P. 82-113. <http://www.gov.mb.ca/agriculture/innovation-and-research/diversification-centres/print,index.html>. (Report)

Hanis, K., Tenuta, M., Amiro, B.D., Glenn, A.J., Maas, S.E., and Gervais, M. (2013). "Can inclusion of 4 years of perennial forage in an annual crop rotation within the Red River Valley of the Canadian Prairies increase soil carbon storage and reduce nitrous oxide emissions?", Joint meeting of the Canadian Society of Soil Science, Manitoba Soil Science Society, and Canadian Society of Agricultural and Forest Meteorology, Winnipeg, Manitoba, Canada, July 22-25, 2013, Presentation.

## 2012

Cardillo, M.J., Gulden, R.H., Bullock, P.R., and Glenn, A.J. (2012). "Stubble Height Effects on Canola Performance.", Manitoba Agronomists Conference, Winnipeg, Manitoba, Canada, December 12-13, 2012. (Poster)

Glenn, A.J. and Wilson, H.F. (2012). "Water, carbon, and nitrogen balance components of a no-till crop rotation in southwestern Manitoba.", Manitoba Zero-Tillage Research Association Annual General Meeting 2012, Brandon, MB, Canada, March 20, 2012. (Presentation)

Glenn, A.J. (2012). "Diurnal and Seasonal Relationships Between Incoming Solar Radiation and the Photosynthetically-Active Photon Flux Density in Southwestern Manitoba.", 55th Annual Manitoba Soil Science Society Meeting, Winnipeg, MB, Canada, February 2-3, 2012. (Poster)

Sapkota, T., Tenuta, M., Amiro, B.D., Glenn, A.J., and Stewart, S.E. (2012). "Greenhouse Gas Emissions from Annual-alone and Annual-Perennial Cropping Systems in the Red River Valley, Manitoba. Presentation.", 55th Annual Manitoba Soil Science Society Meeting, Winnipeg, MB, Canada, February 2-3, 2012.

Tenuta, M., Sapkota, T., Amiro, B.D., Glenn, A.J., and Maas, S.E. (2012). "Greenhouse Gas Emissions from Annual-alone and Annual-Perennial Cropping Systems in the Red River Valley, Manitoba.", 30th Conference on Agricultural and Forest Meteorology and 1st Conference on Atmospheric Biogeosciences, Boston, MA, USA, May 28-June 1, 2012.

Glenn, A.J., Tenuta, M., Amiro, B.D., Maas, S.E., and Wagner-Riddle, C. (2012). "Nitrous oxide emissions from an annual crop rotation in the Red River Valley, Manitoba.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Lac Beauport, QC, Canada, June 6, 2012. (Presentation)

## 2011

Sapkota, T., Tenuta, M., Amiro, B.D., Glenn, A.J., and Stewart, S.E. (2011). "Greenhouse gas emission benefit of including perennial forage in a Canadian Prairie cropping system.", Manitoba Agronomists 2009 Conference, Winnipeg, MB, Canada, December 15-16, 2009. (Poster)

Glenn, A.J., Amiro, B.D., Tenuta, M., Wagner-Riddle, C., Drewitt, G.B., and Warland, J.S. (2011). "Using stable carbon isotope flux measurements to estimate the contribution of crop residue carbon to soil respiration during the non-growing season in an annual agroecosystem in the Red River Valley.", Joint Annual Meeting of the Canadian Geophysical Union and the Canadian Society of Agricultural and Forest Meteorologists, Banff Park Lodge, Banff, AB, Canada, May 15-18, 2011. (Presentation)

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## Research Publications:

2016

Liu, H., Gong, J., Chabot, D., Miller, S.S., Miller, S.S., Cui, S.W., Ma, J., Zhong, F., and Wang, Q. (2016). "Incorporation of polysaccharides into sodium caseinate-low melting point fat microparticles improves probiotic bacteria survival during simulated gastrointestinal digestion and storage.", *Food Hydrocolloids*, 54(Part B), pp. 328-337. doi : 10.1016/j.foodhyd.2015.10.016

2015

Wang, L., Hou, Y.Q., Yi, D., Ding, B.-Y., Zhao, D., Wang, Z., Zhu, H.-L., Liu, Y.L., Gong, J., Assaad, H., and Wu, G.-M. (2015). "Beneficial roles of dietary oleum cinnamomi in alleviating intestinal injury.", *Frontiers in Bioscience (Landmark Ed)*, 20(5), pp. 814-828.

Yang, Y., Cui, S.W., Gong, J., Miller, S.S., Wang, Q., and Hua, Y.F. (2015). "Stability of citral in oil-in-water emulsions protected by a soy protein-polysaccharide Maillard reaction product.", *Food Research International*, 69, pp. 357-363. doi : 10.1016/j.foodres.2015.01.006

Yin, F.G., Zhu, Y., Koutchma, T., and Gong, J. (2015). "Inactivation and potential reactivation of pathogenic *Escherichia coli* O157:H7 in apple juice following ultraviolet light exposure at three monochromatic wavelengths.", *Food Microbiology*, 46, pp. 329-335. doi : 10.1016/j.fm.2014.08.015

Yang, Y., Cui, S.W., Gong, J., Guo, Q., Wang, Q., and Hua, Y. (2015). "A soy protein-polysaccharides Maillard reaction product enhanced the physical stability of oil-in-water emulsions containing citral.", *Food Hydrocolloids*, 48, pp. 155-164. doi : 10.1016/j.foodhyd.2015.02.004

Yang, C.-B., Chowdhury, M.A., Hou, Y.Q., and Gong, J. (2015). "Phytogenic compounds as alternatives to in-feed antibiotics: potentials and challenges in application.", *Pathogens*, 4(1), pp. 137-156. doi : 10.3390/pathogens4010137

Yin, F.G., Zhu, Y., Koutchma, T., and Gong, J. (2015). "Inactivation and potential reactivation of pathogenic *Escherichia coli* O157:H7 in bovine milk exposed to three monochromatic ultraviolet UVC lights.", *Food Microbiology*, 49, pp. 74-81. doi : 10.1016/j.fm.2015.01.014

Liu, B., Yin, X., Yu, H., Feng, Y., Ying, X., Gong, J., and Gyles, C.L. (2015). "Alteration of the microbiota and virulence gene expression in *E. Coli* O157:H7 in pig ligated intestine with and without AE lesions.", *PLoS ONE*, 10(6): Article number e0130272, pp. 1-14. doi : 10.1371/journal.pone.0130272

Liu, H., Gong, J., Chabot, D., Miller, S.S., Cui, S.W., Ma, J., Zhong, F., and Wang, Q. (2015). "Protection of heat-sensitive probiotic bacteria during spray-drying by sodium caseinate stabilized fat particles.", *Food Hydrocolloids*, 51, pp. 459-467. doi : 10.1016/j.foodhyd.2015.05.015

Li, C., Nie, S-P., Zhu, K.-X., Xiong, T., Li, C., Gong, J., and Xie, M-Y. (2015). "Effect of *Lactobacillus plantarum* NCU116 on loperamide-induced constipation in mice.", *International Journal of Food Sciences and Nutrition*, 66(5), pp. 533-538. doi : 10.3109/09637486.2015.1024204

Ding, H., Cui, S.W., Goff, H.D., and Gong, J. (2015). "Short-chain fatty acid profiles from flaxseed dietary fibres after in vitro fermentation of pig colonic digesta: Structure-function relationship.", *Bioactive Carbohydrates and Dietary Fibre*, 6(2), pp. 62-68. doi : 10.1016/j.bcdf.2015.09.006

Bissonnette, N., Jiang, X-R., Matte, J.J., Talbot, G., Guay, F., Gong, J., Wang, Q., Bontempo, V., and Lessard, M. (2015). "Effect of a post-weanling diet supplemented with gut health-enhancing feed additives on ileum transcriptome activity and serum cytokines in piglets challenged with lipopolysaccharides (LPS).", *Journal of Dairy Science (JDS)*, 98(Suppl. 2), pp. 659. (Abstract)

Hu, J.-L., Yu, H., Kulkarni, R.R., Sharif, S., Cui, S.W., Xie, M-Y., Nie, S-P., and Gong, J. (2015). "Modulation of cytokine gene expression by selected *Lactobacillus* isolates in the ileum, caecal tonsils and spleen of *Salmonella*-challenged broilers.", *Avian Pathology*, 44(6), pp. 463-469. doi : 10.1080/03079457.2015.1086725

2014

Gong, J., Yin, F.G., Hou, Y.Q., and Yin, Y.L. (2014). "Chinese herbs as alternatives to antibiotics in feed for swine and poultry production: potential and challenges in application.", *Canadian Journal of Animal Science*, 94(2), pp. 223-241. doi : 10.4141/CJAS2013-144

Zhang, Y., Gong, J., Yu, H., Guo, Q., Defelice, C., Hernandez, M., Yin, Y.L., and Wang, Q. (2014). "Alginate-whey protein dry powder optimized for target delivery of essential oils to the intestine of chickens.", *Poultry Science*, 93(10), pp. 2514-2525. doi : 10.3382/ps.2013-03843

Yang, X.J., Brisbin, J.T., Yu, H., Wang, Q., Yin, F.G., Zhang, Y., Sabour, P.M., Sharif, S., and Gong, J. (2014). "Selected lactic acid-producing bacterial isolates with the capacity to reduce *Salmonella* translocation and virulence gene expression in chickens.", *PLoS ONE*, 9(4:e93022). doi : 10.1371/journal.pone.0093022

Hou, Y.Q., Wang, L., Yi, D., Ding, B.-Y., Chen, X., Wang, Q.-J., Zhu, H.-L., Liu, Y., Yin, Y.L., Gong, J., and Wu, G.-Y. (2014). "Dietary supplementation with tributyrin alleviates intestinal injury in piglets challenged with intrarectal administration of acetic acid.", *British Journal of Nutrition*, 111(10), pp. 1748-1758. doi : 10.1017/S0007114514000038

Hu, J.-L., Nie, S.-P., Wu, Q.-M., Li, C., Fu, Z.-H., Gong, J., Cui, S.W., and Xie, M.-Y. (2014). "Polysaccharide from seeds of *Plantago asiatica* L. affects lipid metabolism and colon microbiota of mouse.", *Journal of Agricultural and Food Chemistry*, 62(1), pp. 229-234. doi : 10.1021/jf4040942

Yin, F.G., Farzan, A., Wang, Q.C., Yu, H., Yin, Y.L., Hou, Y.Q., Friendship, R.M., and Gong, J. (2014). "Reduction of *Salmonella enterica* serovar Typhimurium DT104 infection in experimentally-challenged weaned pigs fed a *Lactobacillus*-fermented feed.", *Foodborne Pathogens and Disease*, 11(8), pp. 628-634. doi : 10.1089/fpd.2013.1676

Zhou, M., Yu, H., Yin, X., Sabour, P.M., Chen, W., and Gong, J. (2014). "*Lactobacillus zeae* protects *Caenorhabditis elegans* from enterotoxigenic *Escherichia coli*-caused death by inhibiting enterotoxin gene expression of the pathogen.", *PLoS ONE*, 9(2: Article e89004). doi : 10.1371/journal.pone.0089004

Zhou, M., Zhu, J., Yu, H., Yin, X., Sabour, P.M., Zhao, L., Chen, W., and Gong, J. (2014). "Investigation into in vitro and in vivo models using intestinal epithelial IPEC-J2 cells and *Caenorhabditis elegans* for selecting probiotic candidates to control porcine enterotoxigenic *Escherichia coli*.", *Journal of Applied Microbiology*, 117(1), pp. 217-226. doi : 10.1111/jam.12505

Leng, W., Liu, Y., Shi, H., Li, S., Zhu, H.-L., Pi, D., Hou, Y.Q., and Gong, J. (2014). "Aspartate alleviates liver injury and regulates mRNA expressions of TLR4 and NOD signaling-related genes in weaned pigs after lipopolysaccharide challenge.", *Journal of Nutritional Biochemistry*, 25(6), pp. 592-599. doi : 10.1016/j.jnutbio.2014.01.010

2013

Lepp, D., Gong, J., Songer, J.G., Boerlin, P., Parreira, V.R., and Prescott, J.F. (2013). "Identification of accessory genome regions in poultry *Clostridium perfringens* isolates carrying the netB plasmid.", *Journal of Bacteriology*, 195(6), pp. 1152-1166. doi : 10.1128/jb.01032-12

Yin, X., Zhou, H., and Gong, J. (2013). "Effects of culture conditions and tomato, spinach and lettuce lysates on adherence to intestinal epithelial cells of *Salmonella Typhimurium* PT 193.", *Food Research International*, 52(2), pp. 431-436. doi : 10.1016/j.foodres.2012.10.026

Kang, P., Hou, Y.Q., Toms, D., Yan, N.D., Ding, B.-Y., and Gong, J. (2013). "Effects of enzyme complex supplementation to a paddy-based diet on performance and nutrient digestibility of meat-type ducks.", *Asian-Australasian Journal of Animal Science*, 26(2), pp. 253-259. doi : 10.5713/ajas.2012.12479

Ying, X., Gong, J., Goff, D.H., Yu, H., Wang, Q., and Cui, S.W. (2013). "Effects of pig colonic digesta and dietary fibres on in vitro microbial fermentation profiles.", *Bioactive Carbohydrates and Dietary Fibre*, 1(2), pp. 120-130. doi : 10.1016/j.bcdf.2013.03.002

2012

Levesque, C.L., Yu, H., Gong, J., and de Lange, C.F.M. (2012). "Ileal mucosa-associated - but not ileal digesta - bacterial profiles in grower pigs are influenced by nutrition and use of antibiotics for weaner pigs.", *Journal of Animal Science*, 90(Suppl. 4), pp. 448-450. doi : 10.2527/jas.54004

Yin, X., Feng, Y., Lu, Y., Chambers, J.R., Gong, J., and Gyles, C.L. (2012). "Adherence and associated virulence gene expression in acid treated *E. coli* O157:H7 in vitro and in ligated pig intestine.", *Microbiology*, 158(4), pp. 1084-1093. doi : 10.1099/mic.0.056101-0

Wang, J.-Q., Yin, F.G., Zhu, C., Yu, H., Niven, S.J., de Lange, C.F.M., and Gong, J. (2012). "Evaluation of probiotic bacteria for their effects on the growth performance and intestinal microbiota of newly-weaned pigs fed fermented high-moisture maize.", *Livestock Science*, 145(1-3), pp. 79-86. doi : 10.1016/j.livsci.2011.12.024

Gong, J. and Yang, C.-B. (2012). "Advances in the methods for studying gut microbiota and their relevance to the research of dietary fiber functions.", *Food Research International*, 48(2), pp.916-929. doi: 10.1016/j.foodres.2011.12.027

Yin, X., Gyles, C.L., and Gong, J. (2012). "Grapefruit juice and its constituents augment the effect of low pH on inhibition of survival and adherence to intestinal epithelial cells of *Salmonella enterica* serovar Typhimurium PT193.", *International Journal of Food Microbiology*, 158(3), pp. 232-238. doi: 10.1016/j.ijfoodmicro.2012.07.022

Yi, D., Wang, C., Sun, D.-F., Hou, Y.Q., Ding, B.-Y., Wang, L., and Gong, J. (2012). "Diet supplementation of silymarin increased the antioxidative capacity in cumene hydroperoxide-challenged ducks.", *Journal of Animal and Veterinary Advances*, 11(16), pp. 2986-2994. doi: 10.3923/javaa.2012.2986.2994

Kang, P., Wang, M., Hou, Y.Q., Yin, Y.L., Ding, B.-Y., Zhu, H.-L., Liu, Y., Qiu, Y.-S., Yi, D., and Gong, J. (2012). "Effects of oral administration of spermine on the development of small intestine and growth performance of weaned pigs.", *Journal of Animal and Veterinary Advances*, 11(15), pp. 2782-2787. doi: 10.3923/javaa.2012.2782.2787

Yi, D., Gu, L.-F., Ding, B.-Y., Li, M., Hou, Y.Q., Wang, L., Yin, Y.L., and Gong, J. (2012). "Effects of Dietary Silymarin Supplementation on Growth Performance and Oxidative Status in *Carassius auratus gibelio*.", *Journal of Animal and Veterinary Advances*, 11(18), pp. 3399-3404. doi: 10.3923/javaa.2012.3399.3404

## 2011

Namkung, H., Yu, H., Gong, J., and Leeson, S. (2011). "Antimicrobial activity of butyrate glycerides toward *Salmonella* Typhimurium and *Clostridium perfringens*.", *Poultry Science*, 90(10), pp. 2217-2222. doi: 10.3382/ps.2011-01498

Yin, X., Feng, Y., Wheatcroft, R., Chambers, J.R., Gong, J., and Gyles, C.L. (2011). "Adherence of *Escherichia coli* O157:H7 to intestinal epithelial cells in vitro and in vivo is affected by bacteria culture conditions.", *Canadian Journal of Veterinary Research*, 75(2), pp. 81-88.

Brisbin, J.T., Gong, J., Orouji, S., Esufali, J., Mallick, A.I., Parvizi, P., Shewen, P.E., and Sharif, S. (2011). "Oral treatment of chickens with lactobacilli influences elicitation of immune response.", *Clinical and Vaccine Immunology*, 18(9), pp. 1447-1455. doi: 10.1128/CVI.05100-11

Li, X.-Z., Zhu, C., de Lange, C.F.M., Zhou, T., He, J., Yu, H., Gong, J., and Young, J.C. (2011). "Efficacy of detoxification of deoxynivalenol-contaminated corn by *Bacillus* sp. LS100 in reducing the adverse effects of the mycotoxin on swine growth performance.", *Food Additives and Contaminants: Part A: Chemistry, Analysis, Control, Exposure & Risk Assessment*, 28(7), pp. 894-901. doi: 10.1080/19440049.2011.576402

Wang, C., Wang, J., Gong, J., Yu, H., Pacan, J.C., Niu, Z., Si, W., and Sabour, P.M. (2011). "Use of *Caenorhabditis elegans* for preselecting *Lactobacillus* isolates to control *Salmonella* Typhimurium.", *Journal of Food Protection*, 74(1), pp. 86-93. doi: 10.4315/0362-028x.jfp-10-155

Yin, X., Zhu, J., Feng, Y., Chambers, J.R., Gong, J., and Gyles, C.L. (2011). "Differential gene expression and adherence of *Escherichia coli* O157:H7 in vitro and in ligated pig intestines.", *PLoS ONE*, 6(2), Article No. e17424. doi: 10.1371/journal.pone.0017424

Zhu, J., Yin, X., Yu, H., Zhao, L., Sabour, P.M., and Gong, J. (2011). "Involvement of quorum sensing and heat stable enterotoxin A (STa) in cell damage caused by a porcine enterotoxigenic *Escherichia coli* strain.", *Infection and Immunity*, 79(4), pp. 1688-1695. doi: 10.1128/IAI.01281-10

Chambers, J.R. and Gong, J. (2011). "The intestinal microbiota and its modulation for *Salmonella* control in chickens.", *Food Research International*, 44(10), pp. 3149-3159. doi: 10.1016/j.foodres.2011.08.017

## Other Science Related Publications:

### 2015

Wang, Q., Liu, H., Gong, J., Chabot, D., Miller, S.S., Miller, S.S., Cui, S.W., and Zhong, F. (2015). "A novel encapsulation method to protect probiotic bacteria during spray drying", 23th International Conference on Bioencapsulation, Delft, The Netherlands, September 2-4, 2015. (Poster)

Bissonnette, N., Jiang, X.-R., Matte, J.J., Talbot, G., Guay, F., Gong, J., Wang, Q., Bontempo, V., and Lessard, M. (2015). "Effect of a post-weaning diet supplemented with gut health-enhancing feed additives on ileum transcriptome activity and serum cytokines in piglets challenged with lipopolysaccharides (LPS)", ADSA-ASAS JAM (Joint Annual Meeting) 2015, Orlando, Florida, USA, July 12-16, 2015, 2-15, Poster Session.

### 2014

Gong, J., Wang, Q., Yang, Y., Yu, H., Diarra, M.S., and Cui, S.W. (2014). "Novel preparation of citral encapsulated with special soybean-derived polymers as a feed additive for controlling necrotic enteritis caused by *Clostridium perfringens* in poultry. Filed on March 21, 2014." (Patent)

Hu, J.-L. and Gong, J. (2014). "Selected Lactobacillus isolates attenuate Salmonella infection by modulating Salmonella virulence gene expression and immune response in chickens.", Poultry Health Research Network Research Day, Guelph, Ontario, Canada, November 21, 2014.

Zhang, Y., Guo, T.C., Yu, H., Gong, J., and Wang, Q. (2014). "Alginate-whey protein dry powder optimized for intestinal delivery of essential oils in chickens.", 12th International Hydrocolloids Conference, Taiwan, May 5-9, 2014, Oral presentation.

Zhou, M., Zhu, J., Yu, H.H., Yin, X., Sabour, P.M., Zhao, L.H., Chen, W., and Gong, J. (2014). "Investigation into in vitro and in vivo models using intestinal epithelial IPEC-J2 cells and Caenorhabditis elegans for selecting probiotic candidates to control porcine enterotoxigenic Escherichia coli.", 9th International Symposium on lactic acid bacteria and human health, Tianjing, China, May 21-23, 2014.

Guo, T.C., Yang, Y., Zhang, Y., Yu, H., Gong, J., and Wang, Q. (2014). "In vitro and in vivo release of carvacrol encapsulated in ca-alginate microspheres in chickens.", 41st Annual Meeting & Exposition of the Controlled Release Society, Chicago, USA, July 13-16, 2014, Oral presentation.

Yu, Q., Lepp, D., and Gong, J. (2014). "Role of Agr-like quorum sensing and regulation in the pathogenicity of Clostridium perfringens Type A strain CP1", Poultry Health Research Network Research Day, Guelph, Ontario, Canada, November 21, 2014.

Lessard, M., Bergeron, N., Deschêne, K., Matte, J.J., Guay, F., Bissonnette, N., Talbot, B.G., Gong, J., Wang, Q., Quessy, S., and Letellier, A. (2014). "Intestinal gene expression involved in innate and acquired immune responses of pigs affected by Salmonella infection and diets supplemented with gut health-enhancing feed additives.", 23rd International Pig Veterinary Society Congress, Cancun, México, June 8-11, 2014, Abstract A1387. (Poster)

Liu, H., Wang, Q., Gong, J., Yu, H., Guo, Q., Cui, S.W., and Miller, S.A. (2014). A novel microencapsulation method for protecting probiotic bacteria during spray drying. (Filed on April 1st, 2014. It is in the process of patent application).

Hu, J.-L., Yu, H., Brisbin, J.T., Sharif, S., Nie, S.-P., Cui, S.W., Xie, M.-Y., and Gong, J. (2014). "Modulation of chicken immune response by selected Lactobacillus isolates with the capacity to attenuate Salmonella infection.", XIIIth Avian Immunology Research Group Conference, Guelph, Ontario, Canada, July 16-19, 2014.

Zhou, M., Yu, H., Yin, X., Sabour, P.M., Chen, W., and Gong, J. (2014). "Host response of Caenorhabditis elegans to enterotoxigenic Escherichia coli infection and its regulation by Lactobacillus.", 15th International symposium on microbial ecology (ISME 15), Seoul, South Korea, August 24-29, 2014.

## 2013

Morissette, B., Lessard, M., Guay, F., Matte, J.J., Gong, J., Wang, Q., Beaulieu, C., and Talbot, G. (2013). "Prebiotics, probiotic, nutraceuticals and functional food as feed additives that modulate the gut microbiota of weanling piglets challenged with E. coli lipopolysaccharides", 63rd Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013, Abstract AE56. (Abstract)

Morissette, B., Lessard, M., Guay, F., Matte, J.J., Gong, J., Wang, Q., Beaulieu, C., and Talbot, G. (2013). "Prebiotics, probiotic, nutraceuticals and functional food as feed additives that modulate gut microbiota of weanling piglets.", 6th Symposium of Swine and Poultry Infectious Diseases Research Center. Congrès de l'ACFAS Colloque 227 – Le microbiote animal : une question d'équilibre., Université Laval, Québec, QC, Canada, May 8-9, 2013, pp. 46. (Poster)

Yang, Y., Wang, Q., Gong, J., Diarra, M.S., Yu, H.H., and Qian, G.T. (2013). "Evaluation of the antibacterial capacity of novel essential oil microcapsules against Clostridium perfringens.", Guelph Food Safety Seminar Series - Food Safety: Compliance to Commitment (GFSS 10th Annual Symposium), Guelph, Ontario, Canada, October 23, 2013. (Poster)

## 2012

Yin, F.G., Farzan, V., Wang, Q., Yu, H., Yin, Y.L., Friendship, R.M., and Gong, J. (2012). "Evaluation of Lactobacillus fermented diets for controlling Salmonella Typhimurium in newly-weaned pigs.", 8th INRA-Rowett Symposium on Gut Microbiology, Gut microbiota: friend or foe?, Clermont, France, June 17-20, 2012.

Wang, Q., Ma, Y., Zhang, Y., Gong, J., Sabour, P.M., Chambers, J.R., and de Lange, C.F.M. (2012). "Application of microencapsulation in the development of alternatives for antibiotics in food animal production.", 20th International Conference on Bioencapsulation, Orillia, ON, Canada, September 21-24, 2012.

Zhang, Y., Yu, H., Marta, H., Wang, Q., Yin, Y.L., and Gong, J. (2012). "Evaluation of antimicrobial effects of encapsulated carvacrol against salmonella typhimurium pt193 in chicken gut digesta.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012.

2011

Zhang, Y., Yu, H., Marta, H., Yin, Y.L., Wang, Q., and Gong, J. (2011). "Effects of pig digesta from different intestinal regions on the antimicrobial activity of carvacrol towards *E. coli* K88.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012.

Wang, J.-Q., Yin, F.G., Zhu, C., Yu, H., Niven, S.J., de Lange, C.F.M., and Gong, J. (2011). "Evaluation of probiotic bacteria for their effects on the growth performance and intestinal microbiota of newly weaned pigs through feeding fermented high-moisture maize.", Canadian Society of Microbiologists (CSM) 61st Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Memorial University of Newfoundland, St. John's, NL, Canada, June 20-23, 2011, AE26.

Wang, Q.C., Yin, F.G., Sabour, P.M., and Gong, J. (2011). "In vitro evaluation of probiotic properties of selected lactic acid bacteria for *Salmonella* control in chickens.", Guelph Food Safety Seminar Series (GFSSS) 8th Annual Symposium: Evidence to Decisions: Turning Knowledge into Practice, Guelph, ON, Canada, October 25, 2011. (Presentation)

Zhang, Y., Yu, H., Marta, H., Yin, Y.L., Wang, Q., and Gong, J. (2011). "Antimicrobial activity of carvacrol towards *E. coli* K88 in different sections of the intestine of growing pigs.", Guelph Food Safety Seminar Series (GFSSS) 8th Annual Symposium: Evidence to Decisions: Turning Knowledge into Practice, Guelph, ON, Canada, October 25, 2011.

Wang, J.-Q., Yin, F.G., Zhu, C., Yu, H., Niven, S.J., de Lange, C.F.M., and Gong, J. (2011). "Evaluation of probiotic bacteria for their effects on the growth performance and intestinal microbiota of newly weaned pigs through feeding fermented high-moisture maize.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.

Wang, J.-Q., Yin, F.G., Zhu, C., Yu, H., Niven, S.J., de Lange, C.F.M., and Gong, J. (2011). "Evaluation of probiotic bacteria for their effects on the growth performance and intestinal microbiota of newly weaned pigs through feeding fermented high-moisture maize.", 61st Annual Conference of Canadian Society of Microbiologists, St. John's, NL, Canada, June 20-23, 2011, AE26.

Ma, Y., Wang, Q., Gong, J., and Wu, X.Y. (2011). "Towards replacement of antibiotics in feed: encapsulation of cinnamaldehyde oil for delivery to the gastrointestinal tract of pigs.", Canadian Society of Microbiologists (CSM) 61st Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Memorial University of Newfoundland, St. John's, NL, Canada, June 20-23, 2011, AE25.

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## Research Publications:

2015

- Hwang, S.F., Ahmed, H.U., Turnbull, G.D., Gossen, B.D., and Strelkov, S.E. (2015). "Effect of seeding date and depth, seed size and fungicide treatment on Fusarium and Pythium seedling blight of canola.", *Canadian Journal of Plant Science*, 95(2), pp. 293-301. doi: 10.4141/CJPS-2014-268
- Gossen, B.D., Strelkov, S.E., Manolii, V.P., Tsao, R., Hwang, S.F., Peng, G., and McDonald, M.R. (2015). "Spread of *Plasmiodiophora brassicae* on canola in Canada, 2003–2014: Old pathogen, new home.", *Canadian Journal of Plant Pathology*, 37(4), pp. 403-413. doi: 10.1080/07060661.2015.1105871
- Peng, G., Pageau, D., Strelkov, S.E., Gossen, B.D., Hwang, S.F., and Lahlali, R.L. (2015). "A >2-year break from susceptible canola reduces *Plasmiodiophora brassicae* resting spores in heavily infested soil and maximizes canola yield.", *European Journal of Agronomy*, 70, pp. 78-84. doi: 10.1016/j.eja.2015.07.007
- Chang, K.F., Hwang, S.F., Conner, R.L., Ahmed, H.U., Zhou, Q-X., Turnbull, G.D., Strelkov, S.E., McLaren, D.L., and Gossen, B.D. (2015). "First report of *Fusarium proliferatum* causing root rot in soybean (*Glycine max* L.) in Canada.", *Crop Protection*, 67, pp. 52-58. doi: 10.1016/j.cropro.2014.09.020
- Deora, A.D., Gossen, B.D., Amirsadeghi, S., and McDonald, M.R. (2015). "A multiplex qPCR assay for detection and quantification of *Plasmiodiophora brassicae* in soil.", *Plant Disease*, 99(7), pp. 1002-1009. doi: 10.1094/PDIS-06-14-0608-RE
- Chu, M.G., Song, T., Yu, F.Q., Peng, G., Lahlali, R.L., Liu, X., Zhang, X., Falk, K.C., and Gossen, B.D. (2015). "Genetic mapping of a new clubroot resistance gene (Rpb1) and transcriptome analysis of its interactions with *Plasmiodiophora brassicae*.", *BMC Genomics*, 15(1166).
- Hwang, S.F., Ahmed, H.U., Zhou, Q-X., Turnbull, G.D., Strelkov, S.E., Gossen, B.D., and Peng, G. (2015). "Effect of host and non-host crops on *Plasmiodiophora brassicae* resting spore concentrations and clubroot of canola.", *Plant Pathology*, 64(5), pp. 1198-1206. doi: 10.1111/ppa.12347
- Gossen, B.D. (2015). "Blossom blight", in Samac, D.A., Rhodes, L.H. and Lamp W.O. (eds.) - *Compendium of alfalfa diseases and pests*. 3rd edition, APS Press, Inc., St. Paul, MN, USA, pp. 10-11.
- Ahmed, H.U., Chang, K.F., Hwang, S.F., Fu, H., Zhou, Q-X., Strelkov, S.E., Conner, R.L., and Gossen, B.D. (2015). "Morphological characterization of fungi associated with the ascochyta blight complex and pathogenic variability of *Mycosphaerella pinodes* on field pea crops in central Alberta.", *The Crop Journal*, 3(1), pp. 10-18. doi: 10.1016/j.cj.2014.08.007
- Gossen, B.D. (2015). "Winter crown rot.", in Samac, D.A., Rhodes, L.H. and Lamp W.O. (eds.) - *Compendium of alfalfa diseases and pests*. 3rd edition, APS Press, Inc., St. Paul, MN, USA, pp. 52-54.

2014

- Hwang, S.F., Ahmed, H.U., Turnbull, G.D., Gossen, B.D., and Strelkov, S.E. (2014). "The effect of seed size, seed treatment, seeding date and depth on *Rhizoctonia* seedling blight of canola.", *Canadian Journal of Plant Science*, 94(2), pp. 311-321. doi: 10.4141/cjps2013-294
- Zhou, Q-X., Hwang, S.F., Fu, H., Strelkov, S.E., and Gossen, B.D. (2014). "Genetic variation of *Rhizoctonia solani* isolates from canola in Alberta, Canada.", *Canadian Journal of Plant Science*, 94(4), pp. 671-681. doi: 10.4141/cjps2012-114
- Gossen, B.D., Carisse, O., Kawchuk, L.M., Van der Heyden, H., and McDonald, M.R. (2014). "Recent changes in fungicide use and the fungicide insensitivity of plant pathogens in Canada.", *Canadian Journal of Plant Pathology*, 36(3), pp. 327-340. doi: 10.1080/07060661.2014.925506
- Chu, M.G., Song, T., Falk, K.C., Zhang, X., Liu, X., Chang, A., Lahlali, R.L., McGregor, L., Gossen, B.D., Yu, F.Q., and Peng, G. (2014). "Fine mapping of Rcr1 and analyses of its effect on transcriptome patterns during infection by *Plasmiodiophora brassicae*.", *BMC Genomics*, 15(1: Article number 1166), pp. 1-20. doi: 10.1186/1471-2164-15-1166
- Deora, A.D., Gossen, B.D., Hwang, S.F., Pageau, D., Howard, R.J., Walley, F.L., and McDonald, M.R. (2014). "Effect of boron on clubroot of canola in organic and mineral soils and on residual toxicity to rotational crops.", *Canadian Journal of Plant Science*, 94(1), pp. 109-118. doi: 10.4141/cjps2013-002

- Hwang, S.F., Chang, K.F., Strelkov, S.E., Gossen, B.D., and Howard, R.J. (2014). "The impact of *Fusarium avenaceum* on lupin production on the Canadian prairies.", *Canadian Journal of Plant Pathology*, 36(3), pp. 291-299. doi : 10.1080/07060661.2014.925507
- Hwang, S.F., Howard, R.J., Strelkov, S.E., Gossen, B.D., and Peng, G. (2014). "Management of clubroot (*Plasmiodiophora brassicae*) on canola (*Brassica napus*) in western Canada.", *Canadian Journal of Plant Pathology*, 36(S1), pp. 49-65. doi : 10.1080/07060661.2013.863806
- Lahlali, R.L., McGregor, L., Song, T., Gossen, B.D., Narisawa, K., and Peng, G. (2014). "Heteroconium chaetospira suppresses clubroot by inducing host resistance via ethylene, jasmonic acid and auxin pathway signaling.", *PLoS ONE*, 9(4: e941144), pp. 1-9. doi : 10.1371/journal.pone.0094144
- McDonald, M.R., Sharma, K., Gossen, B.D., Deora, A.D., Feng, J., and Hwang, S.F. (2014). "The role of primary and secondary infection in initiation of resistance to *Plasmiodiophora brassicae*.", *Phytopathology*, 104(10), pp. 1078-1087.
- Peng, G., Lahlali, R.L., Hwang, S.F., Pageau, D., Hynes, R.K., McDonald, M.R., Gossen, B.D., and Strelkov, S.E. (2014). "Crop rotation, cultivar resistance, and fungicides/biofungicides for managing clubroot (*Plasmiodiophora brassicae*) on canola.", *Canadian Journal of Plant Pathology*, 36(S1), pp. 99-112. doi : 10.1080/07060661.2013.860398
- Chang, K.F., Hwang, S.F., Ahmed, H.U., Strelkov, S.E., Gossen, B.D., Turnbull, G.D., and Blade, S.F. (2014). "Disease reaction to *Fusarium avenaceum* and yield loss of narrow-leafed lupin lines.", *Canadian Journal of Plant Science*, 94(7), pp. 1211-1218. doi : 10.4141/cjps2013-243
- Ahmed, H.U., Chang, K.F., Hwang, S.F., Gossen, B.D., Strelkov, S.E., and Turnbull, G.D. (2014). "Baseline sensitivity and the population shifts of *Didymella rabiei* in chickpea to the QoI fungicide pyraclostrobin in Alberta, Canada.", *Journal of Plant Diseases and Protection*, 121(4), pp. 164-170.
- Gludovacz, T.V., Deora, A.D., McDonald, M.R., and Gossen, B.D. (2014). "Cortical Colonization by *Plasmiodiophora brassicae* in Susceptible and Resistant Cabbage Cultivars.", *European Journal of Plant Pathology*, 140(4), pp. 859-862. doi : 10.1007/s10658-014-0492-8
- Hwang, S.F., Ahmed, H.U., Zhou, Q-X., Strelkov, S.E., Gossen, B.D., Peng, G., and Turnbull, G.D. (2014). "Efficacy of Vapam fumigant against clubroot (*Plasmiodiophora brassicae*) of canola.", *Plant Pathology*, 63(6), pp. 1374-1383. doi : 10.1111/ppa.12207
- Ahmed, H.U., Hwang, S.F., Turnbull, G.D., Strelkov, S.E., and Gossen, B.D. (2014). "Crop residue affects *Rhizoctonia solani* population dynamics and seedling blight of canola.", *Plant Pathology*, 13(1), pp. 50-55. doi : 10.3923/ppj.2014.50.55
- Tesfaendrias, M.T., Truman, C., Gossen, B.D., McKeown, A.W., and McDonald, M.R. (2014). "The influence of nitrogen and calcium fertilizers on septoria late blight and yield of celery.", *Canadian Journal of Plant Science*, 94(8), pp. 1391-1399.
- Gossen, B.D., Deora, A.D., Peng, G., Hwang, S.F., and McDonald, M.R. (2014). "Effect of environmental parameters on clubroot development and the risk of pathogen spread.", *Canadian Journal of Plant Pathology*, 36(S1), pp. 37-48. doi : 10.1080/07060661.2013.859635
- Chang, K.F., Conner, R.L., Hwang, S.F., Ahmed, H.U., McLaren, D.L., Gossen, B.D., and Turnbull, G.D. (2014). "Effects of seed treatments and inoculum density of *Fusarium avenaceum* and *Rhizoctonia solani* on seedling blight and root rot of in faba bean.", *Canadian Journal of Plant Science*, 94(4), pp. 693-700. doi : 10.4141/cjps2013-339

## 2013

- Chang, K.F., Hwang, S.F., Ahmed, H.U., Strelkov, S.E., Conner, R.L., Gossen, B.D., Bing, D.-J., and Turnbull, G.D. (2013). "Yield loss and management of downy mildew on field pea in Alberta, Canada.", *Crop Protection*, 46, pp. 23-28. doi : 10.1016/j.cropro.2012.12.001
- Peng, G., Pageau, D., Hwang, S.F., Lahlali, R.L., Hynes, R.K., Anderson, K., Strelkov, S.E., McDonald, M.R., Gossen, B.D., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., and McGregor, L. (2013). "Assessment of crop rotation in combination with cultivar resistance or a biofungicide seed treatment for control of clubroot on canola.", 10th International Congress of Plant Pathology, Beijing International Convention Center, Beijing, China, August 25-30, 2013.
- Peng, G., Pageau, D., Strelkov, S.E., Lahlali, R.L., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Turkington, T.K., Falk, K.C., Yu, F.Q., McGregor, L., Hupka, D., and Geissler, H.J. (2013). "Assessment of crop rotation, cultivar resistance and *Bacillus subtilis* biofungicide for control of clubroot on canola.", 6th International Symposium on Brassica and 18th Crucifer Genetics Workshop, Catania, Sicily, Italy, November 12-16, 2012, Published on *Acta Hort.* 1005: 591-598.
- Sharma, K., Gossen, B.D., Greenshields, D.L., Selvaraj, G., Strelkov, S.E., and McDonald, M.R. (2013). "Reaction of lines of the Rapid Cycling Brassica Collection and *Arabidopsis thaliana* to selected pathotypes of *Plasmiodiophora brassicae*.", *Plant Disease*, 97(6), pp. 720-727. doi : 10.1094/PDIS-08-12-0752-RE



- Holtz, M.D., Chang, K.F., Hwang, S.F., Gossen, B.D., and Strelkov, S.E. (2013). "Characterization of *Fusarium* spp. Associated with lupin in central Alberta, Canada.", *Canadian Journal of Plant Pathology*, 35(1), pp. 56-67. doi : 10.1080/07060661.2012.729538
- Gossen, B.D., McDonald, M.R., Hwang, S.F., Strelkov, S.E., and Peng, G. (2013). "A comparison of clubroot development and management on canola and Brassica vegetables.", *Canadian Journal of Plant Pathology*, 35(2), pp. 175-191. doi : 10.1080/07060661.2013.763293
- McDonald, M.R., Gossen, B.D., Kora, C., Parker, M., and Boland, G.J. (2013). "Using crop canopy modification to manage plant diseases.", *European Journal of Plant Pathology*, 135, pp. 581-593. doi : 10.1007/s10658-012-0133-z
- Rashid, A., Hwang, S.F., Ahmed, H.U., Turnbull, G.D., Strelkov, S.E., and Gossen, B.D. (2013). "Effects of soil-borne *Rhizoctonia solani* on canola seedlings after application of glyphosate herbicide.", *Canadian Journal of Plant Science*, 93(1), pp. 97-107. doi : 10.4141/cjps2012-109
- Gossen, B.D., Kasinathan, H., Tsao, R., Manolii, V.P., Strelkov, S.E., Hwang, S.F., and McDonald, M.R. (2013). "Interaction of pH and temperature affect infection and symptom development of *Plasmiodiophora brassicae* in canola.", *Canadian Journal of Plant Pathology*, 35(3), pp. 294-303. doi : 10.1080/07060661.2013.804882
- Lahlali, R.L., Peng, G., Gossen, B.D., McGregor, L., Yu, F.Q., Hynes, R.K., Hwang, S.F., McDonald, M.R., and Boyetchko, S.M. (2013). "Evidence that the Biofungicide Serenade® (*Bacillus subtilis*) Suppresses Clubroot on Canola via Antibiosis and Induced Host Resistance.", *Phytopathology*, 103(3), pp. 245-254. doi : 10.1094/PHYTO-06-12-0123-R
- Chang, K.F., Hwang, S.F., Ahmed, H.U., Gossen, B.D., Turnbull, G.C., and Strelkov, S.E. (2013). "Management strategies to reduce losses caused by fusarium seedling blight of field pea.", *Canadian Journal of Plant Science*, 93(4), pp. 619-625. doi : 10.4141/cjps2012-293
- Deora, A.D., Gossen, B.D., and McDonald, M.R. (2013). "Cytology of infection, development and expression of resistance to *Plasmiodiophora brassicae* in canola", *Annals of Applied Biology*, 163(1), pp. 56-71. doi : 10.1111/aab.12033
- Hwang, S.F., Ahmed, H.U., Zhou, Q-X., Rashid, A., Strelkov, S.E., Gossen, B.D., Peng, G., and Turnbull, G.D. (2013). "Effect of susceptible and resistant canola plants on *Plasmiodiophora brassicae* resting spore populations in the soil.", *Plant Pathology*, 62(2), pp. 404-412. doi : 10.1111/j.1365-3059.2012.02636.x
- Sharma, K., Gossen, B.D., Howard, R.J., Gludovacz, T.V., and McDonald, M.R. (2013). "Reaction of selected Brassica vegetable crops to Canadian pathotypes of *Plasmiodiophora brassicae*.", *Canadian Journal of Plant Pathology*. doi : 10.1080/07060661.2013.812983

## 2012

- Hwang, S.F., Strelkov, S.E., Feng, J., Gossen, B.D., and Howard, R.J. (2012). "*Plasmiodiophora brassicae*: a review of an emerging pathogen of the Canadian canola (*Brassica napus*) crop.", *Molecular Plant Pathology*, 13(2), pp. 105-113. doi : 10.1111/j.1364-3703.2011.00729.x
- Feng, J., Xiao, Q., Hwang, S.F., Strelkov, S.E., and Gossen, B.D. (2012). "Infection of canola by secondary zoospores of *Plasmiodiophora brassicae* produced on a nonhost.", *European Journal of Plant Pathology*, 132(3), pp. 309-315. doi : 10.1007/s10658-011-9875-2
- Hwang, S.F., Cao, T., Xiao, Q., Ahmed, H.U., Manolii, V.P., Turnbull, G.D., Gossen, B.D., Peng, G., and Strelkov, S.E. (2012). "Effects of fungicide, seeding date and seedling age on clubroot severity, seedling emergence and yield of canola.", *Canadian Journal of Plant Science*, 92(6), pp. 1175-1186. doi : 10.4141/CJPS2011-149
- Hwang, S.F., Ahmed, H.U., Zhou, Q-X., Strelkov, S.E., Gossen, B.D., Peng, G., and Turnbull, G.D. (2012). "Assessment of the impact of resistant and susceptible canola on *Plasmiodiophora brassicae* inoculum potential.", *Plant Pathology*, 61(5), pp. 945-952. doi : 10.1111/j.1365-3059.2011.02582.x
- Feng, J., Li, W.J., Hwang, S.F., Gossen, B.D., and Strelkov, S.E. (2012). "Enhanced gene replacement frequency in KU70 disruption strain of *Stagonospora nodorum*.", *Microbiological Research*, 167(3), pp. 173-178. doi : 10.1016/j.micres.2011.05.004
- Saude, C., McKeown, A.W., Gossen, B.D., and McDonald, M.R. (2012). "Effect of Host Resistance and Fungicide Application on Clubroot Pathotype 6 in Green Cabbage and Napa Cabbage.", *HortTechnology*, 22(3), pp. 311-319.
- Hwang, S.F., Chang, K.F., Conner, R.L., Gossen, B.D., and Turnbull, G.D. (2012). "Plant age and timing of epidemic initiation affect *mycosphaerella* blight in field pea.", *Journal of Plant Diseases and Protection*, 119(1), pp. 15-23.
- Feng, J., Chang, K.F., Hwang, S.F., Strelkov, S.E., Conner, R.L., Gossen, B.D., McLaren, D.L., and Chen, Y.Y. (2012). "Analysis of expressed sequence tags derived from pea leaves infected by *Peronospora viciae* sp. *pisi*.", *Annals of Applied Biology*, 161(3), pp. 214-222. doi : 10.1111/j.1744-7348.2012.00566.x

Li, W.J., Feng, J., Chang, K.F., Conner, R.L., Hwang, S.F., Strelkov, S.E., Gossen, B.D., and McLaren, D.L. (2012). "Microsatellite DNA Markers Indicate Quantitative Trait Loci Controlling Resistance to Pea Root Rot Caused by *Fusarium avenaceum* (Corda ex Fries) Sacc.", *Plant Pathology Journal*, 11(4), pp. 114-119. doi: 10.3923/ppj.2012.114.119

Gossen, B.D., Adhikari, K.K.C., and McDonald, M.R. (2012). "Effects of temperature on infection and subsequent development of clubroot under controlled conditions.", *Plant Pathology*, 61(3), pp. 593-599. doi: 10.1111/j.1365-3059.2011.02536.x

Conner, R.L., Gossen, B.D., Hwang, S.F., Chang, K.F., McRae, K.B., and Penner, W.C. (2012). "Field assessment of partial resistance to *mycosphaerella* blight in *Pisum* subspecies accessions.", *Canadian Journal of Plant Science*, 92(2), pp. 289-296. doi: 10.4141/CJPS2011-152

Deora, A.D., Gossen, B.D., and McDonald, M.R. (2012). "Infection and development of *Plasmodiophora brassicae* in resistant and susceptible canola cultivars.", *Canadian Journal of Plant Pathology*, 34(2), pp. 239-247. doi: 10.1080/07060661.2012.681071

Gossen, B.D., Adhikari, K.K.C., and McDonald, M.R. (2012). "Effect of seeding date on development of clubroot in short-season Brassica crops.", *Canadian Journal of Plant Pathology*, 34(4), pp. 516-523. doi: 10.1080/07060661.2012.722129

Adhikari, K.K.C., McDonald, M.R., and Gossen, B.D. (2012). "Reaction to *Plasmodiophora brassicae* Pathotype 6 in Lines of Brassica Vegetables, Wisconsin Fast Plants, and Canola.", *HortScience*, 47(3), pp. 374-377.

2011

Lahlali, R.L., Peng, G., McGregor, L., Gossen, B.D., Hwang, S.F., and McDonald, M.R. (2011). "Mechanisms of the biofungicide Serenade (*Bacillus subtilis* QST713) in suppressing clubroot.", *Biocontrol Science and Technology*, 21(11), pp. 1351-1362. doi: 10.1080/09583157.2011.618263

Peng, G., McGregor, L., Lahlali, R.L., Gossen, B.D., Hwang, S.F., Adhikari, K.K.C., Strelkov, S.E., and McDonald, M.R. (2011). "Potential biological control of clubroot on canola and crucifer vegetable crops.", *Plant Pathology*, 60(3), pp. 566-574. doi: 10.1111/j.1365-3059.2010.02400.x

Feng, J., Hwang, R., Chang, K.F., Conner, R.L., Hwang, S.F., Strelkov, S.E., Gossen, B.D., McLaren, D.L., and Xue, A.G. (2011). "Identification of microsatellite markers linked to quantitative trait loci controlling resistance to fusarium root rot in field pea.", *Canadian Journal of Plant Science*, 91(1), pp. 199-204. doi: 10.4141/CJPS09176

Hwang, S.F., Strelkov, S.E., Gossen, B.D., Turnbull, G.D., Ahmed, H.U., and Manolii, V.P. (2011). "Soil treatments and amendments for amelioration of clubroot of canola.", *Canadian Journal of Plant Science*, 91(6), pp. 999-1010. doi: 10.4141/cjps2011-028

Chang, K.F., Hwang, S.F., Gossen, B.D., Strelkov, S.E., Turnbull, G.D., and Bing, D.-J. (2011). "Effect of seeding practices, temperature and seed treatments on fusarium seedling blight of narrow-leaved lupin.", *Canadian Journal of Plant Science*, 91(5), pp. 859-872. doi: 10.4141/cjps2010-039

Sharma, K., Gossen, B.D., and McDonald, M.R. (2011). "Effect of temperature on cortical infection by *Plasmodiophora brassicae* and clubroot severity.", *Phytopathology*, 101(12), pp. 1424-1432. doi: 10.1094/PHYTO-04-11-0124

Hwang, S.F., Ahmed, H.U., Strelkov, S.E., Gossen, B.D., Turnbull, G.D., Peng, G., and Howard, R.J. (2011). "Seedling age and inoculum density affect clubroot severity and seed yield in canola.", *Canadian Journal of Plant Science*, 91(1), pp. 183-190. doi: 10.4141/cjps10066

Forseille, L., Peng, G., Yangdou, W., and Gossen, B.D. (2011). "Molecular and morphological differentiation of *Colletotrichum truncatum* from scentless chamomile and selected crop species.", *Canadian Journal of Plant Pathology*, 33(4), pp. 512-524. doi: 10.1080/07060661.2011.619580

Holtz, M.D., Chang, K.F., Hwang, S.F., Gossen, B.D., and Strelkov, S.E. (2011). "Characterization of *Fusarium avenaceum* from lupin in central Alberta: Genetic diversity, mating type, and aggressiveness.", *Canadian Journal of Plant Pathology*, 33(1), pp. 61-67. doi: 10.1080/07060661.2011.536651

Deora, A.D., Gossen, B.D., Walley, F.L., and McDonald, M.R. (2011). "Boron reduces development of clubroot in canola.", *Canadian Journal of Plant Pathology*, 33(4), pp. 475-484. doi: 10.1080/07060661.2011.620630

Sharma, K., Gossen, B.D., and McDonald, M.R. (2011). "Effect of temperature on primary infection by *Plasmodiophora brassicae* and initiation of clubroot symptoms.", *Plant Pathology*, 60(5), pp. 830-838. doi: 10.1111/j.1365-3059.2011.02458.x

Ahmed, H.U., Hwang, S.F., Strelkov, S.E., Gossen, B.D., Peng, G., Howard, R.J., and Turnbull, G.D. (2011). "Assessment of bait crops to reduce inoculum of clubroot (*Plasmodiophora brassicae*) of canola.", *Canadian Journal of Plant Science*, 91(3), pp. 545-551. doi: 10.4141/cjps10200

Hwang, S.F., Ahmed, H.U., Zhou, Q-X., Strelkov, S.E., Gossen, B.D., Peng, G., and Turnbull, G.D. (2011). "Influence of cultivar resistance and inoculum density on root hair infection of canola (*Brassica napus*) by *Plasmodiophora brassicae*.", *Plant Pathology*, 60(5), pp. 820-829. doi: 10.1111/j.1365-3059.2011.02457.x

Gossen, B.D., Hwang, S.F., Conner, R.L., and Chang, K.F. (2011). "Managing the ascochyta blight complex on field pea in western Canada.", *Prairie Soils and Crops*, 4, pp. 135-141.

## Other Science Related Publications:

2015

Chu, M.G., Yu, F.Q., Falk, K.C., Gossen, B.D., Parkin, I.A.P., Zhou, R., Vail, S.L., and Peng, G. (2015). "Using a genome-wide SNP array to facilitate the introgression of clubroot resistance from diploid *Brassica rapa* into amphidiploid *B. napus* canola.", International Rapeseed Congress, Saskatoon, Canada, July 2015.

McDonald, M.R., Deora, A.D., Al-Daoud, F., and Gossen, B.D. (2015). "Why is clubroot a problem on canola in Alberta but not in Ontario, Canada?", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. (Abstract)

Robson, J., Gossen, B.D., and McDonald, M.R. (2015). "Metam-sodium and chloropicrin soil treatments reduce resting spore populations of *Plasmodiophora brassicae*, 2014.", *Canadian Journal of Plant Pathology*, 37. (Abstract)

Huang, Z., Chu, M.G., Falk, K.C., Gossen, B.D., Parkin, I.A.P., Peng, G., and Yu, F.Q. (2015). "Resynthesizing Brassica amphidiploids for resistance to clubroot.", International Rapeseed Congress, Saskatoon, Canada, July 2015.

Henriquez, M.A., McLaren, D.L., Conner, R.L., Balasubramanian, P.M., Chang, K.F., Hwang, S.F., Strelkov, S.E., Gossen, B.D., and Penner, W.C. (2015). "Soybean root rot and phytophthora rot in Manitoba, Canada.", *Canadian Journal of Plant Pathology*, 37, pp. 247. (Abstract)

Gossen, B.D., Cranmer, T., Robson, J., Deora, A.D., Al-Daoud, F., Hwang, S.F., Peng, G., and McDonald, M.R. (2015). "Vertical distribution of resting spores complicates clubroot management using fumigants.", International Rapeseed Congress, Saskatoon, Canada, July 2015.

Dalton, J., Gossen, B.D., Al-Daoud, F., Pageau, D., and McDonald, M.R. (2015). "Decline in the concentration of resting spores of *Plasmodiophora brassicae* following a susceptible crop.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015.

Cranmer, T., Gossen, B.D., and McDonald, M.R. (2015). "Environmental parameters influencing clubroot incidence and severity on canola.", *Canadian Journal of Plant Pathology*, 37, pp. 254. (Abstract)

McDonald, M.R., Tesfaendrias, M.T., Tayviah, C.S., Abd-Elmagid, A., Vander Kooi, K., and Gossen, B.D. (2015). "Management of stemphylium leaf blight, a new disease of onions in Ontario, Canada.", International Symposium on the Edible Alliaceae., Nigde, Turkey, May 21-25, 2015.

Chang, K.F., Hwang, S.F., Ahmed, H.U., Zhou, Q-X., Strelkov, S.E., Conner, R.L., McLaren, D.L., Gossen, B.D., and Turnbull, G.D. (2015). "Evaluation of soybean cultivars against root rot caused by *Fusarium avenaceum* and *Rhizoctonia solani* under low and high salinity.", *Phytopathology*. (Abstract)

Al-Daoud, F., Deora, A.D., Gossen, B.D., and McDonald, M.R. (2015). "Utilizing propidium monoazide (PMA) to differentiate viable and non-viable *Plasmodiophora brassicae* resting spores.", International Rapeseed Congress, Saskatoon, Canada, July 2015.

Dalton, J., Gossen, B.D., and McDonald, M.R. (2015). "Effect of inoculum concentration on growth of clubroot-resistant canola and Napa cabbage.", *Canadian Journal of Plant Pathology*. (Abstract)

Gossen, B.D. (2015). "Fungicide usage is increasing: Don't forget to rotate fungicides.", *Soils and Crops Workshop*, Saskatoon, SK, Canada, March 17, 2015. (Presentation)

Dalton, J., Gossen, B.D., Al-Daoud, F., Pageau, D., and McDonald, M.R. (2015). "Decline in the concentration of resting spores of *Plasmodiophora brassicae* following a susceptible crop.", Botany 2015, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015.

McDonald, M.R., Cranmer, T., Gludovacz, T.V., and Gossen, B.D. (2015). "The importance of the low temperature threshold for clubroot development on canola.", International Rapeseed Congress, Saskatoon, Canada, July 2015.

Tayviah, C.S., Gossen, B.D., and McDonald, M.R. (2015). "Susceptibility of onion cultivars to stemphylium leaf blight. Poster at the Food for Health Research Forum.", OMAFRA-University of Guelph, The MSc student received the Best Student Poster Award, Guelph, ON, Canada, April 9, 2015. (Presentation)

Esmaeili Taheri, A., Chatterton, S., Foroud, N.A., Gossen, B.D., and McLaren, D.L. (2015). "Identity and host specificity of root rot pathogens colonizing standing pea stubble from the Canadian Prairies.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015.

Gossen, B.D. (2015). "Disease resistance: One gene is not enough.", Invited presentation (8 0.5-hr repetitions of the session over 2 days) at AB CANOLAB, Event sponsored by the Canola Council of Canada, Olds, AB, Canada, February 19-20, 2015. (Presentation)

Gossen, B.D. (2015). "Disease resistance: One gene is not enough.", Invited presentation (8 0.5-hr repetitions of the session over 2 days) at SK CANOLAB, Event sponsored by the Canola Council of Canada, Saskatoon, SK, Canada, February 10-11, 2015. (Presentation)

Zhang, Y., Chu, M.G., Falk, K.C., Vail, S.L., Gossen, B.D., Parkin, I.A.P., Strelkov, S.E., Hwang, S.F., Peng, G., and Yu, F.Q. (2015). "Introgression of clubroot resistance gene Rcr1 from Brassica rapa into B. napus.", International Rapeseed Congress, Saskatoon, Canada, July 2015.

Yu, F.Q., Zhang, X.D., Huang, Z., Song, T., Chu, M.G., Falk, K.C., Gossen, B.D., Deora, A.D., McDonald, M.R., and Peng, G. (2015). "SNP markers for clubroot resistance gene CR01 based on RNA sequencing.", Canadian Journal of Plant Pathology, 37. (Abstract)

Taheri, A.E., Safarieskandari, S., Chatterton, S., Foroud, N.A., Gossen, B.D., and McLaren, D.L. (2015). "Pathogenic fungi associated with root rot of field pea on the Canadian prairies.", Canadian Journal of Plant Pathology, 37, pp. 249. (Abstract)

Gossen, B.D., Strelkov, S.E., Manolii, V.P., Cao, T., Hwang, S.F., Peng, G., and McDonald, M.R. (2015). "Spread of clubroot on canola in Canada, 2003–2014.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015, Also in Phytopathology xx:xxx xxx (in press).

Zhang, Y., Peng, G., Gossen, B.D., Vail, S.L., Strelkov, S.E., Hwang, S.F., and Yu, F.Q. (2015). "Developing near-isogenic Brassica napus lines for resistance to clubroot through introgression of resistance genes from B. rapa.", Canadian Journal of Plant Pathology, 37, pp. 251-252. (Abstract)

Dalton, J., Gossen, B.D., Al-Daoud, F., Pageau, D., and McDonald, M.R. (2015). "Decline in resting spores of Plasmodiophora brassicae with cropping interval.", Ontario Pest Management Conference 2015, Presentation.

## 2014

Yu, F.Q., Zhang, X., Huang, Z., Song, T., Chu, M.G., Falk, K.C., Gossen, B.D., Deora, A.D., McDonald, M.R., and Peng, G. (2014). "SNP markers for clubroot resistance gene Rcr1 based on RNA sequencing.", 35th Annual PPSA Meeting, Canmore, Alberta, Canada, October, 2014.

Deora, A.D., Gossen, B.D., Amirsadeghi, S., and McDonald, M.R. (2014). "A TaqMan multiplexed qPCR assay for quantification of Plasmodiophora brassicae in soil.", Phytopathology, 104(Supl. 3), pp. S3.31- S3.32. (Abstract)

Deora, A.D., Gossen, B.D., Dalton, J., and McDonald, M.R. (2014). "Efficacy of saponins against on clubroot (Plasmodiophora brassicae) in canola and Shanghai pak choy.", Phytopathology, 104(Supl. 3), pp. S3.32. (Abstract)

Cranmer, T., Gossen, B.D., Deora, A.D., and McDonald, M.R. (2014). "Vertical profile of Plasmodiophora brassicae resting spores in mineral and muck soils.", Phytopathology, 104(Supl 3), pp. S3.29. (Abstract)

Cranmer, T., Gossen, B.D., and McDonald, M.R. (2014). "Reaction of Tillage Radish (Raphanus sativus var. longipinnatus) to clubroot.", Canadian Journal of Plant Pathology, 36, pp. 126. (Abstract)

McLaren, D.L., Henriquez, M.A., Conner, R.L., Balasubramanian, P.M., Chang, K.F., Hwang, S.F., Strelkov, S.E., and Gossen, B.D. (2014). "Fusarium species isolated from dry bean and field pea in Manitoba: Identification, pathogenicity and prognosis.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014. (Abstract)

Gossen, B.D. (2014). "Fungicide resistance in western Canadian field crop pathogens: Risks and solutions.", Canadian Journal of Plant Pathology. (Abstract)

Chatterton, S., Gossen, B.D., and McLaren, D.L. (2014). "Pathogen populations associated with root rot of field pea in western Canada.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014. (Abstract)

Zhang, Y., Peng, G., Gossen, B.D., Vail, S., Strelkov, S.E., Hwang, S.F., and Yu, F.Q. (2014). "Developing near-isogenic Brassica napus lines for resistance to clubroot through introgression of resistance genes from B. rapa.", CPS-Saskatchewan, Saskatoon, Saskatchewan, Canada, December, 2014.

Taheri, A.E., Safarieskandari, S., Chatterton, S., Foroud, N.A., Gossen, B.D., and McLaren, D.L. (2014). "Pathogenic fungi associated with root rot of field pea on the Canadian prairies.", Canadian Phytopathological Society 2014 Meeting, Saskatoon, SK, Canada, December 11, 2014. (Abstract)

Gossen, B.D., Peng, G., Deora, A.D., and McDonald, M.R. (2014). "Clubroot resistance: Expression, durability, and metabolic cost.", Invited seminar, Department of Plant Agriculture, University of Guelph, Guelph, ON, Canada, March 5, 2014. (Presentation)

Hwang, S.F., Chang, K.F., Ahmed, H.U., Zhou, Q., Strelkov, S.E., Conner, R.L., McLaren, D.L., Gossen, B.D., and Turnbull, G.D. (2014). "First report of Fusarium proliferatum causing root rot disease in soybean (Glycine max) in Canada.", The Western Producer, 104(Supl. 3), pp. S3.53. (Abstract)

Hwang, S.F., Strelkov, S.E., Gossen, B.D., and Peng, G. (2014). "New strategies for clubroot management in western Canada.", 11th Conf. Eur. Fed. Plant Pathol., Cracow, Poland, September 12, 2014.

Zhang, X., Huang, Z., Song, T., Chu, M.G., Falk, K.C., Gossen, B.D., Deora, A.D., McDonald, M.R., Peng, G., and Yu, F.Q. (2014). "Discovery of SNP markers tightly linked to clubroot resistance gene Rpb1 through RNA-seq.", 11th Conference of the European Foundation for Plant Pathology, Cracow, Poland, September 8-13, 2014, Clubroot workshop.

Chatterton, S., Foroud, N.A., Gossen, B.D., and McLaren, D.L. (2014). "Pathogen populations associated with root rot of field pea in western Canada.", 6th International Food Legumes Research Conference, Saskatoon, SK, Canada, July 7-11, 2014. (Poster)

Gossen, B.D., Hwang, S.F., and McDonald, M.R. (2014). "Need for a soil fumigant for management of clubroot (*Plasmodiophora brassicae*) on canola in Canada.", *Acta Horticulturae* (ISHS). (Abstract)

Taheri, A.E., Chatterton, S., Foroud, N.A., Gossen, B.D., and McLaren, D.L. (2014). "Pathogenic fungal communities invading roots, crowns, and lower stems of field pea in Canadian prairies.", 35th Meeting of the Plant Pathology Society of Alberta, Canmore, AB, Canada, October 27-29, 2014. (Poster)

Henriquez, M.A., McLaren, D.L., Conner, R.L., Balasubramanian, P.M., Chang, K.F., Hwang, S.F., Strelkov, S.E., and Gossen, B.D. (2014). "Fusarium species from soybean in Manitoba.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014. (Abstract)

Fleury, D. and Gossen, B.D. (2014). "Fungicide resistance to FHB – a real concern?", published in *Top Crop Manager* (West), Bayer Special Edition (Jan. 2014, pp. 8-11). Article based in part on interview with Dr. Gossen. (Technology transfer)

Tesfaendias, M.T., Trueman, C.L., Gossen, B.D., McKeown, A.W., and McDonald, M.R. (2014). "The influence of nitrogen and calcium fertilizers on septoria late blight and yield of celery.", *Phytopathology*. (Abstract)

Song, T., Lahlali, R.L., Yu, F.Q., Gossen, B.D., and Peng, G. (2014). "Transcriptome analysis of the clubroot-resistant gene Rpb1 using high-throughput RNA sequencing.", *Canadian Journal of Plant Pathology*. (Abstract)

Gossen, B.D., Strelkov, S.E., and McDonald, M.R. (2014). "Mechanisms of spread of clubroot of canola on the Canadian prairies.", *Canadian Journal of Plant Pathology*, 36, pp. 127-128. (Abstract)

Gossen, B.D., Sharma, K., Deora, A.D., and McDonald, M.R. (2014). "Longevity and ploidy of secondary zoospores of *Plasmodiophora brassicae*.", *Canadian Journal of Plant Pathology*, 36, pp. 127. (Abstract)

Gossen, B.D., Hwang, S.F., and McDonald, M.R. (2014). "Potential for metam sodium to eradicate *Plasmodiophora brassicae* in field soils.", *Phytopathology*, 104(Supl. 3), pp. S3.77. (Abstract)

Henriquez, M.A., McLaren, D.L., Conner, R.L., Balasubramanian, P.M., Chang, K.F., Hwang, S.F., and Gossen, B.D. (2014). "Soybean root rot and *Phytophthora* rot in Manitoba, Canada.", CPS Regional Meeting, Morden, MB, Canada, December 4, 2014. (Abstract)

## 2013

Deora, A.D., Gossen, B.D., and McDonald, M.R. (2013). "Expression of resistance to *Plasmodiophora brassicae* in four resistant canola cultivars.", *Canadian Journal of Plant Pathology*, 35, pp. 106. (Abstract)

Peng, G., Gossen, B.D., Strelkov, S.E., Hwang, S.F., and McDonald, M.R. (2013). "Clubroot", published by Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC), #4065141. (Factsheet)

Lahlali, R.L., Peng, G., McGregor, L., McDonald, M.R., Gossen, B.D., Hwang, S.F., Hynes, R.K., Boyetchko, S.M., and Geissler, H.J. (2013). "Induced host defense responses are involved in suppressing clubroot on canola with *Bacillus subtilis*, *Clonostachys rosea* and *Heteroconium chaetospora*.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: *Canadian Journal of Plant Pathology*, 35(1), pp. 117. (Abstract)

Peng, G., Pageau, D., Strelkov, S.E., Lahlali, R.L., Gossen, B.D., Anderson, K., Hwang, S.F., McDonald, M.R., Yu, F.Q., Falk, K.C., Turkington, T.K., Hynes, R.K., Boyetchko, S.M., and McGregor, L. (2013). "Management of clubroot disease on canola with crop rotation combined with host resistance or biofungicide seed dressing.", *Canadian Journal of Plant Pathology*, 35, pp. 519. (Abstract)

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2013). "Assessment of crop rotation, resistance and *Bacillus subtilis* for management of clubroot on canola.", *Canadian Journal of Plant Pathology*, 35, pp. 112. (Abstract)

Li, W.J., Feng, J.-W., Chang, K.F., Conner, R.L., Hwang, S.F., Strelkov, S.E., Gossen, B.D., and McLaren, D.L. (2013). "Microsatellite DNA markers indicate quantitative trait loci controlling resistance to pea root rot caused by *Fusarium avenaceum*.", *Canadian Journal of Plant Pathology*, 35, pp. 107. (Abstract)

- Peng, G., Lahlali, R.L., Hwang, S.F., Pageau, D., Hynes, R.K., McDonald, M.R., Gossen, B.D., and Strelkov, S.E. (2013). "Integrated management of clubroot on canola with crop rotation, cultivar resistance, and fungicides/biofungicides", International Clubroot Workshop, Edmonton, AB, Canada, June 2013, Oral presentation, pp. 7. (Workshop)
- Deora, A.D., Gossen, B.D., and McDonald, M.R. (2013). "Changes in canola root anatomy following infection by *Plasmiodiophora brassicae*.", Canadian Journal of Plant Pathology, 35, pp. 106-107. (Abstract)
- Deora, A.D., Gossen, B.D., and McDonald, M.R. (2013). "Pathotype reaction in clubroot-resistant canola cultivars in Canada.", 10th International Congress of Plant Pathology, Beijing International Convention Center, Beijing, China, August 25-30, 2013.
- Deora, A.D., Gossen, B.D., and McDonald, M.R. (2013). "Effect of host resistance on infection by *Plasmiodiophora brassicae* in canola.", Canadian Journal of Plant Pathology, 34(2), pp. 329-330. (Abstract)
- Hwang, S.F., Howard, R.J., Strelkov, S.E., Gossen, B.D., and Peng, G. (2013). "Management of clubroot on canola in western Canada.", International Clubroot Workshop, Edmonton, AB, Canada, June 2013, Oral presentation, pp. 7. (Workshop)
- Gludovacz, T.V., Gossen, B.D., and McDonald, M.R. (2013). "Effect of fluctuating temperature on the development of *Plasmiodiophora brassicae*.", Canadian Journal of Plant Pathology, 35(1), pp. 111. (Abstract)
- Gludovacz, T.V., Gossen, B.D., and McDonald, M.R. (2013). "Evidence for tolerance to *Plasmiodiophora brassicae* in a cabbage cultivar.", Canadian Journal of Plant Pathology, 35(1), pp. 111. (Abstract)
- Gossen, B.D., Kasinathan, H., Strelkov, S.E., Manlivi, V.P., Hwang, S.F., Peng, G., Cao, T., and McDonald, M.R. (2013). "Risk potential of clubroot on the Canadian prairies, based on soil type and pH.", Canadian Journal of Plant Pathology, 35(1), pp. 112. (Abstract)
- Peng, G., Lahlali, R.L., Hynes, R.K., Boyetchko, S.M., Gossen, B.D., Hwang, S.F., Pageau, D., McDonald, M.R., and Strelkov, S.E. (2013). "*Plasmiodiophora brassicae* Woronin, Clubroot of Crucifers (*Plasmiodiophoraceae*).", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, Wallingford, UK, Chapter 65.
- Sharma, K., Gossen, B.D., Gludovacz, T.V., Deora, A.D., and McDonald, M.R. (2013). "Effect of *Plasmiodiophora brassicae* (clubroot) on shoot and root weight in Brassica crops.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: Can. J. Plant Pathol. (2013), 35(1), pp. 124.
- Peng, G., Yu, F.Q., and Gossen, B.D. (2013). "Clubroot on canola - Disease development & Management", Seminar at Zhejiang University, Hangzhou, China, April 1, 2013. (Presentation)
- Gossen, B.D. (2013). "Clubroot: Managing Risk. Invited Presentation At The Crops Farm Update 2013.", Crops Farm Update 2013, Weyburn, SK, Canada, March 12, 2013, Invited presentation.
- Bassendowski, K.A. and Gossen, B.D. (2013). Impact of soil temperature on efficacy of fungicide seed treatments against root rot of canola and lentil under controlled conditions, 2013. Final Report to Bayer Crop Science for contract laboratory studies on pulses and canola in 2013. 4 pp. (Report)
- Gossen, B.D. and McDonald, M.R. (2013). "Future plans for environment and clubroot risk", Planning Meeting, Clubroot in GF2, Edmonton, Canada, December 6, 2013. (Presentation)
- Gossen, B.D., Deora, A.D., Peng, G., and McDonald, M.R. (2013). "Update on environment and clubroot risk", Planning Meeting, Clubroot in GF2, Edmonton, Canada, December 5, 2013. (Presentation)
- Bassendowski, K.A., Lafond, G.P., May, W.E., Holzappel, C.B., and Gossen, B.D. (2013). "Frequent cropping to field pea increases the severity of root and foliar diseases.", Canadian Journal of Plant Pathology, 35, pp. 518. (Abstract)
- Hwang, S.F., Strelkov, S.E., Howard, R.J., Gossen, B.D., and Peng, G. (2013). "Management of clubroot on canola in western Canada.", Planning Meeting, Clubroot in GF2, Edmonton, Canada, December 5, 2013. (Presentation)
- Bassendowski, K.A. and Gossen, B.D. (2013). Efficacy of biocontrol seed treatments on root rot on canola and pulses in Saskatchewan, 2013. Final Report to Bayer Crop Science for contract field studies on pulses and canola in 2013. 7 pp. (Report)
- McDonald, M.R., Sharma, K., Gossen, B.D., Feng, J., Deora, A.D., and Hwang, S.F. (2013). "Reaction of canola to inoculation with primary and secondary zoospores of *Plasmiodiophora brassicae*.", International Clubroot Workshop, Edmonton, AB, Canada, June 2013, Also International Congress of Plant Pathology, Beijing, China, August 2013. Also in: Can. J. Plant Pathol. 36: xxx-xxx (in press).
- Bassendowski, K.A. and Gossen, B.D. (2013). Efficacy of penthiopyrad and picoxystrobin fungicides on foliar diseases of lentil in Saskatchewan, 2013. Final Report to DuPont for contract field studies on lentil in 2013. 3 pp. (Report)
- Hwang, S.F., Ahmed, H.U., Zhou, Q-X., Strelkov, S.E., Gossen, B.D., Peng, G., and Turnbull, G.D. (2013). "Efficacy of Vapam to control clubroot (*Plasmiodiophora brassicae*) in canola.", International Congress of Plant Pathology, Beijing, China, August 25 - 28, 2013.

Peng, G., Hynes, R.K., Hwang, S.F., and Gossen, B.D. (2013). Synergy of biofungicides with cultivar resistance for control of clubroot on canola. Final report on ADF Project 20090359. 59 pp. (Report)

Bassendowski, K.A. and Gossen, B.D. (2013). Efficacy of penthiopyrad and picoxystrobin fungicides on foliar diseases of lentil in Saskatchewan, 2013. Final Report to DuPont for contract field studies on lentil in 2013. 3 pp. (Report)

Peng, G. and Gossen, B.D. (2013). "Clubroot - A threat to canola production in western Canada.", AAFC – STB booth at the Crop Production Show, Saskatoon, SK, Canada, January 7-11, 2013. (Presentation)

Gludovacz, T.V., Gossen, B.D., and McDonald, M.R. (2013). "Potential for degree day modeling of clubroot on canola.", International Clubroot Workshop, Edmonton, AB, Canada, June 2013.

Gludovacz, T.V., Gossen, B.D., and McDonald, M.R. (2013). "Limitations of qPCR to quantify gDNA of *Plasmodiophora brassicae* in young seedlings.", International Clubroot Workshop, Edmonton, AB, Canada, June 2013.

Gossen, B.D., Deora, A.D., Peng, G., and McDonald, M.R. (2013). "Environmental parameters that affect clubroot risk on the Canadian prairies.", International Clubroot Workshop, Edmonton, AB, Canada, June 2013, Oral presentations, pp. 8.

Gossen, B.D., McDonald, M.R., Sharma, K., Deora, A.D., and Peng, G. (2013). "Cost of resistance to *Plasmodiophora brassicae* when inoculum pressure is high.", International Clubroot Workshop, Edmonton, AB, Canada, June 2013, also International Congress of Plant Pathology, Beijing, China. August 2013. Also, *Can. J. Plant Pathol.* 36: xxx-xxx (in press), pp. 3.

Feng, J., Chang, K.F., Hwang, S.F., Strelkov, S.E., Conner, R.L., Gossen, B.D., and McLaren, D.L. (2013). "Analysis of expressed sequence tags derived from a compatible pea-*Peronospora viciae* interaction.", *Canadian Journal of Plant Pathology*, 35, pp. 109. (Abstract)

Gossen, B.D., Strelkov, S.E., and McDonald, M.R. (2013). "Rapid spread of clubroot (*Plasmodiophora brassicae*) of canola on the Canadian prairies.", 10th International Epidemiology Workshop, Beijing, China, August, 2013. (Workshop)

## 2012

Gossen, B.D., Kasinathan, H., McDonald, M.R., and Peng, G. (2012). "Effect of soil type and compaction on severity of clubroot (*Plasmodiophora brassicae*).", *Phytopathology*, 102(Suppl. No.4), pp. 46. (Abstract)

Hwang, S.F., Strelkov, S.E., Gossen, B.D., Peng, G., and Howard, R.J. (2012). "Progress in canola clubroot management in Alberta, Canada.", CRMI Planning Meeting, Edmonton, AB, Canada, December 6, 2012. (Presentation)

Gossen, B.D., Peng, G., and McDonald, M.R. (2012). "Biology/Pathology, CRMI.", SARM representatives and SK Agriculture and Food agronomy specialists, Moose Jaw, SK, Canada, April 2012. (Presentation)

Chang, K.F., Conner, R.L., Hwang, S.F., Gossen, B.D., McLaren, D.L., and Turnbull, G.D. (2012). "Methods of inoculating pea plants with *Peronospora viciae* f. sp. *pisii*.", *Canadian Phytopathological Society (CPS) 82nd Annual Meeting (with Plant Canada 2011)*, Halifax, NS, Canada, July 17-21, 2011, Published in: *Can. J. Plant Pathol.* (2011), 34(2), pp.328.

Lahlali, R.L., Peng, G., McGregor, L., Geissler, H.J., McDonald, M.R., Gossen, B.D., and Hwang, S.F. (2012). "Suppression of clubroot by *Heteroconium chaetospora* may be mediated by modulation of jasmonic acid pathway signalling.", *Canadian Phytopathological Society (CPS-SK) Saskatchewan Regional 2011 Meeting*, Saskatoon, SK, Canada, December 6, 2011, Published in: *Canadian Journal of Plant Pathology*, 34(2), pp.320 (Abstract).

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2012). "Assessment of crop rotation, resistance and *Bacillus subtilis* for management of clubroot on canola.", *Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24 -27, 2012*, Published in: *Can. J. Plant Pathol.* (2013) 35(1), pp. 112.

Kutcher, H.R., Eynck, C., Gossen, B.D., Turkington, T.K., Brandt, S.A., and Xi, K. (2012). "Disease implications of canola-intensive crop rotations.", in Beckie, H.J. and Hall, L.M. (eds.) - *Topics in Canadian Weed Science. Vol. 9. New Crops and Crops with Second-Generation Traits*, Canadian Weed Science Society – Société canadienne de malherbologie, Pinawa, MB, pp. 49-66.

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2012). "Crop rotation, cultivar resistance, and biofungicide seed dressing for clubroot control on canola.", 6th International Symposium on Brassica and 18th Crucifer Genetics Workshop, Catania, Sicily, Italy, November 12-16, 2012.

Deora, A.D., Gossen, B.D., and McDonald, C.L. (2012). "Changes in ROS and lignin associated with progression of *Plasmodiophora brassicae* (clubroot) from cortical to stele cells of canola (*Brassica napus* L.).", *Phytopathology*, 102(Suppl.No.4), pp. 29. (Abstract)

Gossen, B.D., Sharma, K., Adhikari, K.K.C., and McDonald, M.R. (2012). "Wisconsin Fast Plants as model crops for studies of clubroot.", *Canadian Journal of Plant Pathology*, 34(3), pp. 464-465. (Abstract)

Gossen, B.D., Kasinathan, H., Peng, G., and McDonald, M.R. (2012). "Effect of soil type on assessment of biofungicide efficacy against clubroot under controlled conditions.", *Canadian Journal of Plant Pathology*, 34(3), pp. 464. (Abstract)

Bassendowski, K.A. and Gossen, B.D. (2012). "Ascochyta blight on chickpea in Saskatchewan, 2011.", *Canadian Plant Disease Survey*, 92, pp. 133.

Peng, G., Lahlali, R.L., Pageau, D., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2012). "Assessment of crop rotation and host resistance in combination with *Bacillus subtilis* for management of clubroot on canola.", *Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012*, Published in: *Canadian Journal of Plant Pathology*, 35(1), pp. 122.

McDonald, M.R., Riches, L., and Gossen, B.D. (2012). "Evaluation of Fungicides on Carrots Inoculated with *Sclerotinia Sclerotiorum* for *Sclerotinia* Rot of Carrot Disease Control, 2010-2011.", *Muck Vegetable Cultivar Trial and Research Report*, 61, pp. 30-31.

Hwang, S.F., Cao, T., Xiao, Q., Ahmed, H.U., Manolii, V.P., Turnbull, G.D., Strelkov, S.E., Gossen, B.D., and Peng, G. (2012). "Efficacy of fungicide, seeding date, and seedling age on seedling emergence, clubroot severity, and yield of canola.", *Canadian Journal of Plant Pathology*, 34, pp. 335-336. (Abstract)

McDonald, M.R., Sharma, K., Nieuwelaar, A.V., and Gossen, B.D. (2012). "A comparison of clubroot resistance in Brassica vegetable crops.", *American Phytopathological Society (APS) 2012 Annual Meeting, Westin Providence, Providence, RI, USA, August 4-8, 2012*, Published in: *Phytopathology*, 102(Suppl. No.4), pp. 78, 271-P. (Poster)

Ahmed, H.U., Hwang, S.F., Turnbull, G.D., Zhou, Q-X., Strelkov, S.E., and Gossen, B.D. (2012). "Crop residues influence *Rhizoctonia solani* population dynamics and reduce canola seedling blight.", *Canadian Journal of Plant Pathology*, 34, pp. 463. (Abstract)

Kasinathan, H., Gossen, B.D., and McDonald, M.R. (2012). "Evaluation of fungicides for control of sclerotinia drop on inoculated lettuce, 2011.", *Muck Vegetable Cultivar Trial and Research Report*, 61, pp. 118-119.

Gossen, B.D. (2012). "Diagnostic Workshop: Clubroot Biology And Management.", *4th Joint Saskatchewan -Alberta Plant Pathology Conference: Plant Disease Diagnostic Workshop, Lloydminster, SK, Canada, November 5-7, 2012*, Invited Presentation.

Gossen, B.D. and McDonald, M.R. (2012). "Biology Pillar, CRMI.", *Clubroot Summit 2012, Edmonton, AB, Canada, March 6, 2012*, Invited Presentation.

Gossen, B.D., Sharma, K., and McDonald, M.R. (2012). "Crop(S) and Differentials.", *Clubroot Summit 2012, Edmonton, AB, Canada, March 6, 2012*, Model Invited Presentation.

Sharma, K., Gossen, B.D., and McDonald, M.R. (2012). "Effect of temperature on cortical infection and disease severity by *Plasmodiophora brassicae* on Shanghai pak choy.", *Canadian Journal of Plant Pathology*, 34, pp. 344. (Abstract)

McDonald, M.R., Gossen, B.D., Kora, C., Parker, M., and Boland, G.J. (2012). "Advances in control methods based on canopy modifications to manage plant diseases.", *Plant and Canopy Architecture Impact on Disease Epidemiology and Pest Development Conference, Rennes, France, July 1-5, 2012*, pp. 68.

Kasinathan, H., Gossen, B.D., Peng, G., and McDonald, M.R. (2012). "Efficacy of Serenade and Prestop against clubroot is affected by soil type.", *Canadian Journal of Plant Pathology*, 34, pp. 336-337. (Abstract)

Feng, J., Li, W., Hwang, S.F., Gossen, B.D., and Strelkov, S.E. (2012). "Enhanced gene replacement frequency in KU70 disruption strain of *Stagonospora nodorum*.", *Canadian Journal of Plant Pathology*, 34, pp. 332. (Abstract)

Kasinathan, H., Gossen, B.D., and McDonald, M.R. (2012). "Evaluation of biofungicides and fungicides on incidence and clubroot symptom development in canola run 1, 2011.", *Muck Vegetable Cultivar Trial and Research Report*, 61, pp. 114-115.

Bowness, R.T., Gossen, B.D., Conner, R.L., Wolf, T.M., Chang, K.F., Willenborg, C.J., and Strelkov, S.E. (2012). "Effect of nozzle type and orientation on fungicide efficacy against *mycosphaerella* blight in field pea.", *Canadian Journal of Plant Pathology*, 34, pp. 326-327. (Abstract)

Gossen, B.D. and McDonald, M.R. (2012). "Clubroot Development and Management: Canola vs Vegetables.", *CRMI Planning Meeting, Edmonton, AB, Canada, December 6, 2012*, Invited Presentation.

McDonald, M.R. and Gossen, B.D. (2012). "Clubroot of Brassica Vegetables and Canola.", *CRMI Planning Meeting, Edmonton, AB, Canada, December 6, 2012*, Invited Presentation.

Gossen, B.D., McDonald, M.R., Adhikari, K.K.C., Kasinathan, H., Sharma, K., Hwang, S.F., Gludovacz, T.V., and Peng, G. (2012). "Impact of soil temperature and pH, and plant growth stage on clubroot of canola. Final Report, ADF Project# 20080153. February 24, 2012. 72 pp. (Report)

Bassendowski, K.A., Soroka, J.J., and Gossen, B.D. (2012). "Foliar disease severity on alfalfa in Saskatchewan, 2012.", *Canadian Plant Disease Survey*, 93, pp. 142.



- Bassendowski, K.A. and Gossen, B.D. (2012). "Ascochyta blight on chickpea in Saskatchewan, 2012.", Canadian Plant Disease Survey, 93, pp. 160.
- Conner, R.L., Chang, K.F., Hwang, S.F., McLaren, D.L., and Gossen, B.D. (2012). "Impact and control of fusarium root rot in faba bean.", Pulse Beat, 65, pp. 26-27.
- Feng, J., Chang, K.F., Hwang, S.F., Strelkov, S.E., Conner, R.L., Gossen, B.D., and McLaren, D.L. (2012). "Identification of genes from the pea-downy mildew pathosystem.", 9th Canadian Pulse Research Workshop, Niagara FallsMarriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, pp. 36.
- Bowness, R.T., Chang, K.F., Gossen, B.D., Goswami, R.S., Hwang, S.F., Willenborg, C.J., and Strelkov, S.E. (2012). "Insensitivity to pyraclostrobin fungicide in Mycosphaerella pinodes on the Northern Great Plains.", 9th Canadian Pulse Research Workshop, Niagara FallsMarriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012.
- Chang, K.F., Hwang, S.F., Ahmed, H.U., Fu, H., Gossen, B.D., and Turnbull, G.D. (2012). "Prevalence of pathogens associated with the mycosphaerella blight complex of field pea in Alberta.", 9th Canadian Pulse Research Workshop, Niagara FallsMarriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, pp. 53.
- Deora, A.D., Gossen, B.D., and McDonald, M.R. (2012). "Effect of host resistance on infection by Plasmodiophora brassicae in canola.", Canadian Journal of Plant Pathology, 34, pp. 329-330. (Abstract)
- Peng, G., Lahlali, R.L., Hwang, S.F., Pageau, D., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Boyetchko, S.M., and Strelkov, S.E. (2012). "Fungicides/biofungicides, cultivar resistance, crop rotation for control of clubroot on canola.", Clubroot Summit 2012, Edmonton, AB, Canada, March 6, 2012, Invited presentation.
- McDonald, M.R., Riches, L., and Gossen, B.D. (2012). "Comparison of carrot cultivars inoculated with Sclerotinia sclerotiorum for resistance to sclerotinia rot of carrot, 2010-2011.", MuckVegetable Cultivar Trial and Research Report, 61, pp. 36-37.
- Sharma, K., Gossen, B.D., and McDonald, M.R. (2012). "Evaluation of inducers of host resistance for the control of clubroot on canola and napa cabbage, 2011.", MuckVegetable Cultivar Trial and Research Report, 61, pp. 109-110.
- Gludovacz, T.V., Gossen, B.D., and McDonald, M.R. (2012). "Degree day calibration of clubroot disease severity and incidence on canola, 2011.", MuckVegetable Cultivar Trial and Research Report, 61, pp. 106-107.
- Deora, A.D., Gossen, B.D., Riches, L., and McDonald, M.R. (2012). "Comparison of canola species and cultivars for susceptibility to Plasmodiophora brassicae pathotype 6, 2011.", MuckVegetable Cultivar Trial and Research Report, 61, pp. 104-105.
- Lahlali, R.L., Peng, G., McGregor, L., Yu, F.Q., Zhang, W., Parkin, I.A.P., McDonald, M.R., and Gossen, B.D. (2012). "Transcriptomic analysis of canola responses to endophytic fungus Heteroconium chaetospora B1HB2, a biocontrol agent against clubroot.", Joint Meeting of CPS Saskatchewan Group and Plant Pathological Society of Alberta, Canada, November, 2012. (Poster)
- Kasinathan, H., Gossen, B.D., and McDonald, M.R. (2012). "Efficacy of biofungicides and fungicides for the reduction of clubroot incidence and severity in napa cabbage, 2011.", MuckVegetable Cultivar Trial and Research Report, 61, pp. 54-55.
- Kasinathan, H. and Gossen, B.D. (2012). "Interaction of Temperature and Ph on Clubroot Intensity in Canola under Controlled Environment Conditions, 2010.", MuckVegetable Cultivar Trial and Research Report, 60, pp. 100-104.
- Gludovacz, T.V., Gossen, B.D., and McDonald, M.R. (2012). "Comparison of cabbage cultivars for resistance and susceptibility to clubroot, 2011.", MuckVegetable Cultivar Trial and Research Report, 61, pp. 50-51.
- Sharma, K., Gossen, B.D., and McDonald, M.R. (2012). "Determine the relationship between root and shoot weight of canola infected with the club root pathogen, Plasmodiophora brassicae, in comparison to other brassica species, 2011.", MuckVegetable Cultivar Trial and Research Report, 61, pp. 47-48.
- Sharma, K., Gossen, B.D., and McDonald, M.R. (2012). "Reaction of lines of Arabidopsis and the Rapid Cycling Brassica Crops Collection to Canadian pathotypes of Plasmodiophora brassicae.", American Phytopathological Society (APS) 2012 Annual Meeting, Westin Providence, Providence, RI, USA, August 4-8, 2012, Published in: Phytopathology 102 (Suppl. 4), pp. 108.
- McDonald, M.R., Riches, L., Gossen, B.D., and Strelkov, S.E. (2012). "Potential for seed transmission of Plasmodiophora brassicae inoculum on canola seeds, second year phase 2011.", MuckVegetable Cultivar Trial and Research Report, 61, pp. 112-113.
- Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., and McGregor, L. (2012). "Control of clubroot on canola with crop rotation in combination with biofungicide seed dressing and varietal resistance.", Joint Meeting of CPS Saskatchewan Group and Plant Pathological Society of Alberta, Canada, November, 2012, (Presentation).
- Strelkov, S.E., Hwang, S.F., Howard, R.J., Rahman, H., Kutcher, H.R., Turkington, T.K., Gossen, B.D., Peng, G., McLaren, D.L., LeBoldus, J.M., Feng, J., Cao, T., and Mandlii, V.P. (2012). "Clubroot Risk Mitigation Initiative: Pathology Pillar.", Clubroot Summit 2012, Edmonton, AB, Canada, March 6, 2012, Invited presentation.

Kalpana, K.C., Westerveld, S.M., Gossen, B.D., and McDonald, M.R. (2011). "Ranman (cyazofamid) fungicide has potential for management of clubroot disease in Brassica crops.", *Canadian Journal of Plant Pathology*, 32, pp. 408. (Abstract)

Gossen, B.D., McDonald, M.R., Hwang, S.F., Chang, K.F., and Thafer, N.H. (2011). Fungicide resistance in populations of *Ascochyta rabiei* in Saskatchewan. Final Report, ADF Project # 20070121. February 28, 2011. 55 pp. (Report)

Sharma, K., Gossen, B.D., and McDonald, M.R. (2011). "Quantification of cortical infection by *Plasmiodiophora brassicae* using Assess image analysis software.", Canadian Phytopathological Society (CPS) 82nd Annual Meeting (with Plant Canada 2011), Halifax, NS, Canada, July 17-21, 2011, Published in: *Can. J. Plant Pathol.* (2012), 34 (2), pp. 344-345.

Peng, G., Lahlali, R.L., Hwang, S.F., Hynes, R.K., McDonald, M.R., Pageau, D., Gossen, B.D., Strelkov, S.E., and McGregor, L. (2011). "Control of clubroot on canola using the biofungicide Serenade plus cultivar resistance.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, pp. 1134-1137.

Peng, G., Hynes, R.K., Hwang, S.F., Pageau, D., McDonald, M.R., Gossen, B.D., and Boyetchko, S.M. (2011). "Assessment of microbial biofungicides for control of clubroot on canola.", Clubroot Summit 2011, Saskatoon, SK, Canada, March 9, 2011.

Bassendowski, K.A. and Gossen, B.D. (2011). "Ascochyta blight on chickpea in Saskatchewan, 2009 and 2010.", *Canadian Plant Disease Survey*, 91, pp. 127.

Hwang, S.F., Ahmed, H.U., Strelkov, S.E., Turnbull, G.D., and Gossen, B.D. (2011). "Effect of seedling age and inoculum density on clubroot severity and seed yield of canola.", *Canadian Journal of Plant Pathology*, 32, pp. 407. (Abstract)

Chang, K.F., Hwang, S.F., Strelkov, S.E., Gossen, B.D., Turnbull, G.D., and Bing, D.-J. (2011). "Effect of seeding depth, seeding date and seed treatment on downy mildew of field pea in Alberta.", *Canadian Journal of Plant Science*, 91, pp. 389. (Abstract)

Lahlali, R.L., Peng, G., Gossen, B.D., Hynes, R.K., Boyetchko, S.M., Hwang, S.F., and McDonald, M.R. (2011). "Investigation on modes of action for the biofungicides Serenade and Prostop in clubroot control.", *Canadian Journal of Plant Pathology*, 33, pp. 573. (Abstract)

Kasinathan, H., Gossen, B.D., and McDonald, M.R. (2011). "The influence of temperature and pH on clubroot (*Plasmiodiophora brassicae*) symptom development in canola under controlled environment conditions.", *Canadian Journal of Plant Pathology*, 33, pp. 260. (Abstract)

Hwang, S.F., Strelkov, S.E., Gossen, B.D., Zhou, Q.-X., and Turnbull, G.D. (2011). "Effects of seed maturity, seed size and seeding depth on seedling blight of canola.", *Canadian Journal of Plant Pathology*, 33, pp. 281. (Abstract)

Feng, J., Chang, K.F., Hwang, S.F., Gossen, B.D., Conner, R.L., and McLaren, D.L. (2011). "Production of non-specific esterase by conidia of *Peronospora viciae* f.sp. *pisii*.", *Canadian Journal of Plant Pathology*, 33, pp. 259. (Abstract)

Bowness, R.T., Chang, K.F., Gossen, B.D., Goswami, R.S., Hwang, S.F., Willenborg, C.J., and Strelkov, S.E. (2011). "Baseline sensitivity of *Mycosphaerella pinodes* to pyraclostrobin fungicide.", *Canadian Journal of Plant Science*, 91, pp. 369. (Abstract)

Chang, K.F., Conner, R.L., Hwang, S.F., Gossen, B.D., McLaren, D.L., Strelkov, S.E., and Turnbull, G.D. (2011). "Occurrence, impact and management of root rot on faba bean in Alberta.", *Canadian Journal of Plant Pathology*, 33, pp. 272. (Abstract)

Chang, K.F., Hwang, S.F., Strelkov, S.E., Gossen, B.D., Turnbull, G.D., and Bing, D.-J. (2011). "Effect of downy mildew on growth and yield loss in field pea.", *Canadian Journal of Plant Pathology*, 33, pp. 258. (Abstract)

Peng, G., Falk, K.C., Yu, F.Q., and Gossen, B.D. (2011). "Identification of new clubroot-resistance sources and development of clubroot resistance canola germplasm.", Clubroot Summit 2011, Saskatoon, SK, Canada, March 9, 2011.

Peng, G., Yu, F.Q., Hynes, R.K., Pageau, D., McDonald, M.R., and Gossen, B.D. (2011). "Managing clubroot and blackleg on canola in western Canada - current status of research.", Anhui Academy of Agricultural Science Seminar, Anhui Academy of Agricultural Science, Hefei, China, November 14, 2011. (Presentation)

Delgado, J.A., Stoppler, T., Gossen, B.D., Chang, K.F., Dugan, F.M., Markell, S.G., and Goswami, R.S. (2011). "Sensitivity of *Ascochyta pinodes* populations to prothioconazole.", *Canadian Journal of Plant Science*, 91, pp. 388. (Abstract)

Thafer, N.H., Gossen, B.D., and McDonald, M.R. (2011). "Comparison of methods to assess the sensitivity of *Ascochyta rabiei* to strobilurin fungicides.", *Canadian Journal of Plant Pathology*, 33, pp. 293-294. (Abstract)

Kasinathan, H., Gossen, B.D., and McDonald, M.R. (2011). "The influence of temperature and pH on clubroot (*Plasmiodiophora brassicae*) symptom development in canola under controlled environment conditions.", 31st Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, October 12-14, 2010, Published in: Canadian Journal of Plant Pathology, 33(2), pp.260 (Abstract).

Kasinathan, H., McDonald, M.R., Gossen, B.D., and Westerveld, S.M. (2011). "Evaluation Of Biofungicides And Fungicides On Incidence And Clubroot Symptom Development In Canola Run 2, 2011.", Muck Vegetable Cultivar Trial and Research Report, 60, pp. 117-118.

Gossen, B.D. and Jurke, C. (2011). "Clubroot - What You Should Know.", Agri-Trends Farm Forum, Saskatoon, SK, Canada, December 1, 2011, Invited Presentation.

Gossen, B.D., Kasinathan, H., Adhikari, K.K.C., Hwang, S.F., and McDonald, M.R. (2011). "Impact of temperature and pH on symptom development of *Plasmiodiophora brassicae* in canola.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, pp. 1218-1221.

Gossen, B.D., Kasinathan, H., Adhikari, K.K.C., Hwang, S.F., and McDonald, M.R. (2011). "Impact of temperature and pH on symptom development of *Plasmiodiophora brassicae* in canola.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, pp. 497. (Abstract)

Hwang, S.F., Ahmed, H.U., Strelkov, S.E., Gossen, B.D., Peng, G., and Turnbull, G.D. (2011). "Clubroot development in resistant and susceptible canola cultivars affects soil populations of *Plasmiodiophora brassicae*.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, pp. 488. (Abstract)

Deora, A.D., Gossen, B.D., and McDonald, M.R. (2011). "Efficacy of boron formulations against primary infection of *Plasmiodiophora brassicae* in Shanghai pakchoy.", Canadian Journal of Plant Pathology, 33(2), pp. 258-259. (Abstract)

Sangster, S., McDonald, M.R., and Gossen, B.D. (2011). "Assessing the Disease Reaction of Brassica Line to *Plasmiodiophora brassicae* Pathotype 3, 2010.", Muck Vegetable Cultivar Trial and Research Report, 60, pp. 99.

Hwang, S.F., Ahmed, H.U., Zhou, Q-X., Strelkov, S.E., Gossen, B.D., Peng, G., and Turnbull, G.D. (2011). "Impact of clubroot resistance on root hair infection, disease severity, and growth of canola in soil inoculated with *Plasmiodiophora brassicae*.", American Phytopathological Society (APS) 2011 Joint Annual Meeting & International Association for the Plant Protection Sciences (IPPC), Honolulu, HI, USA, August 6-10, 2011, Published in: Phytopathology (2011), 101(6S), pp. S77.

Kutcher, H.R., Turkington, T.K., Gossen, B.D., Brandt, S.A., Dokken-Bouchard, F.L., and Strelkov, S.E. (2011). "Canola Disease and Fungicide Strategies Based on Crop Rotation.", Strategies for Successful Farming Meeting, Travelodge Hotel, Regina, SK, Canada, March 2, 2011, Invited Presentation and Report Abstract.

McDonald, M.R., Deora, A.D., Sharma, K., and Gossen, B.D. (2011). "Suppressive effects of boron application and temperature on the development of *Plasmiodiophora brassicae* in canola and pak choy.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, pp. 1122-1225.

McDonald, M.R., Saude, C., Gossen, B.D., McKeown, A.W., and Bakker, C. (2011). "Evaluation of host resistance for the management of clubroot (*Plasmiodiophora brassicae* Woronin) on cabbage.", 108th Annual Conference of the American Society for Horticultural Science (ASHS), Hilton, Waikoloa, HI, USA, September 25-28, 2011.

Deora, A.D., Gossen, B.D., and McDonald, M.R. (2011). "Evaluation of boron formulations for the control of clubroot in canola, 2010.", Muck Vegetable Cultivar Trial and Research Report, 60, pp. 105-109.

Peng, G., Hynes, R.K., Boyetchko, S.M., Gossen, B.D., and Pageau, D. (2011). "Biocontrol of canola.", Clubroot Summit 2011, Saskatoon, SK, Canada, March 9, 2011, Invited presentation.

Gossen, B.D., McDonald, M.R., Hwang, S.F., and Peng, G. (2011). "Pathology Pillar.", Clubroot Summit 2011, Saskatoon, SK, Canada, March 9, 2011.

Hwang, S.F., Strelkov, S.E., Gossen, B.D., Peng, G., and Howard, R.J. (2011). "Management of clubroot in canola.", Clubroot Summit 2011, Saskatoon, SK, Canada, March 9, 2011, Invited presentation.

Gossen, B.D., McDonald, M.R., Kalpana, K.C., Hwang, S.F., Strelkov, S.E., and Peng, G. (2011). "Impact of climate change on clubroot of canola on the Canadian prairies.", Canadian Journal of Plant Pathology, 33(2), pp. 277. (Abstract)

Hwang, S.F., Ahmed, H.U., Zhou, Q-X., Strelkov, S.E., Gossen, B.D., Peng, G., and Turnbull, G.D. (2011). "Ratio of resistant to sensitive canola plants affects resting spore populations of *Plasmiodiophora brassicae*.", 31st Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, October 12-14, 2010, Published in: Canadian Journal of Plant Pathology, 33(2), pp.260 (Abstract).

Kasinathan, H., Gossen, B.D., Peng, G., and McDonald, M.R. (2011). "Efficacy of Serenade and Prestop against clubroot in canola affected by soil type.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011, Published in: Canadian Journal of Plant Pathology, 34(2), pp. 336-337 (Abstract).

Hwang, S.F., Strelkov, S.E., Peng, G., and Gossen, B.D. (2011). "Novel strategies for the management of clubroot of canola in western Canada.", Cross-Strait Symposium on Biological Control of Crop Pests 2011, Taipei, Taiwan, October 20-21, 2011, pp. 22.

Lahlali, R.L., Peng, G., McGregor, L., Gossen, B.D., Hwang, S.F., and McDonald, M.R. (2011). "Investigation on modes of action for the biofungicides Serenade and Prestop in clubroot control.", Canadian Journal of Plant Pathology, 33(2), pp. 283-284. (Abstract)

Bowness, R.T., Chang, K.F., Gossen, B.D., Goswami, R.S., Hwang, S.F., Willenborg, C.J., and Strelkov, S.E. (2011). "Initial insensitivity response of *Mycosphaerella pinodes* isolates to pyraclostrobin fungicide.", 32nd Annual Meeting of the Plant Pathology Society of Alberta (PPSA), University of Alberta, Edmonton, AB, Canada, November 7-9, 2011, pp. 19.

Bowness, R.T., Gossen, B.D., Conner, R.L., Wolf, T.M., Chang, K.F., Willenborg, C.J., and Strelkov, S.E. (2011). "Effect of nozzle type and orientation on fungicide efficacy against *mycosphaerella* blight in field pea.", Canadian Phytopathological Society (CPS) 82nd Annual Meeting (with Plant Canada 2011), Halifax, NS, Canada, July 17-21, 2011, Published in: Can. J. Plant Pathol. (2012), 34 (2), pp. 326-327.

Chang, K.F., Hwang, S.F., Conner, R.L., Gossen, B.D., Strelkov, S.E., McLaren, D.L., and Turnbull, G.D. (2011). "Fungicide seed treatments to manage seedling blight of faba bean in Alberta, Canada, 2010.", American Phytopathological Society (APS) 2011 Joint Annual Meeting & International Association for the Plant Protection Sciences (IPPC), Honolulu, HI, USA, August 6-10, 2011, Published in: Phytopathology (2011), 101(6S), pp. S30.

Kasinathan, H., McDonald, M.R., and Gossen, B.D. (2011). "Evaluation Of Biofungicides And Fungicides On Incidence And Clubroot Symptom Development In Canola At Different Seeding Dates, 2010.", Muck Vegetable Cultivar Trial and Research Report, 60, pp. 93-94.

Chang, K.F., Hwang, S.F., Strelkov, S.E., and Gossen, B.D. (2011). "Efficacy of foliar fungicides to control downy mildew of field pea in Alberta.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011. (Poster)

Kasinathan, H., McDonald, M.R., and Gossen, B.D. (2011). "Efficacy of biofungicides and fungicides for the reduction of clubroot incidence and severity in napa cabbage, 2010.", Muck Vegetable Cultivar Trial and Research Report, 60, pp. 55-56.

Strelkov, S.E., Hwang, S.F., Howard, R.J., Rahman, H., Kutcher, H.R., Turkington, T.K., Gossen, B.D., Peng, G., McLaren, D.L., LeBoldus, J.M., Feng, J., Cao, T., and Mandli, V.P. (2011). "Clubroot Risk Mitigation Initiative: Pathology Pillar.", Clubroot Summit 2011, Saskatoon, SK, Canada, March 9, 2011, Invited presentation.

McDonald, M.R., Riches, L., Gossen, B.D., and Strelkov, S.E. (2011). "Potential for Seed Transmission of *Plasmodiophora brassicae* Inoculum on Canola Seeds, 2010.", Muck Vegetable Cultivar Trial and Research Report, 60, pp. 113-114.

McDonald, M.R., Riches, L., and Gossen, B.D. (2011). "Host screening of *Plasmodiophora brassicae* for resistance and susceptibility, 2010.", Muck Vegetable Cultivar Trial and Research Report, 60, pp. 97-98.

Kutcher, H.R., Turkington, T.K., Brandt, S.A., Gossen, B.D., McLaren, D.L., Dokken-Bouchard, F.L., and Strelkov, S.E. (2011). "Canola Disease Management", Annual Indian Head Crop Management Field Day 2011, Indian Head, SK, Canada, July 19, 2011.

Kutcher, H.R., Turkington, T.K., Gossen, B.D., Brandt, S.A., Dokken-Bouchard, F.L., and Strelkov, S.E. (2011). "Canola Disease Resistance Management.", Crop Talk 2011 Meeting (Ministry of Agriculture and Pineland Coop), Prince Albert Exhibition Centre, Prince Albert, SK, Canada, March 8, 2011, Invited Presentation.

Kutcher, H.R., Turkington, T.K., Gossen, B.D., Brandt, S.A., Dokken-Bouchard, F.L., and Strelkov, S.E. (2011). "Canola Disease and Fungicide Strategies Based on Crop Rotation.", Strategies for Successful Farming Meeting, Travelodge Hotel, Saskatoon, SK, Canada, March 1, 2011, Invited Presentation and Report Abstract.

Hwang, S.F., Ahmed, H.U., Strelkov, S.E., Gossen, B.D., Peng, G., and Turnbull, G.D. (2011). "Clubroot development in resistant and susceptible canola cultivars affects soil populations of *Plasmodiophora brassicae*.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, pp. 1122-1125.

Sharma, K., Gossen, B.D., and McDonald, M.R. (2011). "Evaluation of Inducers of Host Resistance for the Control of Clubroot on Canola and Napa Cabbage, 2011.", Muck Vegetable Cultivar Trial and Research Report, 60, pp. 110-112.

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## Research Publications:

2015

Zebarth, B.J., Forge, T.A., Goyer, C., and Brin, L. (2015). "Effect of soil acidification on nitrification in soil.", *Canadian Journal of Soil Science*, 95(4), pp. 359-363. doi : 10.4141/CJSS-2015-040

Tatti, E., Goyer, C., Burton, D.L., Wertz, S., Zebarth, B.J., Chantigny, M.H., and Filion, M. (2015). "Tillage Management and Seasonal Effects on Denitrifier Community Abundance, Gene Expression and Structure over Winter.", *Microbial Ecology*. doi : 10.1007/s00248-015-0591-x

Arseneault, T., Goyer, C., and Filion, M. (2015). "Pseudomonas fluorescens LBUM223 increases potato yield and reduces common scab symptoms in the field.", *Phytopathology*, 105(10), pp. 1311-1317. doi : 10.1094/PHYTO-12-14-0358-R

2014

Arseneault, T., Pieterse, C.M.J., Gérin-Ouellet, M., Goyer, C., and Filion, M. (2014). "Long-term induction of defense gene expression in potato by pseudomonas sp. LBUM223 and streptomyces scabies.", *Phytopathology*, 104(9), pp. 926-932. doi : 10.1094/PHYTO-11-13-0321-R

Tatti, E., Goyer, C., Chantigny, M.H., Wertz, S., Zebarth, B.J., Burton, D.L., and Filion, M. (2014). "Influences of over winter conditions on denitrification and nitrous oxide-producing microorganism abundance and structure in an agricultural soil amended with different nitrogen sources.", *Agriculture, Ecosystems and Environment*, 183, pp. 47-59. doi : 10.1016/j.agee.2013.10.021

Jégo, G., Chantigny, M.H., Pattey, E., Bélanger, G., Rochette, P., Vanasse, A., and Goyer, C. (2014). "Improved snow-cover model for multi-annual simulations with the STICS crop model under cold, humid continental climates.", *Agricultural and Forest Meteorology*, 195-196, pp. 38-51. doi : 10.1016/j.agrformet.2014.05.002

Boiteau, G., Goyer, C., Rees, H.W., and Zebarth, B.J. (2014). "Differentiation of potato ecosystems on the basis of relationships among physical, chemical and biological soil parameters.", *Canadian Journal of Soil Science*, 94(4), pp. 463-476. doi : 10.4141/cjss2013-095

Novinscak, A., Goyer, C., Zebarth, B.J., Burton, D.L., Chantigny, M.H., Filion, M., and Petit, H.V. (2014). "Development of a PCR-based assay to detect and characterize soil-inhabiting fungal denitrifiers.", 15th International symposium on microbial ecology (ISME 15), Seoul, South Korea, August 24-29, 2014. (Poster)

Guo, F.L., Zhang, H.Y., Yu, X.-M., Zhao, W.-Q., Liu, D.-Q., and Goyer, C. (2014). "First report of Streptomyces galilaeus associated with common scab in China.", *Plant Disease*, 98(5), pp. 683. doi : 10.1094/PDIS-07-13-0699-PDN

2013

Tatti, E., Goyer, C., Zebarth, B.J., Burton, D.L., Giovannetti, L., and Viti, C. (2013). "Short-term effects of mineral and organic fertilizer on denitrifiers, nitrous oxide emissions and denitrification in long-term amended vineyard soils.", *Soil Science Society of America Journal*, 77(1), pp. 113-122. doi : 10.2136/sssaj2012.0096

Wertz, S., Goyer, C., Zebarth, B.J., Burton, D.L., Tatti, E., Chantigny, M.H., and Filion, M. (2013). "Effects of temperature near the freezing point on N<sub>2</sub>O emissions, denitrification and on the abundance and structure of nitrifying and denitrifying soil communities.", *FEMS Microbiology Ecology*, 83(1), pp. 242-254. doi : 10.1111/j.1574-6941.2012.01468.x

Pelster, D.E., Chantigny, M.H., Rochette, P., Angers, D.A., Laganière, J., Zebarth, B.J., and Goyer, C. (2013). "Crop residue incorporation alters soil nitrous oxide emissions during freeze-thaw cycles.", *Canadian Journal of Soil Science*, 93(4), pp. 415-425. doi : 10.4141/cjss2012-043

Dessureault-Rompré, J., Zebarth, B.J., Burton, D.L., Gregorich, E.G., Goyer, C., Georgallas, A., and Grant, C.A. (2013). "Are soil mineralizable nitrogen pools replenished during the growing season in agricultural soils?", *Soil Science Society of America Journal*, 77(2), pp. 512-524. doi : 10.2136/sssaj2012.0328

Tai, H.H., Goyer, C., and Murphy, A.M. (2013). "Potato MYB and bHLH transcription factors associated with anthocyanin intensity and common scab resistance.", *Botany*, 91(10), pp. 722-730. doi : 10.1139/cjb-2012-0025

Tai, H.H., Goyer, C., Platt, H.W., De Koeyer, D.L., Murphy, A.M., Uribe, P., and Halterman, D. (2013). "Decreased defense gene expression in tolerance versus resistance to *Verticillium dahliae* in potato.", *Functional and Integrative Genomics*, 13(3), pp. 367-378. doi: 10.1007/s10142-013-0329-0

Snowdon, E., Zebarth, B.J., Burton, D.L., Goyer, C., and Rochette, P. (2013). "Growing season N<sub>2</sub>O emissions from two-year potato rotations in a humid environment in New Brunswick, Canada.", *Canadian Journal of Soil Science*, 93(3), pp. 279-294. doi: 10.4141/CJSS2012-115

## 2012

Zebarth, B.J., Burton, D.L., Snowdon, E., Goyer, C., and Dowbenko, R. (2012). "Controlled release fertilizer product effects on potato crop response and nitrous oxide emissions under rain-fed production on a medium-textured soil.", *Canadian Journal of Soil Science*, 92(5), pp. 759-769. doi: 10.4141/CJSS2012-008

Miller, M.N., Dandie, C.E., Zebarth, B.J., Burton, D.L., Goyer, C., and Trevors, J.T. (2012). "Influence of carbon amendments on soil denitrifier abundance in soil microcosms.", *Geoderma*, 170(1), pp. 48-55. doi: 10.1016/j.geoderma.2011.11.022

Burton, D.L., Zebarth, B.J., McLeod, J.A., and Goyer, C. (2012). "Nitrous Oxide Emissions from Potato Production and Strategies to Reduce Them.", in He, Z., Larkin, R.P. and Honeycutt, C.W. (eds.) - *Sustainable Potato Production: Global Case Studies*, Springer New York, Chapter 14, pp. 251-271.

Novinscak, A., Goyer, C., Dandie, C.E., and Filion, M. (2012). "Abundance, diversity and spatio-temporal dynamics of nirS gene-harboring denitrifiers in a potato field over the course of a growth season.", *Systematic and Applied Microbiology*, 36(2), pp. 112-115. doi: 10.1016/j.syapm.2012.10.005

Yu, X.-M., Zhao, W.-Q., Yang, W.-X., Liu, F., Chen, J.-P., Goyer, C., and Liu, D.-Q. (2012). "Characterization of a hypersensitive response-induced gene TaHIR3 from wheat leaves infected with leaf rust.", *Plant Molecular Biology Reporter*, 31(2), pp. 314-322. doi: 10.1007/s11105-012-0504-9

## 2011

Dandie, C.E., Wertz, S., Leclair, C.L., Goyer, C., Burton, D.L., Patten, C.L., Zebarth, B.J., and Trevors, J.T. (2011). "Abundance, diversity and functional gene expression of denitrifier communities in adjacent riparian and agricultural zones.", *FEMS Microbiology Ecology*, 77(1), pp. 69-82. doi: 10.1111/j.1574-6941.2011.01084.x

Pompon, J., Quiring, D.T., Goyer, C., Giordanengo, P., and Pelletier, Y. (2011). "A phloem-sap feeder mixes phloem and xylem sap to regulate osmotic potential.", *Journal of Insect Physiology*, 57(9), pp. 1317-1322. doi: 10.1016/j.jinsphys.2011.06.007

Shannon, K.E.M., Saleh-Lakha, S., Burton, D.L., Zebarth, B.J., Goyer, C., and Trevors, J.T. (2011). "Effect of nitrate and glucose addition on denitrification and nitric oxide reductase (cnorB) gene abundance and mRNA levels in *Pseudomonas mandelii* inoculated into anoxic soil.", *Antonie Van Leeuwenhoek International Journal of General and Molecular Microbiology*, 100(2), pp. 183-195. doi: 10.1007/s10482-011-9577-y

St-Onge, R., Gadkar, V.J., Arseneault, T., Goyer, C., and Filion, M. (2011). "The ability of *Pseudomonas* sp. LBUM 223 to produce phenazine-1-carboxylic acid affects the growth of *Streptomyces scabies*, the expression of thaxtomin biosynthesis genes and the biological control potential against common scab of potato.", *FEMS Microbiology Ecology*, 75(1), pp. 173-183. doi: 10.1111/j.1574-6941.2010.00992.x

Saleh-Lakha, S., Shannon, K.E.M., Goyer, C., and Trevors, J.T. (2011). "Challenges in quantifying microbial gene expression in soil using quantitative reverse transcription real-time PCR.", *Journal of Microbiological Methods*, 85(3), pp. 239-243. doi: 10.1016/j.mimet.2011.03.007

## Other Science Related Publications:

### 2015

Zebarth, B.J., Moreau, G., Smith, A.M., Toner, P., Cambouris, A.N., Goyer, C., Owen, J., and Burton, D.L. (2015). "Yield variation in potato fields: Lessons learned so far.", 2015 Crop Update Session, Fredericton, NB, Canada, January 13-14, 2015.

Brin, L., Goyer, C., Zebarth, B.J., and Burton, D.L. (2015). "Left in the cold: Changes in snow cover alter N cycling in agricultural soils.", *Ecological Society of American Annual Meeting*, Baltimore, MD, USA, August 9-14, 2015.

Chantigny, M.H., Angers, D.A., Rochette, P., and Goyer, C. (2015). "Nitrification occurs in frozen agricultural soils – consequences on fate and management of fall-applied and soil residual N under cold climate.", *Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference*, Montreal, QC, Canada, July 5-10, 2015.

Jégo, G., Pattey, E., Chantigny, M.H., Brin, L., Goyer, C., and Léonard, J. (2015). "Coupling the STICS soil-crop model with a snow-cover model for improving simulation of agricultural soil nitrogen processes under northern climates.", *ASA-CSSA-SSSA International Annual Meeting: Synergy in Science. Partnering for Solutions*, Minneapolis, MN, USA, November 15-18, 2015.

Zebarth, B.J., Goyer, C., Li, S., Whitney, S., and Neupane, S. (2015). "Spatial variation in soil bacterial communities in a commercial potato field.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

Brin, L., Goyer, C., Zebarth, B.J., Burton, D.L., Wertz, S., and Chantigny, M.H. (2015). "Changes in snow cover alter nitrogen cycling and gaseous emissions in agricultural soils.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

Goyer, C., Wertz, S., Zebarth, B.J., Burton, D.L., Tatti, E., Chantigny, M.H., and Filion, M. (2015). "The amplitude of soil freeze-thaw cycles influences temporal dynamics of N<sub>2</sub>O emissions and denitrifier transcriptional activity and community structure.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

Jégo, G., Chantigny, M.H., Pattey, E., Bélanger, G., Rochette, P., Vanasse, A., and Goyer, C. (2015). "Improved snow-cover model for multi-annual simulations with the STICS crop model under northern climates.", STICS workshop 2015, Rennes, France, March 24-26, 2015, pp. 2 pages.

## 2014

Chantigny, M.H., Rochette, P., Angers, D.A., Vanasse, A., and Goyer, C. (2014). "Significance and temporal dynamics of N<sub>2</sub>O emissions in snow-covered agricultural soils.", Canadian Soil Science Society – Canadian Geophysical Union Joint Annual Meetings – Advances in Geophysical and Soil Sciences, Banff, Alberta, Canada, May 4-8, 2014, Oral presentation.

Goyer, C., Tatti, E., Wertz, S., Zebarth, B.J., Brin, L., Burton, D.L., Chantigny, M.H., and Filion, M. (2014). "Importance of nitrous oxide emissions and changes in denitrifier and nitrifier communities in fields under different agricultural practices over winter in Eastern Canada.", 15th International Society of Microbial Ecology Meeting, Seoul, South Korea, August 24-30, 2014. (Abstract)

Novinscak, A., Goyer, C., Zebarth, B.J., Burton, D.L., Chantigny, M.H., and Filion, M. (2014). "Development of a PCR-based assay to detect and characterize soil-inhabiting fungal denitrifiers.", 15th International Society of Microbial Ecology Meeting, Seoul, South Korea, August 24-30, 2014. (Abstract)

Tai, H.H., De Koeyer, D.L., Goyer, C., Nolan, L., Davidson, C., Lague, M., Murphy, A.M., Sonderkaer, M., Hedegaard, S., Halterman, D., and Lehman Neilsen, K. (2014). "Expression QTL analysis of genetic variation in potato responses to *Verticillium* wilt.", 11th Solanaceae Conference, Porto Seguro, Brazil, November 2-6, 2014. (Abstract)

Fageria, M.S., Boquel, S., Nie, X., Goyer, C., and Pelletier, Y. (2014). "Management of Potato virus Y using Mineral Oils.", Northeast Potato Technology Forum 2014, Fredericton, NB, Canada, March 12-13, 2014.

Tai, H.H., De Koeyer, D.L., Goyer, C., Nolan, L., Davidson, C.G., Sønderkær, M., Hedegaard, S., Lehman Neilsen, K., Lague, M., Murphy, A.M., Uribe, P., and Halterman, D. (2014). "Genetic analysis of tolerance and resistance to *Verticillium dahliae*.", 98th Annual Meeting of the Potato Association of America (PAA), The Davenport Hotel, Spokane, WA, USA, July 27-31, 2014. (Abstract)

## 2013

Goyer, C. (2013). "Factors controlling nitrous oxide emissions and denitrifier and nitrifier communities in agricultural soils.", 24e séminaire du CRDSGC / 24th seminar of SCRDC, Centre de Recherche et de Développement sur les Sols et les Grandes Cultures/ Soils and Crops Research and Development Centre, Québec City, QC, Canada, April 11, 2013. (Presentation)

Goyer, C., Tai, H.H., Gustafson, V., De Koeyer, D.L., and Rothwell, C. (2013). "Analysis of gene expression of two potato cultivars during common scab infection using microarrays.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013.

Tai, H.H., Goyer, C., Platt, H.W., De Koeyer, D.L., Murphy, A.M., Uribe, P., and Halterman, D. (2013). "Decreased defense gene expression in a potato clone with tolerance to *Verticillium dahliae*.", 9th Canadian Plant Genomics Workshop, Halifax, NS, Canada, August 12-15, 2013.

Tai, H.H., Goyer, C., and Murphy, A.M. (2013). "Potato MYB and bHLH transcription factors associated with anthocyanin intensity and common scab resistance.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013.

Tai, H.H., De Koeyer, D.L., Goyer, C., Sønderkær, M., Hedegaard, S., Nolan, L., Lague, M., Murphy, A.M., and Nielsen, K.L. (2013). "Analysis of genetic variation in gene expression associated with *Verticillium dahliae* infection in potato.", 10th Solanaceae Conference, Beijing, China, October 13-17, 2013.

## 2012

Tai, H.H., Goyer, C., De Koeyer, D.L., Murphy, A.M., De Jong, H., and Platt, H.W. (2012). "Comparative Transcriptome Profiling of Foliage from Two Diploid Potato Clones with Variation in Responses to *Verticillium* Infection.", 96th Annual Meeting of the Potato Association of America (PAA), Crowne Plaza Denver International Airport, Denver, CO, USA, August 12-16, 2012, Oral presentation, Abst. 90.

2011

Goyer, C., Whitney, S., and Zeng, C.J. (2011). "Strategy to Deliver Bacillus Strains in the Field to Control Common Scab.", 19th Annual Northeast Potato Technology Forum, Crowne Plaza Fredericton Lord Beaverbrook Hotel, Fredericton, NB, Canada, March 16-17, 2011.



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## Research Publications:

2015

Graf, R.J., Beres, B.L., Randhawa, H.S., Gaudet, D.A., Laroche, A., and Eudes, F. (2015). "AAC Elevate hard red winter wheat.", *Canadian Journal of Plant Science*, 95(5), pp. 1021-1027. doi: 10.4141/cjps-2015-094

Randhawa, H.S., Graf, R.J., and Sadasivaiah, R.S. (2015). "AAC Indussoft white spring wheat.", *Canadian Journal of Plant Science*, 95(4), pp. 793-797. doi: 10.4141/cjps-2015-026

Randhawa, H.S., Graf, R.J., and Sadasivaiah, R.S. (2015). "AAC Innova general purpose spring wheat.", *Canadian Journal of Plant Science*, 95(4), pp. 787-791. doi: 10.4141/cjps-2015-024

Rasmussen, J.P., Gilroyed, B.H., Reuter, T.R., Badea, A., Eudes, F., Graf, R.J., Laroche, A., Kav, N.N.V., and McAllister, T. A. (2015). "Protein can be taken up by damaged wheat roots and transported to the stem.", *Journal of Plant Biology*, 58(1), pp. 1-7. doi: 10.1007/s12374-014-0258-z

2014

Randhawa, H.S., Graf, R.J., and Sadasivaiah, R.S. (2014). "AAC Chiffon soft white spring wheat.", *Canadian Journal of Plant Science*, 94(7), pp. 1303-1308. doi: 10.4141/cjps-2014-029

Rasmussen, J.B., Gilroyed, B.H., Reuter, T.R., Badea, A., Eudes, F., Graf, R.J., Laroche, A., Kav, N.N.V., and McAllister, T.A. (2014). "Efficiency of protein as a nitrogen source for wheat and morphological changes in roots exposed to high protein concentrations.", *Canadian Journal of Plant Science*, 94(4), pp. 603-613. doi: 10.4141/cjps2013-187

Randhawa, H.S., Singh, D., Pozniak, C.J., McCallum, B.D., Fetch Jr., T.G., Goyal, A., and Graf, R.J. (2014). "Genetic mapping of stem, leaf and stripe rust resistance in a spring wheat population using a 90K SNP Infinium iSelect assay.", *EUCARPIA-ITMI 2014*.

2013

Randhawa, H.S., Asif, M., Pozniak, C.J., Clarke, J.M., Graf, R.J., Fox, S.L., Humphreys, D.G., Knox, R.E., DePauw, R.M., Singh, A.K., Cuthbert, R.D., Hucl, P.J., and Spaner, D.M. (2013). "Application of Molecular Markers for Wheat Breeding in Canada.", *Plant Breeding*, 132(5), pp. 458-471. doi: 10.1111/pbr.12057

Graf, R.J., Beres, B.L., Randhawa, H.S., Gaudet, D.A., Badea, A., Laroche, A., Eudes, F., and Pandeya, R.S. (2013). "AAC Gateway hard red winter wheat.", *Canadian Journal of Plant Science*, 93(3), pp. 541-548. doi: 10.4141/CJPS2012-266

Gaudet, D.A., Puchalski, B., Despins, T., McCartney, C.A., Menzies, J.G., and Graf, R.J. (2013). "Seeding date and location affect winter wheat infection by common bunt (*Tilletia tritici* and *T. laevis*) in western Canada.", *Canadian Journal of Plant Science*, 93(3), pp. 483-489. doi: 10.4141/cjps2012-176

Graf, R.J., Beres, B.L., Laroche, A., Gaudet, D.A., Eudes, F., Pandeya, R.S., Badea, A., and Randhawa, H.S. (2013). "Emerson hard red winter wheat.", *Canadian Journal of Plant Science*, 93(4), pp. 741-748. doi: 10.4141/CJPS2012-262

Beres, B.L., Pozniak, C.J., Bressler, D., Gibreel, A., Eudes, F., Graf, R.J., Randhawa, H.S., Salmon, D.F., McLeod, G.J., Dion, Y., Irvine, R.B., Voldeng, H.D., Martin, R.A., Pageau, D., Comeau, A., DePauw, R.M., Phelps, S.M., and Spaner, D.M. (2013). "A Canadian Ethanol Feedstock Study to Benchmark the Relative Performance of Triticale: II. Grain Quality and Ethanol Production.", *Agronomy Journal*, 105, pp. 1707-1720. doi: 10.2134/agronj2013.0193

Beres, B.L., Pozniak, C.J., Eudes, F., Graf, R.J., Randhawa, H.S., Salmon, D.F., McLeod, G.J., Dion, Y., Irvine, R.B., Voldeng, H.D., Martin, R.A., Pageau, D., Comeau, A., DePauw, R.M., Phelps, S.M., and Spaner, D.M. (2013). "A Canadian Ethanol Feedstock Study to Benchmark the Relative Performance of Triticale: I. Agronomics.", *Agronomy Journal*, 105, pp. 1695-1706. doi: 10.2134/agronj2013.0192

Badea, A., Eudes, F., Laroche, A., Graf, R.J., Doshi, K., Amundsen, E.J., Nilsson, D., and Puchalski, B. (2013). "Antimicrobial peptides expressed in wheat reduce susceptibility to *Fusarium* head blight and powdery mildew.", *Canadian Journal of Plant Science*, 93(2), pp. 199-208. doi: 10.4141/CJPS2012-125

2012

Thomas, J.B., Gaudet, D.A., and Graf, R.J. (2012). "AC Bellatrix hard red winter wheat.", *Canadian Journal of Plant Science*, 92(1), pp. 163-168. doi : 10.4141/CJPS2011-091

Beres, B.L., Skovmand, B., Randhawa, H.S., Eudes, F., Graf, R.J., and McLeod, G.J. (2012). "Sunray spring triticale.", *Canadian Journal of Plant Science*, 92(2), pp. 363-367. doi : 10.4141/CJPS2011-138

Randhawa, H.S., Puchalski, B., Frick, M., Goyal, A., Despina, T., Graf, R.J., Laroche, A., and Gaudet, D.A. (2012). "Stripe rust resistance among western Canadian spring wheat and triticale varieties.", *Canadian Journal of Plant Science*, 92(4), pp. 713-722. doi : 10.4141/CJPS2011-252

Thomas, J.B., Conner, R.L., and Graf, R.J. (2012). "Radiant hard red winter wheat.", *Canadian Journal of Plant Science*, 92(1), pp. 169-175. doi : 10.4141/CJPS2011-082

Graf, R.J., Thomas, J.B., Gaudet, D.A., Laroche, A., and Beres, B.L. (2012). "Broadview hard red winter wheat.", *Canadian Journal of Plant Science*, 92(1), pp. 177-181. doi : 10.4141/CJPS2011-083

Graf, R.J., Thomas, J.B., Beres, B.L., Gaudet, D.A., Laroche, A., and Eudes, F. (2012). "Flourish hard red winter wheat.", *Canadian Journal of Plant Science*, 92(1), pp. 183-189. doi : 10.4141/CJPS2011-084

Thomas, J.B. and Graf, R.J. (2012). "AC Readymade and AC Tempest, selections from Redwin hard red winter wheat.", *Canadian Journal of Plant Science*, 92(2), pp. 355-361. doi : 10.4141/CJPS2011-151

2011

Laroche, A., Penniket, C., Frick, M., Genswein, B.M.A., Thomas, D.K., Puchalski, B., Graf, R.J., Selinger, L.B., Robert, L.S., Ouellet, T., Singh, J., and Gaudet, D.A. (2011). "Gene expression in Triticale.", in Chibar, R.N. and Dexter, J. (eds.) - *Wheat Science Dynamics: Challenges and Opportunities*, Agrobias International, Jodhpur, India, pp. 653-657.

DePauw, R.M., Knox, R.E., Humphreys, D.G., Thomas, J.B., Fox, S.L., Brown, P.D., Singh, A.K., Pozniak, C.J., Randhawa, H.S., Fowler, D.B., Graf, R.J., and Hucl, P.J. (2011). "New breeding tools impact Canadian commercial farmer fields.", *Czech Journal of Genetics and Plant Breeding (CJGPB)*, 47(Spec. Issue 1), pp. S28-S34.

Randhawa, H.S., Sadasivaiah, R.S., Graf, R.J., and Beres, B.L. (2011). "Bhishaj soft white spring wheat.", *Canadian Journal of Plant Science*, 91(4), pp. 805-810. doi : 10.4141/cjps10144

Hofer, P., Berg, J.E., Huang, L., Graf, R.J., and Bruckner, P.L. (2011). "Registration of 'Yellowstone' Winter wheat backcross-derived lines incorporating leaf rust and wheat curl mite resistance.", *Journal of Plant Registrations*, 5(3), pp. 422-425. doi : 10.3198/jpr2011.02.0074crg

## Other Science Related Publications:

2015

Ryabova, D., Randhawa, H.S., Bihari, L., Eudes, F., Spaner, D.M., Hucl, P.J., Graf, R.J., Prus, J., Amundsen, E.J., and Forou, N.A. (2015). "Production of double haploids with resistance to *Fusarium mycotoxins*.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015.

Humphreys, D.G., Cao, W., Kalikililo, A., Langille, L., McCartney, C.A., Blackwell, B.A., and Graf, R.J. (2015). "Enhancing Tools for *Fusarium* Resistance Breeding in Canadian Winter Wheat.", National *Fusarium* Head Blight Forum, St. Louis, MO, USA, December 6-8, 2015. (Poster)

Graf, R.J. (2015). "Winter wheat breeding update.", 2015 Saskatchewan Winter Cereals Development Commission Annual General Meeting, Saskatoon, Canada, January 12, 2015, Invited Presentation.

Laroche, A., Frick, M., Puchalski, B., Amundsen, E.J., Puchalski, B., Randhawa, H.S., Graf, R.J., and Gaudet, D.A. (2015). "Characterization of Stripe Rust Isolates from Western Canada Using NGS.", XXIII Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2015, pp. P0467.

2014

Laroche, A., Frick, M., Xu, Y., Puchalski, B., Puchalski, B., Singh, A., Randhawa, H.S., Graf, R.J., and Gaudet, D.A. (2014). "NGS to identify, characterize and compare isolates of stripe rust, a fungal pathogen of wheat.", Canada NGS Symposia - Lethbridge NGS Symposium, University of Lethbridge, April 24, 2014. (Presentation)

Frick, M., Puchalski, B., Amundsen, E.J., Puchalski, B., Gaudet, D.A., Randhawa, H.S., Graf, R.J., and Laroche, A. (2014). "Molecular characterization of *Pst* races from western Canada.", 2014 Plant Pathology Symposium of Alberta, Canmore, AB, Canada, October 27-29, 2014.

Laroche, A., Frick, M., Xu, Y., Puchalski, B., Puchalski, B., Randhawa, H.S., Graf, R.J., and Gaudet, D.A. (2014). "Comparisons of *Puccinia striiformis* sp. *tritici* (*Pst*) isolates from Southern Alberta.", Canadian Wheat Alliance 1st Annual Science Meeting, NRC-Saskatoon, Saskatoon, Canada, April 7-8, 2014.

Laroche, A., Frick, M., Xu, Y., Puchalski, B., Puchalski, B., Randhawa, H.S., Graf, R.J., and Gaudet, D.A. (2014). "Molecular characterization of Pst races isolates from Western Canada.", Borlaug Global Rust Initiative Technical Workshop, Obregon, México, March 22-25, 2014.

Wu, Y., Saperstein, H.D., and Graf, R.J. (2014). "A study of factors influencing absorption of Canadian hard red winter wheats with a focus on pentosan content.", 2014 International Annual Meeting of the American Association of Cereal Chemists (AACC), Providence, RI, USA, October 5-8, 2014. (Abstract)

Graf, R.J. (2014). "Which wheat variety should I grow?", Invited Presentation: MNP wheat productivity course, Lethbridge, Canada, November 18, 2014. (Presentation)

Pozniak, C.J., Hucl, P.J., Graf, R.J., Knox, R.E., Cuthbert, R.D., and McCartney, C.A. (2014). "Deployment of Genomic Tools: Breeding, Targets, and Progress to Enhance Development of Field Ready Wheat Cultivars.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014, Invited presentation.

Graf, R.J. (2014). "Breeding winter wheat for western Canada.", Invited Presentation: LT 2262 Field Crops, Diploma in Agricultural Sciences curriculum, Lethbridge College, Lethbridge, Canada, November 21, 2014. (Presentation)

Brûlé-Babel, A.L., DePauw, R.M., Cuthbert, R.D., Pozniak, C.J., Hucl, P.J., Spaner, D.M., Randhawa, H.S., Graf, R.J., Kirigw, F., Humphreys, D.G., and Tamburic-Ilicic, L. (2014). "Breeding for FHB resistance: Progress and challenges.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Graf, R.J. (2014). "Developing winter wheat for western Canada.", Invited Presentation by Lethbridge Rotary Club, Lethbridge, Canada, April 15, 2014. (Presentation)

Graf, R.J. (2014). "The application of genetics – plant breeding. Lethbridge Collegiate Institute Advanced Placement Biology 30.", Invited Presentation Scientists in the Classroom, Lethbridge, Canada, April 10, 2014. (Presentation)

Graf, R.J. (2014). "How Canada established and maintains its wheat quality reputation.", 9<sup>o</sup> Seminário Técnico de Trigo e 8<sup>o</sup> Reunião da Comissão Brasileira de Pesquisa de Trigo e Triticale, Canela, Brazil, August 5-7, 2014, Invited Keynote Address.

Graf, R.J., Randhawa, H.S., Gaudet, D.A., and Laroche, A. (2014). "Rust resistance in western Canadian winter wheat.", Borlaug Global Rust Initiative Technical Workshop, Obregon, México, March 22-25, 2014. (Poster)

Dhariwal, R., Randhawa, H.S., Pozniak, C.J., McCallum, B.D., Fetch Jr., T.G., and Graf, R.J. (2014). "Genetic analysis of stem, leaf and stripe rust resistance in a spring wheat.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Brûlé-Babel, A.L. and Graf, R.J. (2014). "Winter wheat – can it compete?", Invited Presentation at Canadian Seed Growers Association Interprovincial Meeting, Winnipeg, Canada, November 5, 2014. (Presentation)

## 2013

Randhawa, H.S., Puchalski, B., Puchalski, B., Laroche, A., Graf, R.J., and Gaudet, D.A. (2013). "Virulence analysis of Pst isolates collected from western Canada.", Borlaug Global Rust Initiative (BGRI) Technical Workshop, New Delhi, India, August 19-22, 2013. (Presentation)

Laroche, A., Puchalski, B., Singh, A., Puchalski, B., Gaudet, D.A., Randhawa, H.S., Graf, R.J., and Frick, M. (2013). "Next-generation sequencing to characterize Pst races from western Canada.", Borlaug Global Rust Initiative (BGRI) Technical Workshop, New Delhi, India, August 19-22, 2013. (Presentation)

Frick, M., Puchalski, B., Puchalski, B., Gaudet, D.A., Randhawa, H.S., Graf, R.J., Laroche, A., and Forbert, P. (2013). "Molecular characterization of stripe rust races from Western Canada.", 2013 Canadian Society of Plant Biologist Annual Meeting, Quebec, Canada, June 25-28, 2013.

Randhawa, H.S., Eudes, F., Beres, B.L., Graf, R.J., Fedak, G., Comeau, A., Langevin, F., Dion, Y., and Pozniak, C.J. (2013). "Integrated approaches for triticale breeding.", The 8th International Triticale Symposium, Ghent, Belgium, June 10-14, 2013, (Presentation).

Laroche, A., Frick, M., Puchalski, B., Puchalski, B., Singh, A., Randhawa, H.S., Graf, R.J., and Gaudet, D.A. (2013). "Differential make-up in older and newer stripe rust strains.", 34th Annual Meeting of the Plant Pathology Society of Alberta, Brooks, AB, Canada, November 4-6, 2013.

Laroche, A., Puchalski, B., Singh, A., Puchalski, B., Gaudet, D.A., Randhawa, H.S., Graf, R.J., and Frick, M. (2013). "Next-generation sequencing to characterize Pst races from western Canada.", 5th Borlaug Global Rust Initiative Technical Workshop, New Delhi, India, August 19-22, 2013. (Poster)

Frick, M., Puchalski, B., Puchalski, B., Singh, A., Randhawa, H.S., Graf, R.J., and Laroche, A. (2013). "Molecular characterization of Pst races from Alberta.", 34th Annual Meeting of the Plant Pathology Society of Alberta, Brooks, AB, Canada, November 4-6, 2013.

## 2012

Rasmussen, J.D., Gilroyed, B.H., Reuter, T.R., Badea, A., Eudes, F., Graf, R.J., Laroche, A., Kav, N.N.V., and McAllister, T. A. (2012). "The uptake of functional proteins and infectious prions into major crop plants.", PrP Canada 2012 & Protein Folding Disease Conference, Toronto, Ontario, Canada, June 25-27, 2012, #64, pp. 122. (Poster)

Kutcher, H.R., Turkington, T.K., Gaudet, D.A., Randhawa, H.S., Puchalski, B., Wogsberg, S., and Graf, R.J. (2012). "Managing cereal and canola diseases.", Crop Talk, Prince Albert Exhibition Centre, Saskatoon, SK, Canada, March 7, 2012, (Presentation).

Kutcher, H.R., Randhawa, H.S., Puchalski, B., Wogsberg, S., Graf, R.J., and Gaudet, D.A. (2012). "The 2011 stripe rust epidemic in western Canada.", Borlaug Global Rust Initiative (BGRI) Technical Workshop, Beijing, China, September 1-4, 2012.

## 2011

Graf, R.J. (2011). "Practical aspects of plant breeding.", Alberta Crop Industry Development Fund (ACIDF) Feeding Initiative Advisory Committee, Lethbridge, AB, Canada, December 14, 2011. (Presentation)

Puchalski, B., Gaudet, D.A., Randhawa, H.S., Graf, R.J., and Wogsberg, S. (2011). "The 2011 stripe rust epidemic in western Canada.", 32nd Annual Meeting of the Plant Pathology Society of Alberta (PPSA), University of Alberta, Edmonton, AB, Canada, November 7-9, 2011.

Puchalski, B., Gaudet, D.A., and Graf, R.J. (2011). Spring and winter wheat stripe rust coop report., AAFC Lethbridge Research Centre, AB. (Report)

Puchalski, B., Gaudet, D.A., Harpinder, R., Graf, R.J., and Wogsberg, S. (2011). "The 2011 stripe rust epidemic in western Canada.", 32nd Annual Meeting of the Plant Pathology Society of Alberta (PPSA), University of Alberta, Edmonton, AB, Canada, November 7-9, 2011, pp. 12.

Gaudet, D.A., Randhawa, H.S., Puchalski, B., Graf, R.J., Despina, T., and Laroche, A. (2011). "Stripe rust resistance among western Canadian wheat and triticale cultivars.", Canadian Phytopathological Society (CPS) 82nd Annual Meeting (with Plant Canada 2011), Halifax, NS, Canada, July 17-21, 2011.

Randhawa, H.S., Gaudet, D.A., Puchalski, B., and Graf, R.J. (2011). "New virulence races of stripe rust in Western Canada.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011. (Abstract)

Graf, R.J., Briggs, K.G., and Sieusahai, G. (2011). "Using regional variety trial data to choose crop varieties.", Seed and Crop Technology Workshop, Olds College, Olds, AB, Canada, November 16, 2011. (Presentation)

Fox, S.L., DePauw, R.M., Humphreys, D.G., Hucl, P.J., Singh, A.K., Pozniak, C.J., Brown, P.D., Graf, R.J., Randhawa, H.S., Voldeng, H.D., McCartney, C.A., Hiebert, C.W., Knox, R.E., Thomas, J.B., Townley-Smith, L., and Fetch Jr., T.G. (2011). "Canadian initiatives in breeding for stem rust resistance to race Ug99 and variants.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, pp. 121-126.

Randhawa, H.S., Puchalski, B., Graf, R.J., Goyal, A., Despina, T., and Gaudet, D.A. (2011). "Reactions of western Canadian wheat and triticale varieties to stripe rust.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011. (Poster)

Laroche, A., Frick, M., Puchalski, B., Graf, R.J., Randhawa, H.S., and Gaudet, D.A. (2011). "Towards the genome sequencing of Alberta races of *Puccinia striiformis*, the causal agent of stripe rust.", 32nd Annual Meeting of the Plant Pathology Society of Alberta (PPSA), University of Alberta, Edmonton, AB, Canada, November 7-9, 2011, pp. 9.

Goyal, A., Puchalski, B., Gaudet, D.A., Graf, R.J., McCallum, B.D., and Randhawa, H.S. (2011). "Genetics of resistance to common bunt, leaf and stripe rust in N9195 spring wheat.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011. (Abstract)

Randhawa, H.S., Puchalski, B., Wogsberg, S., Graf, R.J., Kutcher, H.R., and Gaudet, D.A. (2011). "The occurrence of stripe rust epidemic in western Canada.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011. (Abstract)

Gaudet, D.A., Randhawa, H.S., Puchalski, B., Frick, M., Goyal, A., Despina, T., Graf, R.J., and Laroche, A. (2011). "Stripe rust resistance among western Canadian wheat and triticale cultivars.", 32nd Annual Meeting of the Plant Pathology Society of Alberta (PPSA), University of Alberta, Edmonton, AB, Canada, November 7-9, 2011, pp. 7.

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## Research Publications:

2016

Cambouris, A.N., St. Luce, M., Zebarth, B.J., Ziadi, N., Grant, C.A., and Perron, I. (2016). "Potato response to nitrogen sources and rates in an irrigated sandy soil.", *Agronomy Journal*.

2015

Lupwayi, N.Z., Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Hall, L.M., Willenborg, C.J., Gan, Y.T., Lafond, G.P., May, W.E., and Grant, C.A. (2015). "Relating soil microbial properties to yields of no-till canola on the Canadian prairies.", *European Journal of Agronomy*, 62, pp. 110-119. doi : 10.1016/j.eja.2014.10.004

Khakbazan, M., Huang, J., Monreal, M.A., Grant, C.A., and Glenn, A.J. (2015). "Agricultural Practices to Improve Energy Input and Resource Efficiency in Cropping Systems.", in Lac, S., McHenry, M. and Kulshreshtha, S. (eds.) - *Agriculture Management for Climate Change*, Nova Publishers, Chapter 3, pp. 31-42.

Khakbazan, M., Huang, J., Monreal, M.A., Grant, C.A., Glenn, A.J., and Berry, N. (2015). "Agricultural Practices to Reduce Greenhouse Gas Emissions in Cropping Systems.", in Lac, S., McHenry, M. and Kulshreshtha, S. (eds.) - *Agriculture Management for Climate Change*, Nova Publishers, Chapter 4, pp. 43-54.

Wang, X., Cai, D., Grant, C.A., Hoogmoed, W.B., and Oenema, O. (2015). "Factors controlling regional grain yield in China over the last 20 years.", *Agronomy for Sustainable Development*, 35(3), pp. 1127-1138. doi : 10.1007/s13593-015-0288-z

McGonigle, T.P. and Grant, C.A. (2015). "Variation in potassium and calcium uptake with time and root depth.", *Canadian Journal of Plant Science*, 95(4), pp. 771-777. doi : 10.4141/cjps-2014-227

Qiu, S., He, P., Zhao, S., Li, W.J., Xie, J.G., Hou, Y.P., Grant, C.A., Zhou, W., and Jin, J.Y. (2015). "Impact of nitrogen rate on maize yield and nitrogen use efficiencies in northeast China.", *Agronomy Journal*, 107(1), pp. 305-313. doi : 10.2134/agronj13.0567

O'Donovan, J.T., Anbessa, Y., Grant, C.A., MacLeod, A., Edney, M.J., Izydorczyk, M.S., Turkington, T.K., Juskiw, P.E., Lafond, G.P., May, W.E., Harker, K.N., Johnson, E.N., Beres, B.L., McAllister, T.A., Smith, E.G., and Chapman, W. (2015). "Relative responses of new malting barley cultivars to increasing nitrogen rates in western Canada.", *Canadian Journal of Plant Science*, 95(5), pp. 831-839. doi : 10.4141/cjps-2014-415

Bélanger, G., Ziadi, N., Pageau, D., Grant, C.A., Lafond, J., and Nyiraneza, J. (2015). "Shoot Growth, Phosphorus–Nitrogen Relationships, and Yield of Canola in Response to Mineral Phosphorus Fertilization.", *Agronomy Journal*, 107(4), pp. 1458-1464. doi : 10.2134/agronj15.0050

St. Luce, M., Grant, C.A., Zebarth, B.J., Ziadi, N., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Khakbazan, M., and Smith, E.G. (2015). "Legumes can reduce economic optimum nitrogen rates and increase yields in a wheat-canola cropping sequence in western Canada.", *Field Crops Research*, 179, pp. 12-25. doi : 10.1016/j.fcr.2015.04.003

Bélanger, G., Ziadi, N., Pageau, D., Grant, C.A., Högnäsbacka, M., Virkajärvi, P., Hu, Z.Y., Lu, J., Lafond, J., and Nyiraneza, J. (2015). "A Model of Critical Phosphorus Concentration in the Shoot Biomass of Wheat.", *Agronomy Journal*, 107(3), pp. 963-970. doi : 10.2134/agronj14.0451

2014

Dai, M., Hamel, C., Bainard, L.D., St. Amand, M., Grant, C.A., Lupwayi, N.Z., Malhi, S.S., and Lemke, R.L. (2014). "Negative and positive contribution of arbuscular mycorrhizal fungal taxa to wheat production and nutrient uptake efficiency in organic and conventional systems in the Canadian prairie.", *Soil Biology & Biochemistry*, 74, pp. 156-166. doi : 10.1016/j.soilbio.2014.03.016

St. Luce, M., Ziadi, N., Zebarth, B.J., Grant, C.A., Tremblay, G.F., and Gregorich, E.G. (2014). "Rapid determination of soil organic matter quality indicators using visible near infrared reflectance spectroscopy.", *Geoderma*, 232-234, pp. 449-458. doi : 10.1016/j.geoderma.2014.05.023

Khakbazan, M., Grant, C.A., Huang, J., Smith, E.G., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Lafond, G.P., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., and Lupwayi, N.Z. (2014). "Economic effects of preceding crops and nitrogen application on canola and subsequent barley.", *Agronomy Journal*, 106(6), pp. 2055-2066. doi: 10.2134/agronj14.0253

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Turkington, T.K., Lupwayi, N.Z., Stevenson, F.C., McLaren, D.L., Khakbazan, M., and Smith, E.G. (2014). "Rotational effects of legumes and non-legumes on hybrid canola and malting barley.", *Agronomy Journal*, 106(6), pp. 1921-1932. doi: 10.2134/agronj14.0236

Sharifi, M., Zebarth, B.J., Miller, J.J., Burton, D.L., and Grant, C.A. (2014). "Soil nitrogen mineralization in a soil with long-term history of fresh and composted manure containing straw or wood-chip bedding.", *Nutrient Cycling in Agroecosystems*, 99(1-3), pp. 63-78. doi: 10.1007/s10705-014-9618-9

## 2013

St. Luce, M., Ziadi, N., Zebarth, B.J., Whalen, J.K., Grant, C.A., Gregorich, E.G., Lafond, G.P., Blackshaw, R.E., Johnson, E.N., O'Donovan, J.T., and Harker, K.N. (2013). "Particulate organic matter and soil mineral nitrogen concentrations are good predictors of the soil nitrogen supply to canola following legume and non-legume crops in western Canada.", *Canadian Journal of Soil Science*, 93(5), pp. 607-620. doi: 10.4141/cjss2013-005

Khakbazan, M., Grant, C.A., Finlay, G., Wu, R.G., Malhi, S.S., Selles, F., Clayton, G.W., Lupwayi, N.Z., Soon, Y.K., and Harker, K.N. (2013). "An economic study of controlled release urea and split applications of nitrogen as compared with non-coated urea under conventional and reduced tillage management.", *Canadian Journal of Plant Science*, 93(3), pp. 523-534. doi: 10.4141/CJPS2012-107

Dessureault-Rompré, J., Zebarth, B.J., Burton, D.L., Gregorich, E.G., Goyer, C., Georgallas, A., and Grant, C.A. (2013). "Are soil mineralizable nitrogen pools replenished during the growing season in agricultural soils?", *Soil Science Society of America Journal*, 77(2), pp. 512-524. doi: 10.2136/sssaj2012.0328

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Hall, L.M., Willenborg, C.J., Kutcher, H.R., Gan, Y.T., Lafond, G.P., May, W.E., Grant, C.A., Barthelet, V., McDonald, T., Wisninski, D., and Hartman, M. (2013). "Effect of agronomic inputs and crop rotation on biodiesel quality and fatty acid profiles of direct-seeded canola.", *Canadian Journal of Plant Science*, 93(4), pp. 577-588. doi: 10.4141/cjps2012-277

Hunt, D.E., Bittman, S., Kowalenko, C.G., Forge, T.A., Grant, C.A., Gawalko, E.J., and Raworth, D.A. (2013). "Long Term Effects of Manure.", in Bittman, S and Hunt, D. (eds.) - *Cool Forages - Advanced management of temperate forages*, Pacific Field Corn Association, Agassiz, BC, Canada.

Chuan, L., He, P., Jin, J.Y., Li, S., Grant, C.A., Xu, X., Qiu, S., Zhao, S., and Zhou, W. (2013). "Estimating nutrient uptake requirements for wheat in China.", *Field Crops Research*, 146, pp. 96-104. doi: 10.1016/j.fcr.2013.02.015

## 2012

O'Donovan, J.T., Turkington, T.K., Edney, M.J., Juskiw, P.E., McKenzie, R.H., Harker, K.N., Clayton, G.W., Lafond, G.P., Grant, C.A., Brandt, S.A., Johnson, E.N., May, W.E., and Smith, E.G. (2012). "Effect of seeding date and seeding rate on malting barley production in western Canada.", *Canadian Journal of Plant Science*, 92(2), pp. 321-330. doi: 10.4141/cjps2011-130

Gagnon, B., Ziadi, N., and Grant, C.A. (2012). "Urea fertilizer forms affect grain corn yield and nitrogen use efficiency.", *Canadian Journal of Soil Science*, 92(2), pp. 341-351. doi: 10.4141/CJSS2011-074

Dai, M., Hamel, C., St. Amand, M., He, Y., Grant, C.A., Lupwayi, N.Z., Janzen, H.H., Malhi, S.S., Yang, X., and Zhou, Z. (2012). "Arbuscular mycorrhizal fungi assemblages in Chemozem great groups revealed by massively parallel pyrosequencing.", *Canadian Journal of Microbiology*, 58(1), pp. 81-92. doi: 10.1139/W11-111

Pisante, M., Stagnari, F., and Grant, C.A. (2012). "Agricultural innovations for sustainable crop production intensification.", *Italian Journal of Agronomy*, 7(4, Article e40). doi: 10.4081/ija.2012.e40

Nyiraneza, J., Zebarth, B.J., Ziadi, N., Burton, D.L., Drury, C.F., Bittman, S., and Grant, C.A. (2012). "Prediction of soil nitrogen supply in corn production using soil chemical and biological indices.", *Soil Science Society of America Journal*, 76(3), pp. 925-935. doi: 10.2136/sssaj2011.0318

Gao, X., Lukow, O.M., and Grant, C.A. (2012). "Grain concentrations of protein, iron and zinc and bread making quality in spring wheat as affected by seeding date and nitrogen fertilizer management.", *Journal of Geochemical Exploration*, 121, pp. 36-44. doi: 10.1016/j.gexplo.2012.02.005

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Klein-Gebbinck, H.W., Dossall, L.M., Hall, L.M., Willenborg, C.J., Kutcher, H.R., Malhi, S.S., Vera, C.L., Gan, Y.T., Lafond, G.P., May, W.E., Grant, C.A., and McLaren, D.L. (2012). "High-yield no-till canola production on the Canadian prairies.", *Canadian Journal of Plant Science*, 92(2), pp. 221-233. doi: 10.4141/CJPS2011-125

Edney, M.J., O'Donovan, J.T., Turkington, T.K., Clayton, G.W., McKenzie, R.H., Juskiw, P.E., Lafond, G.P., Brandt, S.A., Grant, C.A., Harker, K.N., Johnson, E.N., and May, W.E. (2012). "Effects of seeding rate, nitrogen rate and cultivar on barley malt quality.", *Journal of the Science of Food and Agriculture*, 92(13), pp.2672-2678. doi: 10.1002/jsfa.5687

Sharifi, M., Zearth, B.J., Burton, D.L., Drury, C.F., and Grant, C.A. (2012). "Mineralization of Carbon-14-Labeled Plant Residues in Conventional Tillage and No-Till Systems.", *Soil Science Society of America Journal*, 77(1), pp. 123-132. doi : 10.2136/sssaj2011.0064

Messiga, A.J., Ziadi, N., Morel, C., Grant, C.A., Tremblay, G., Lamarre, G.R., and Parent, L.-É. (2012). "Long term impact of tillage practices and biennial P and N fertilization on maize and soybean yields and soil P status.", *Field Crops Research*, 133, pp. 10-22. doi : 10.1016/j.fcr.2012.03.009

Dessureault-Rompré, J., Zearth, B.J., Burton, D.L., Georgallas, A., Sharifi, M., Porter, G.A., Moreau, G., Leclerc, Y., Arsenault, W.J., Chow, T.L., and Grant, C.A. (2012). "Prediction of Soil Nitrogen Supply in Potato Fields using Soil Temperature and Water Content Information.", *Soil Science Society of America Journal*, 76(3), pp. 936-949. doi : 10.2136/sssaj2011.0377

Gao, X. and Grant, C.A. (2012). "Cadmium and zinc concentration in grain of durum wheat in relation to phosphorus fertilization, crop sequence and tillage management.", *Applied and Environmental Soil Science*, 2012(Article ID 817107). doi : 10.1155/2012/817107

Georgallas, A., Dessureault-Rompré, J., Zearth, B.J., Burton, D.L., Drury, C.F., and Grant, C.A. (2012). "Modification of the biophysical water function to predict the change in soil mineral nitrogen concentration resulting from concurrent mineralization and denitrification.", *Canadian Journal of Soil Science*, 92(5), pp.695-710. doi : 10.4141/CJSS2012-020

Grant, C.A., Wu, R.G., Selles, F., Harker, K.N., Clayton, G.W., Bittman, S., Zearth, B.J., and Lupwayi, N.Z. (2012). "Crop yield and nitrogen concentration with controlled release urea and split applications of nitrogen as compared to non-coated urea applied at seeding", *Field Crops Research*, 127(27), pp. 170-180. doi : 10.1016/j.fcr.2011.11.002

Grant, C.A., Malhi, S.S., and Karamanos, R.E. (2012). "Sulfur management for rapeseed.", *Field Crops Research*, 128, pp. 119-128. doi : 10.1016/j.fcr.2011.12.018

Drury, C.F., Reynolds, W.D., Yang, X.M., McLaughlin, N.B., Welacky, T.W., Calder, W., and Grant, C.A. (2012). "Nitrogen source, application time and tillage effects on soil nitrous oxide emissions and corn grain yields.", *Soil Science Society of America Journal*, 76(4), pp. 1268-1279. doi : 10.2136/sssaj2011.0249

Lupwayi, N.Z., Lafond, G.P., Ziadi, N., and Grant, C.A. (2012). "Soil microbial response to nitrogen fertilizer and tillage in barley and corn.", *Soil & Tillage Research*, 118, pp. 139-146. doi : 10.1016/j.still.2011.11.006

## 2011

Lupwayi, N.Z., Clayton, G.W., O'Donovan, J.T., and Grant, C.A. (2011). "Soil Microbial Response to Nitrogen Rate and Placement and Barley Seeding Rate under No Till.", *Agronomy Journal*, 103(4), pp. 1064-1071. doi : 10.2134/agronj2010.0334

Monreal, M.A., Grant, C.A., Irvine, R.B., Mohr, R.M., McLaren, D.L., and Khakbazan, M. (2011). "Crop management effect on arbuscular mycorrhizae and root growth of flax.", *Canadian Journal of Plant Science*, 91(2), pp.315-324. doi : 10.4141/cjps10136

Jia, S., Wang, X., Yang, Y., Dai, K., Meng, C., Zhao, Q., Zhang, X., Zhang, D., Feng, Z., Sun, Y., Wu, X., Cai, D., and Grant, C.A. (2011). "Fate of labeled urea-<sup>15</sup>N as basal and topdressing applications in an irrigated wheat-maize rotation system in North China Plain: 1 winter wheat.", *Nutrient Cycling in Agroecosystems*, 90(3), pp. 331-346. doi : 10.1007/s10705-011-9433-5

Gao, X., Mohr, R.M., McLaren, D.L., and Grant, C.A. (2011). "Grain cadmium and zinc concentrations in wheat as affected by genotypic variation and potassium chloride fertilization.", *Field Crops Research*, 122(2), pp. 95-103. doi : 10.1016/j.fcr.2011.03.005

Soon, Y.K., Malhi, S.S., Lemke, R.L., Lupwayi, N.Z., and Grant, C.A. (2011). "Effect of polymer-coated urea and tillage on the dynamics of available N and nitrous oxide emission from Gray Luvisols.", *Nutrient Cycling in Agroecosystems*, 90(2), pp. 267-279. doi : 10.1007/s10705-011-9428-2

Dessureault-Rompré, J., Zearth, B.J., Chow, T.L., Burton, D.L., Sharifi, M., Georgallas, A., Porter, G.A., Moreau, G., Leclerc, Y., Arsenault, W.J., and Grant, C.A. (2011). "Prediction of soil nitrogen supply in potato fields in a cool humid climate.", *Soil Science Society of America Journal*, 75(2), pp. 626-637. doi : 10.2136/sssaj2010.0305

Grant, C.A., Derksen, D.A., McLaren, D.L., and Irvine, R.B. (2011). "Nitrogen Fertilizer and Urease Inhibitor Effects on Canola Seed Quality in a One-Pass Seeding and Fertilizing System.", *Field Crops Research*, 121(2), pp. 201-208. doi : 10.1016/j.fcr.2010.10.012

Sharifi, M., Zearth, B.J., Burton, D.L., Rodd, A.V., and Grant, C.A. (2011). "Long-term effects of semisolid beef manure application to forage grass on soil mineralizable nitrogen.", *Soil Science Society of America Journal*, 75(2), pp. 649-658. doi : 10.2136/sssaj2010.0089

Khakbazan, M., Hamilton, C., Mohr, R.M., and Grant, C.A. (2011). "Water and nutrient crop sufficiency models for potato, wheat, canola, oats, alfalfa, and corn.", *The Americas Journal of Plant Science and Biotechnology*, 5(Spec. Issue 2), pp. 45-60.

O'Donovan, J.T., Turkington, T.K., Edney, M.J., Clayton, G.W., McKenzie, R.H., Juskiw, P.E., Lafond, G.P., Grant, C.A., Brandt, S.A., Harker, K.N., Johnson, E.N., and May, W.E. (2011). "Seeding Rate, Nitrogen Rate, and Cultivar Effects on Malting Barley Production.", *Agronomy Journal*, 103(3), pp. 709-716. doi : 10.2134/agronj2010.0490

Ziadi, N., Grant, C.A., Samson, N., Nyiraneza, J., Bélanger, G., and Parent, L.-É. (2011). "Efficiency of controlled-release urea for a potato production system in Quebec.", *Agronomy Journal*, 103(1), pp. 60-66. doi : 10.2134/agronj2010.0298

Gao, X. and Grant, C.A. (2011). "Interactive effect of N fertilization and tillage management on Zn biofortification in durum wheat (*Triticum durum*).", *Canadian Journal of Plant Science*, 91(6), pp. 951-960. doi : 10.4141/CJPS2011-026

Gao, X., Tenuta, M., Flaten, D.N., and Grant, C.A. (2011). "Cadmium concentration in flax colonized by mycorrhizal fungi depends on soil phosphorus and cadmium concentrations.", *Communications in Soil Science and Plant Analysis*, 42(15), pp. 1882-1897. doi : 10.1080/00103624.2011.587572

Yang, Y., Wang, X., Dai, K., Jia, S., Meng, C., Zhao, Q., Zhang, X., Zhang, D., Feng, Z., Sun, Y., Wu, X., Cai, D., and Grant, C.A. (2011). "Fate of labeled urea-<sup>15</sup>N as basal and topdressing applications in an irrigated wheat-maize rotation system in North China Plain: II summer maize.", *Nutrient Cycling in Agroecosystems*, 90(3), pp. 379-389. doi : 10.1007/s10705-011-9439-z

Dessureault-Rompré, J., Zebarth, B.J., Georgallas, A., Burton, D.L., and Grant, C.A. (2011). "A biophysical water function to predict the response of soil nitrogen mineralization to soil water content.", *Geoderma*, 167-168, pp. 214-227. doi : 10.1016/j.geoderma.2011.10.005

Grant, C.A. (2011). "Influence of phosphate fertilizer on cadmium in agricultural soils and crops.", *Pedologist*, 54, pp. 143-155.

Gao, X., Flaten, D.N., Tenuta, M., Grimmett, M.G., Gawalko, E.J., and Grant, C.A. (2011). "Soil solution dynamics and plant uptake of cadmium and zinc by durum wheat following phosphate fertilization.", *Plant and Soil*, 338(1-2), pp. 423-434. doi : 10.1007/s11104-010-0556-2

## Other Science Related Publications:

2015

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2015). "Legumes in rotation affect hybrid canola and malting barley.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015, Keynote Theme D oral presentation.

O'Donovan, J.T., Turkington, T.K., Harker, K.N., Oatway, L., Grant, C.A., Beres, B.L., Johnson, E.N., May, W.E., Izydorczyk, M.S., MacLeod, A., Anbessa, Y., and Vera, C.L. (2015). "Malting barley cultivar responses to increasing nitrogen rates in western Canada.", ASA-CSSA-SSSA International Annual Meeting: Synergy in Science. Partnering for Solutions, Minneapolis, MN, USA, November 15-18, 2015. (Poster)

2014

Cambouris, A.C., Zebarth, B.J., Ziadi, N., and Grant, C.A. (2014). "Statistical model impacts on nitrogen recommendation, potato yield, nitrogen uptake efficiency and residual soil nitrate.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014.

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Lafond, G.P., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2014). "Rotational Effects of Legumes and Non-Legumes on Hybrid Canola, and Malting Barley.", American Society of Agronomy Annual Meeting 2014, Long Beach, CA, USA, November 3-5, 2014.

O'Donovan, J.T., Blackshaw, R.E., Grant, C.A., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., and Turkington, T.K. (2014). "Legume crops grown in rotation enhance canola and barley productivity in western Canada.", 13th Congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014, pp. 357-358.

O'Donovan, J.T., Edney, M.J., MacLeod, A., Turkington, T.K., Grant, C.A., Harker, K.N., Johnson, E.N., Lafond, G.P., May, W.E., Beres, B.L., Kabeta, Y., and Juskiw, P.E. (2014). "Response of new malting barley cultivars to increasing nitrogen rates in western Canada.", 13th Congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014, pp. 141-142. (Poster)

Cambouris, A.N., Zebarth, B.J., Ziadi, N., and Grant, C.A. (2014). "Statistical model impacts on nitrogen recommendation, potato yield, nitrogen uptake efficiency and residual soil nitrate.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014. (Poster)



## 2013

Cambouris, A.N., Zearth, B.J., Ziadi, N., Grant, C.A., and Perron, I. (2013). "Impact agronomique du modèle de calibration pour la recommandation en azote sur la production de pomme de terre.", Association Québécoise de Spécialistes en Sciences du Sol (AQSSS), 27e congrès, Hotel Chicoutimi, Chicoutimi, QC, Canada, may 28-30, 2013, Oral presentation.

Ziadi, N., Bélanger, G., Grant, C.A., Cade-Menun, B.J., Lalande, R., Hamel, C., Lafond, J., Lajeunesse, J., Pageau, D., Tremblay, G.F., and Zhang, T.Q. (2013). Soil and plant phosphorus assessment and modeling in Canadian agro-ecosystems. Final report SAGES#1475. (Report)

Badea, A., Izydorczyk, M.S., Grant, C.A., Lukow, O.M., Beta, T., and Therrien, M.C. (2013). "Breeding barley for food – progress and future prospects.", 16th Australian Barley Technical Symposium, Melbourne, Australia, September 8-11, 2013, #1, pp. 71. (Poster)

Cambouris, A.N., Zearth, B.J., Ziadi, N., Grant, C.A., and Parent, L.-É. (2013). "Calibration Model Impacts on Nitrogen Recommendation and Potato Productivity.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013, Oral presentation.

O'Donovan, J.T., Turkington, T.K., Edney, M., Smith, E.G., Harker, K.N., Beres, B.L., Clayton, G.W., Brandt, S.A., Johnson, E.N., Lafond, G.P., May, W.E., Grant, C.A., McKenzie, R., Juskiw, P.E., Kadeta, Y., Stonehouse, K., and Chapman, B. (2013). "Varietal and agronomic impacts on malting barley yield and quality.", FarmTech 2013, Westin Hotel, Edmonton, AB, Canada, January 29-31, 2013.

O'Donovan, J.T., Turkington, T.K., Edney, M., Juskiw, P.E., May, W.E., Grant, C.A., Smith, E.G., Harker, K.N., Johnson, E.N., Beres, B.L., Kadeta, Y., and Chapman, B. (2013). "Relative responses of malting barley varieties to increasing nitrogen rates.", 16th Australian Barley Technical Symposium, Melbourne, Australia, September 8-11, 2013, pp. 58.

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Turkington, T.K., Johnson, E.N., Lafond, G.P., May, W.E., Gan, Y.T., Edney, M., and Juskiw, P.E. (2013). "Effect of legume crops grown two years prior to barley on malting barley yield and quality.", ASA/CSSA/SSSA International annual meeting: Water, Food, Energy and Innovation for a Sustainable World, Tampa, Florida, USA, November 3-6, 2013.

Cambouris, A.N., Zearth, B.J., Ziadi, N., and Grant, C.A. (2013). "Agri-environmental Impacts of Nitrogen Fertilizers on Potato Productivity, Nitrogen uptake efficiency and residual soil nitrate.", 6th International Nitrogen Conference, Kampala, Uganda, November 18-22, 2013.

## 2012

Grant, C.A., Cubadda, F., Carcea, M., Pogna, N.E., and Gassa, L. (2012). "Vitamins, Minerals and Nutritional Value of Durum Wheat.", in Sisson, M., Abecassis, J., Marchylo, B. and Carcea, M. (eds.) - Durum Wheat: Chemistry and Technology. 2nd Edition, American Association of Cereal Chemists (AACC), Chapter 7.

Beaudoin, N., Sansoulet, J.B., Pattey, E., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., O'Donovan, J.T., and Germon, J.C. (2012). "Adaptation de STICS à la culture de canola au Canada à partir du module colza en vue de simuler les émissions de N<sub>2</sub>O par Modulo STICS.", IXe Séminaire du modèle de culture STICS, Sainte-Montaine, France, October 16-19, 2012. (Poster)

Grant, C.A. (2012). "Sulphur – It's not just for Canola anymore.", Advanced Crop Advisors Workshop, Fargo, ND, USA, February 8, 2012.

Grant, C.A. (2012). "Managing phosphorus for high canola yields.", Ontario Canola Growers, Alliston, ON, Canada, January 26, 2012.

Nyiraneza, J., Zearth, B.J., Ziadi, N., Sharifi, M., Burton, D.L., Drury, C.F., Bittman, S., and Grant, C.A. (2012). "The ability of soil chemical and biological N availability indices to predict soil nitrogen supply of contrasting soils under corn.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012. (Poster)

Grant, C.A. and Bruulsema, T.W. (2012). "Protein, Oil and Carbohydrate Composition of Food.", in Bruulsema, T.W., Heffer, P., Welch, R.M., Cakmak, I. and Moran, K. (eds.) - Fertilizing Crops to Improve Human health: A Scientific Review. Vol. 1. Food and Nutritional Security, International Plant Nutrition Institute (IPNI), Norcross, GA and International Fertilizer Industry Association, Paris, France, Chapter 6, pp. 143-175.

Grant, C.A., Di Fonzo, N., and Pisante, M. (2012). "Agronomy of Wheat Production.", in Sisson, M., Abecassis, J., Marchylo, B. and Carcea, M. (eds.) - Durum Wheat: Chemistry and Technology. 2nd Edition, American Association of Cereal Chemists (AACC), Chapter 3, pp. 37-55.

## 2011

Zearth, B.J., Dessureault-Rompré, J., Burton, D.L., Georgallas, A., Sharifi, M., Porter, G.A., Moreau, G., Leclerc, Y., Arsenault, W.J., Chow, T.L., and Grant, C.A. (2011). "Predicting Soil Nitrogen Supply in Potato Fields Using a Simple Kinetic Model.", 19th Annual Northeast Potato Technology Forum, Crowne Plaza Fredericton Lord Beaverbrook Hotel, Fredericton, NB, Canada, March 16-17, 2011.

Cambouris, A.N., Zearth, B.J., Ziadi, N., Grant, C.A., Hu, Z., Gagnon, B., Drury, C.F. (2011). "Agri-environmental effect of N fertilizer on potato production.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Fatteicher, C., Qian, P.Y., Urton, R., Kin, T., Schoenau, J.J., and Grant, C.A. (2011). "Effect of Seed-Placed Sulfate and Phosphate On the Emergence of Brassicae Crops.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Abstract)

Karamanos, R.E., Grant, C.A., and Malhi, S.S. (2011). "Sulfur Management in the Northern Great Plains.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Abstract)

Grant, C.A. (2011). "Supplying nutrients for canola – whatever the weather.", Saskatchewan Canola Workshop, Yorkton, SK, Canada, November 2, 2011. (Presentation)

Grant, C.A., Beres, B.L., Malhi, S.S., Pageau, D., Lafond, J., Schoenau, J.J., Walley, F.L., Heard, J., Flaten, D.N., Hellegars, B., and Sahota, T.S. (2011). "New developments in nutrition research for canola.", Canola Research Summit meeting, Winnipeg, MB, Canada, April 12-13, 2011.

Urton, R., Qian, P., Schoenau, J.J., King, T., and Grant, C.A. (2011). "Effect of Seed-Placed Phosphorus and Ammonium Sulfate on Germination and Emergence of Canola.", Soils and Crops Workshop 2011, Prairieland Park, Saskatoon, SK, Canada, March 15-16, 2011, [CD-ROM].

Dai, M., Hamel, C., St. Arnaud, M., Grant, C.A., Lupwayi, N.Z., Janzen, H.H., Yang, X.Q., and Zhou, Z. (2011). "Composition and diversity of arbuscular mycorrhizal fungi in cropping system associated with different soil zones using pyrosequencing.", Soils Ecology Society Meeting 2011, University of British Columbia - Okanagan, Kelowna, BC, Canada, May 24-27, 2011, pp. 43.

Grant, C.A. (2011). "Management practices to minimize cadmium concentration in crops.", Oral presentation to Chinese Academy of Agricultural Sciences, Beijing, China, November 23, 2011. (Presentation)

Grant, C.A., Zearth, B.J., Malhi, S.S., Soon, Y.K., Selles, F., Lupwayi, N.Z., O'Donovan, J.T., Harker, K.N., and Clayton, G.W. (2011). "Changes in soil ammonium and nitrate concentration over the growing season in western Canada as affected by urea or controlled release urea application.", 12th International Symposium on Soil and Plant Analysis, Mediterranean Agronomic Institute of Chania, Crete, Greece, June 6-10, 2011.

Grant, C.A., Gao, X., Flaten, D.N., Tenuta, M., and Malhi, S.S. (2011). "Impact of Long-term Application of Cadmium in Phosphate Fertilizer on Extractable Cadmium as Affected by Soil Characteristics.", 11th International Conference of Biogeochemistry of Trace Elements, Florence, Italy, July 3-7, 2011.

Cambouris, A.N., Zearth, B.J., Ziadi, N., Grant, C.A., and Drury, C.F. (2011). "Impacts agro-environnementaux de divers fertilisants azotés sur la production de pomme de terre. Association québécoise de spécialistes en sciences du sol.", 25<sup>ème</sup> congrès annuel de l'AQSSS, Wendake, QC, Canada, May 25-27, 2011.

O'Donovan, J.T., Blackshaw, R.E., Grant, C.A., Harker, K.N., Lafond, G.P., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., and Lupwayi, N.Z. (2011). "Legume Crops to Improve Soil Fertility for Enhanced Canola Production.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Poster)

Gao, X., Mohr, R.M., McLaren, D.L., and Grant, C.A. (2011). "Variation in Cadmium, Iron and Zinc Concentration in Grain of 13 Bread Wheat Cultivars Grown on Canadian Prairies.", 11th International Conference of Biogeochemistry of Trace Elements, Florence, Italy, July 3-7, 2011. (Abstract)

Grant, C.A., Gao, X., Flaten, D.N., Tenuta, M., Malhi, S.S., and Akinremi, W. (2011). "Impact of long-term application of cadmium in phosphate fertilizer on extractable cadmium as affected by soil characteristics.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Abstract)

Grant, C.A. (2011). "Sulphur Fertilization – What has Changed?", Manitoba Agronomists 2011 Conference, Winnipeg, MB, Canada, December 13-14, 2011, 8 pages.

Akinremi, W., Grant, C.A., Ige, D.V., Gao, X., Flaten, D.N., Tenuta, M., and Malhi, S.S. (2011). "Changes in soil test phosphorus following seven consecutive applications of high rates of phosphate fertilizer.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Abstract)

Drury, C.F., Reynolds, W.D., Yang, X.M., Welacky, T.W., McLaughlin, N.B., Calder, W., and Grant, C.A. (2011). "Tillage and N source effects on nitrous oxide emissions from soils.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

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## Research Publications:

2015

VandenBygaart, A.J., Gregorich, E.G., and Helgason, B.L. (2015). "Cropland C erosion and burial: Is buried soil organic matter biodegradable?", *Geoderma*, 239-240, pp. 240-249. doi: 10.1016/j.geoderma.2014.10.011

Gillespie, A.W., Gregorich, E.G., Peak, D., and Helgason, B.L. (2015). "Instrumental Methods in Environmental Biogeochemistry.", - *Encyclopedia of Analytical Chemistry*, John Wiley & Sons, Ltd.

Gregorich, E.G., Janzen, H.H., Helgason, B.L., and Ellert, B.H. (2015). "Nitrogenous gas emissions from soils and greenhouse gas effects.", *Advances in Agronomy (Bookseries)*, 132, pp. 39-74. doi: 10.1016/bs.agron.2015.02.004

Qiu, Q., Wu, L., Ouyang, Z., Li, B., Xu, Y., Wu, S.S., and Gregorich, E.G. (2015). "Effects of plant-derived dissolved organic matter (DOM) on soil CO<sub>2</sub> and N<sub>2</sub>O emissions and soil carbon and nitrogen sequestrations.", *Applied Soil Ecology*, 96, pp. 122-130. doi: 10.1016/j.apsoil.2015.07.016

Gregorich, E.G., Gillespie, A.W., Beare, M.H., Curtin, D., Sanei, H., and Yanni, S.F. (2015). "Evaluating biodegradability of soil organic matter by its thermal stability and chemical composition.", *Soil Biology & Biochemistry*, 91, pp. 182-191. doi: 10.1016/j.soilbio.2015.08.032

Diochon, A., Gregorich, E.G., Kellman, L.M., Morrison, M.J., and Ma, B.-L. (2015). "Greater C inputs accelerate loss of C in cropping systems with low N input.", *Plant and Soil*, pp. 1-13. doi: 10.1007/s11104-015-2718-8

2014

Gregorich, E.G., McLaughlin, N.B., Lapen, D.R., Ma, B.-L., and Rochette, P. (2014). "Soil Compaction, Both an Environmental and Agronomic Culprit: Increased Nitrous Oxide Emissions and Reduced Plant Nitrogen Uptake.", *Soil Science Society of America Journal*, 78(6), pp. 1913-1923. doi: 10.2136/sssaj2014.03.0117

Gillespie, A.W., Diochon, A., Ma, B.-L., Morrison, M.J., Kellman, L.M., Walley, F.L., Regier, T.Z., Chevrier, D., Dynes, J.J., and Gregorich, E.G. (2014). "Nitrogen input quality changes the biochemical composition of soil organic matter stabilized in the fine fraction - a long-term study.", *Biogeochemistry*, 117(2-3), pp. 337-350. doi: 10.1007/s10533-013-9871-z

Helgason, B.L., Gregorich, E.G., Janzen, H.H., Ellert, B.H., Lorenz, N., and Dick, R.P. (2014). "Long-term microbial retention of residue C is site-specific and depends on residue placement.", *Soil Biology & Biochemistry*, 68, pp. 231-240. doi: 10.1016/j.soilbio.2013.10.002

Whalen, J.K., Gul, S., Poirier, V., Yanni, S.F., Simpson, M.J., Clemente, J.S., Feng, X.-J., Grayston, S.J., Barker, J., Ishimaru, K., Gregorich, E.G., Angers, D.A., Rochette, P., and Janzen, H.H. (2014). "Transforming plant carbon into soil carbon: process-level controls on carbon sequestration.", *Canadian Journal of Plant Science*, 94(6), pp. 1065-1073. doi: 10.4141/CJPS2013-145

St. Luce, M., Ziadi, N., Zebarth, B.J., Grant, C.A., Tremblay, G.F., and Gregorich, E.G. (2014). "Rapid determination of soil organic matter quality indicators using visible near infrared reflectance spectroscopy.", *Geoderma*, 232-234, pp. 449-458. doi: 10.1016/j.geoderma.2014.05.023

Gillespie, A.W., Sanei, H., Diochon, A., Ellert, B.H., Regier, T.Z., Chevrier, D., Dynes, J.J., Tarnocai, C., and Gregorich, E.G. (2014). "Perennially and annually frozen soil carbon differ in their susceptibility to decomposition: analysis of Subarctic earth hummocks by bioassay, XANES and pyrolysis.", *Soil Biology & Biochemistry*, 68, pp. 106-116. doi: 10.1016/j.soilbio.2013.09.021

Condron, L.M., Hopkins, D.W., Gregorich, E.G., Black, A., and Wakelin, S.A. (2014). "Long-term irrigation effects on soil organic matter under temperate grazed pasture.", *European Journal of Soil Science*, 65(5). doi: 10.1111/ejss.12164

2013

Nangia, V., Sunohara, M., Topp, E., Gregorich, E.G., Drury, C.F., Gottschall, N., and Lapen, D.R. (2013). "Measuring and Modeling the Effects of Drainage Water Management on Soil Greenhouse Gas Fluxes from Corn and Soybean Fields.", *Journal of Environmental Management*, 129, pp. 652-664. doi: 10.1016/j.jenvman.2013.05.040

Dennis, P.G., Sparrow, A.D., Gregorich, E.G., Novis, P.M., Elberling, B., Greenfield, L.G., and Hopkins, D.W. (2013). "Microbial responses to carbon and nitrogen supplementation in an Antarctic Dry Valley soil.", *Frontiers in Chemistry*, 25(1), pp. 55-61. doi : 10.1017/S0954102012000855

Dessureault-Rompré, J., Zebarth, B.J., Burton, D.L., Gregorich, E.G., Goyer, C., Georgallas, A., and Grant, C.A. (2013). "Are soil mineralizable nitrogen pools replenished during the growing season in agricultural soils?", *Soil Science Society of America Journal*, 77(2), pp. 512-524. doi : 10.2136/sssaj2012.0328

Greenfield, L.G., Gregorich, E.G., Van Kessel, C., Baldock, J.A., Beare, M.H., Billings, S.A., Clinton, P., Condrón, L.M., Hill, S., Hopkins, D.W., and Janzen, H.H. (2013). "Acid hydrolysis to define a biologically-resistant pool is compromised by carbon loss and transformation. Short communication.", *Soil Biology & Biochemistry*, 64, pp. 122-126. doi : 10.1016/j.soilbio.2013.04.009

Diochon, A., Gregorich, E.G., and Tamocai, C. (2013). "Evaluating the quantity and biodegradability of soil organic matter in some Canadian Turbic Cryosols.", *Geoderma*, 202-203, pp. 82-87. doi : 10.1016/j.geoderma.2013.03.013

Liang, A.-Z., McLaughlin, N.B., Ma, B.-L., Gregorich, E.G., Morrison, M.J., Burt, S.D., Patterson, B.S., and Evenson, L.I. (2013). "Changes in mouldboard plough draught and tractor fuel consumption on continuous corn after 18 years of organic and inorganic N amendments.", *Energy*, 52, pp. 89-95. doi : 10.1016/j.energy.2012.10.064

Zhang, J.X., Xue, A.G., Cober, E.R., Morrison, M.J., Zhang, H.J., Zhang, S.Z., and Gregorich, E.G. (2013). "Prevalence, pathogenicity and cultivar resistance of *Fusarium* and *Rhizoctonia* species causing soybean root rot.", *Canadian Journal of Plant Science*, 93(2), pp. 221-236. doi : 10.4141/CJPS2012-223

St. Luce, M., Ziadi, N., Zebarth, B.J., Whalen, J.K., Grant, C.A., Gregorich, E.G., Lafond, G.P., Blackshaw, R.E., Johnson, E.N., O'Donovan, J.T., and Harker, K.N. (2013). "Particulate organic matter and soil mineral nitrogen concentrations are good predictors of the soil nitrogen supply to canola following legume and non-legume crops in western Canada.", *Canadian Journal of Soil Science*, 93(5), pp. 607-620. doi : 10.4141/cjss2013-005

## 2012

VandenBygaart, A.J., Kroetsch, D.J., Gregorich, E.G., and Lobb, D.A. (2012). "Soil C erosion and burial in cropland.", *Global Change Biology*, 18(4), pp. 1441-1452. doi : 10.1111/j.1365-2486.2011.02604.x

Clemente, J.S., Gregorich, E.G., Simpson, A.J., Kumar, R., Courtier-Murias, D., and Simpson, M.J. (2012). "Comparison of nuclear magnetic resonance methods for the analysis of organic matter composition from soil density and particle fractions.", *Environmental Chemistry*, 9(1), pp. 97-107. doi : 10.1071/EN11096

## 2011

Sparrow, A.D., Gregorich, E.G., Hopkins, D.W., Novis, P.M., Elberling, B., and Greenfield, L.G. (2011). "Resource limitations to soil microbial activity in an Antarctic dry valley.", *Soil Science Society of America Journal*, 75(6), pp. 2188-2197. doi : 10.2136/sssaj2010.0303

Gregorich, E.G., Lapen, D.R., Ma, B.-L., McLaughlin, N.B., and VandenBygaart, A.J. (2011). "Soil and Crop Response to Varying Levels of Compaction, Nitrogen Fertilization, and Clay Content.", *Soil Science Society of America Journal*, 75(4), pp. 1483-1492. doi : 10.2136/sssaj2010.0395

Qian, B., Gregorich, E.G., Gameda, S.B., Hopkins, D.W., and Wang, X.L. (2011). "Observed soil temperature trends associated with climate change in Canada.", *Journal of Geophysical Research*, 116(Article D02106). doi : 10.1029/2010JD015012

## Other Science Related Publications:

### 2015

Singh, J., VanderZaag, A.C., Crolla, A., Kinsley, C., Wagner-Riddle, C., and Gregorich, E.G. (2015). "The effect of nitrogen fixation on direct and indirect nitrous oxide emissions in dairy crop rotations.", *Canadian Soil Science Society Conference*, Montreal, QC, Canada, July 5-10, 2015. (Poster)

Schwager, E., VanderZaag, A.C., Wagner-Riddle, C., Crolla, A., Kinsley, C., and Gregorich, E.G. (2015). "N<sub>2</sub>O emissions and N-Leaching from Spring and Fall Applications of Digestate, Raw Dairy Manure and Urea.", *Joint Assembly AGU-GAC-MAC-CGU*, Montreal, QC, Canada, May 5-6, 2015. (Poster)

### 2014

Helgason, B.L., VandenBygaart, A.J., Korschuh, H.J., Bedard-Haughn, A., Gillespie, A.W., and Gregorich, E.G. (2014). "Buried C in croplands: How biologically available is it?", *Soil Organic Matter 6 Workshop*, Kiawah Island, SC, USA, October, 2104, Presentation.

Schwager, E., VanderZaag, A.C., Crolla, A., Kinsley, C., Wagner-Riddle, C., and Gregorich, E.G. (2014). "N<sub>2</sub>O emissions from the land application of digestate: synergy or trade-off to the GHG benefits of biogas systems?", Northeast Agricultural and Biological Engineering Conference (NABEC), Kemptville, ON, Canada, July 28, 2014. (Poster)

Elberling, B., Greenfield, L.G., Gregorich, E.G., Hopkins, D.W., Novis, P.M., and Sparrow, A.D. (2014). "Comments on "Abiotic processes dominate CO<sub>2</sub> fluxes in Antarctic soils" by Shanhun et al. *Soil Biology & Biochemistry* 53, 99-111 (2012) (Letter).", *Soil Biology & Biochemistry*, 75, pp. 310-311.

Gregorich, E.G., Ellert, B.H., Janzen, H.H., and Helgason, B.L. (2014). "Plant residue decay in diverse Canadian Soils.", American Society of Agronomy Annual Meetings, Long Beach, CA, USA, November 2014, Presentation.

Gregorich, E.G., Ellert, B.H., Janzen, H.H., and Helgason, B.L. (2014). "Plant residue decay in diverse Canadian soils.", 20th World Congress of Soil Science, Jeju, South Korea, June 8-13, 2014, Presentation.

Gregorich, E.G., Ellert, B.H., Helgason, B.L., and Janzen, H.H. (2014). "Soil disturbance effects on decomposition of plant residues in Canadian agricultural soils.", 20th World Congress of Soil Science, Jeju, South Korea, June, 2014, Presentation.

Ellert, B.H., Helgason, B.L., Janzen, H.H., and Gregorich, E.G. (2014). "Soil Disturbance Effects on Plant Residue Decay in Canadian Agricultural Soils.", Canadian Society of Soil Science Annual Meetings, Banff, AB, Canada, May 2014.

VandenBygaart, A.J., VandenBygaart, A.J., Gregorich, E.G., and Helgason, B.L. (2014). "Carbon Dynamics in Eroded Landscapes: Is Buried Soil Organic Matter Biologically Available?", Canadian Society of Soil Science Annual Meetings, Banff, AB, Canada, May 4-7, 2014, Presentation.

Yang, X.M., Drury, C.F., Gregorich, E.G., Hao, X., Geng, X.Y., Reid, K., Fox, C.A., and VandenBygaart, A.J. (2014). "Mid-Infrared Spectral Characteristics of Different Agricultural Soils across Canada.", CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.

Gillespie, A.W., Sanei, H., Diochon, A., Tamocai, C., Janzen, H.H., Regier, T.Z., Chevrier, D., Dynes, J.J., and Gregorich, E.G. (2014). "Biological stability of soil organic matter is related to thermal and chemical properties.", Complex Soil Systems SSSA/Bouyoucos Funds, Berkeley Lab, DOE, Berkeley, CA, USA, September 3-5, 2014.

Gillespie, A.W., Sanei, H., Diochon, A., Tamocai, C., Janzen, H.H., Regier, T.Z., and Gregorich, E.G. (2014). "Using thermal and spectroscopic (XANES) indices to understand the biological stability of soil organic matter.", American Geophysical Union (AGU) Fall Meeting, San Francisco, CA, USA, December 15-19, 2014.

## 2013

Ellert, B.H., Gregorich, E.G., and Janzen, H.H. (2013). "Measuring and Monitoring Soil Carbon Storage.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013, Oral presentation.

Schwager, E., VanderZaag, A.C., Crolla, A., Kinsley, C., Wagner-Riddle, C., and Gregorich, E.G. (2013). "Nitrous oxide emissions and nitrogen leaching in Dairy feed crops receiving manure, anaerobically digested manure, and urea.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

## 2011

Nangia, V., Sunohara, M., Topp, E., Gregorich, E.G., Gottschall, N., Drury, C.F., and Lapen, D.R. (2011). "Measuring the effects of water table management on soil greenhouse gas emissions from corn and soybean fields in Eastern Canada.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Nangia, V., Sunohara, M., Topp, E., Gregorich, E.G., Gottschall, N., Drury, C.F., Toussef, M.A., and Lapen, D.R. (2011). "Assessing field-scale effects of controlled tile drainage on N mass balance from corn and soybean fields in Eastern Ontario, Canada.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

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## Research Publications:

2015

Wang, Y., Wang, Z., Amyot, L., Tian, L.-N., Xu, Z., Gruber, M.Y., and Hannoufa, A. (2015). "Ectopic expression of miR156 represses nodulation and causes morphological and developmental changes in *Lotus japonicus*.", *Molecular Genetics and Genomics*, 290(2), pp. 471-484. doi: 10.1007/s00438-014-0931-4

Aung, B., Gruber, M.Y., Amyot, L., Omari, K., Bertrand, A., and Hannoufa, A. (2015). "MicroRNA156 as a promising tool for alfalfa improvement.", *Plant Biotechnology Journal*, 13, pp. 779-790. doi: 10.1111/pbi.12308

Aung, B., Gruber, M.Y., Amyot, L., Omari, K., Bertrand, A., and Hannoufa, A. (2015). "Ectopic expression of LjmiR156 delays flowering, enhances shoot branching, and improves forage quality in alfalfa.", *Plant Biotechnology Reports*, 9(6), pp. 379-393. doi: 10.1007/s11816-015-0375-2

Wei, S., Xi, Y.Z., Song, D.-P., Wei, H., Gruber, M.Y., Gao, M.-J., Parkin, I.A.P., Kachaturians, G., and Hannoufa, A. (2015). "Quantitative and structural analyses of T-DNA tandem repeats in transgenic *Arabidopsis* SK mutant lines.", *Plant Cell, Tissue and Organ Culture*, 123(1), pp. 183-192. doi: 10.1007/s11240-015-0825-0

Gao, M.-J., Li, X., Huang, J., Gropp, G.M., Gjetvaj, B., Lindsay, D., Wei, S., Coutu, C., Chen, Z., Wan, X.-C., Hannoufa, A., Lydiate, D.J., Gruber, M.Y., Chen, Z.J., and Hegedus, D.D. (2015). "SCARECROW-LIKE15 interacts with HISTONE DEACETYLASE19 and is essential for repressing the seed maturation programme.", *Nature Communications*, 6(Article number 7243). doi: 10.1038/ncomms8243

Aung, B., Gruber, M.Y., and Hannoufa, A. (2015). "The MicroRNA156 system: A tool in plant biotechnology.", *Biocatalysis and Agricultural Biotechnology*. doi: 10.1016/j.bcab.2015.08.002

Taherian, A.R., Gao, P., Yu, M., Cui, D., Regan, S., Parkin, I.A.P., and Gruber, M.Y. (2015). "A landscape of hairy and twist ed: Hunting for new trichome mutants in the Saskatoon *Arabidopsis* T-DNA population.", *Plant Biology*, 17(2), pp. 384-394. doi: 10.1111/plb.12230

2012

Mahmoudi, H., Ben Nasri, A.M., Baâtour, Olfa, Huang, A.J., Tarchoune, I., Nasri, N., Rym, K., Gruber, M.Y., Lachaâl, M., Hannoufa, A., and Ouerghi, Z. (2012). "Differential response to elevated NaCl by antioxidant enzymes and gene transcripts in two contrasting lettuce genotypes.", *Australian Journal of Crop Science*, 6(4), pp. 632-640.

Hossain, Z., Amyot, L., McGarvey, B.D., Gruber, M.Y., Jung, J., and Hannoufa, A. (2012). "The Translation Elongation Factor eEF-1B $\beta$ 1 Is Involved in Cell Wall Biosynthesis and Plant Development in *Arabidopsis thaliana*.", *PLoS ONE*, 7(1, Article No. e30425). doi: 10.1371/journal.pone.0030425

Canam, T., Li, X., Holowachuk, J., Yu, M., Xia, J., Mandal, R., Krishnamurthy, R., Bouatra, S., Sinelnikov, I., Yu, B., Grenkow, L.F., Wishart, D.S., Steppuhn, H., Falk, K.C., Dumonceaux, T.J., and Gruber, M.Y. (2012). "Differential metabolite profiles and salinity tolerance between two genetically related brown-seeded and yellow-seeded *Brassica carinata* lines.", *Plant Science*, 198(January 2013), pp. 17-26. doi: 10.1016/j.plantsci.2012.09.011

Wei, S., Gruber, M.Y., Yu, B., Gao, M.-J., Khachatourians, G.G., Hegedus, D.D., Parkin, I.A.P., and Hannoufa, A. (2012). "Arabidopsis mutant sk156 reveals complex regulation of SPL15 in a miR156-controlled gene network.", *BMC Plant Biology*, 12:169. doi: 10.1186/1471-2229-12-169

Yu, B., Gruber, M.Y., Khachatourians, G.G., Zhou, R., Epp, D.J., Hegedus, D.D., Parkin, I.A.P., Welsch, R., and Hannoufa, A. (2012). "Arabidopsis cpSRP54 regulates carotenoid accumulation in *Arabidopsis* and *Brassica napus*.", *Journal of Experimental Botany*, 63(14), pp. 5189-5202. doi: 10.1093/jxb/ers179

Chen, T., Yang, Q., Gruber, M.Y., Kang, J., Sun, Y., Ding, W., Zhang, T., and Zhang, X. (2012). "Expression of an alfalfa (*Medicago sativa* L.) ethylene response factor gene MsERF8 in tobacco plants enhances resistance to salinity.", *Molecular Biology Reports*, 39(5), pp. 6067-6075. doi: 10.1007/s11033-011-1421-y

Li, Y., Sun, Y., Yang, Q., Kang, J., Zhang, T., Gruber, M.Y., and Fang, F. (2012). "Cloning and function analysis of an alfalfa (*Medicago sativa* L.) zinc finger protein promoter MsZFP.", *Molecular Biology Reports*, 39(8), pp. 8559-8569. doi: 10.1007/s11033-012-1712-y

Bai, Y., Yang, Q., Kang, J., Sun, Y., Gruber, M.Y., and Chao, Y. (2012). "Isolation and functional characterization of a *Medicago sativa* L. gene, MsLEA3-1.", *Molecular Biology Reports*, 39(3), pp. 2883-2892. doi: 10.1007/s11033-011-1048-z

- Onyilagha, J.C., Gruber, M.Y., Hallett, R.H., Holowachuk, J., Buckner, A., and Soroka, J.J. (2012). "Constitutive flavonoids deter flea beetle insect feeding in *Camelina sativa* L.", *Biochemical Systematics and Ecology*, 42, pp. 128-133. doi : 10.1016/j.bse.2011.12.021
- Salah, I.B., Jelali, N., Slatni, T., Gruber, M.Y., Albacete, A., Andújar, C.M., Martínez, V., Pérez-Alfocea, F., and Abdelly, C. (2012). "Involvement of source-sink relationship and hormonal control in the response of *Medicago ciliaris*-*Sinorhizobium medicae* symbiosis to salt stress.", *Acta Biologica Hungarica*, 63(1), pp. 97-112. doi : 10.1556/ABiol.63.2012.1.8
- Taheri, A., Robinson, S.J., Parkin, I.A.P., and Gruber, M.Y. (2012). "Revised Selection Criteria for Candidate Restriction Enzymes in Genome Walking.", *PLoS ONE*, 7(4, Article No. e35117). doi : 10.1371/journal.pone.0035117
- Steppuhn, H., Acharya, S.N., Iwaasa, A.D., Gruber, M.Y., and Miller, D.R. (2012). "Inherent responses to root-zone salinity in nine alfalfa populations.", *Canadian Journal of Plant Science*, 92(2), pp. 235-248. doi : 10.4141/CJPS2011-174
- Gruber, M.Y., Wu, L., Links, M.G., Gjetvaj, B., Durkin, J.M.H., Lewis, C.T., Sharpe, A.G., Lydiate, D.J., and Hegedus, D.D. (2012). "Analysis of expressed sequence tags in *Brassica napus* cotyledons damaged by crucifer flea beetle feeding.", *Genome*, 55(2), pp. 118-133. doi : 10.1139/G11-083
- Jonker, A., Gruber, M.Y., Wang, Y., Coulman, B.E., McKinnon, J.J., Christensen, D.A., and Yu, P. (2012). "Foam stability of leaves from anthocyanidin accumulating Lc-alfalfa and relation to molecular structures detected by fourier-transformed infrared vibration spectroscopy.", *Grass and Forage Science*, 67(3), pp. 369-381. doi : 10.1111/j.1365-2494.2012.00853.x
- Chen, T., Yang, Q., Zhang, X., Ding, W., and Gruber, M.Y. (2012). "An alfalfa (*Medicago sativa* L.) ethylene response factor gene, MsERF11, enhances salt tolerance in transgenic *Arabidopsis*.", *Plant Cell Reports*, 31(9), pp. 1737-1746. doi : 10.1007/s00299-012-1287-z
- Mahmoudi, H., Baâtour, Olfa, Huang, A.J., Nasri, N., Salah, I.B., Tarchoune, I., Zaghdoudi, M., Gruber, M.Y., Lachaâl, M., Ouerghi, Z., and Hannoufa, A. (2012). "Verte and Romaine lettuce varieties (*Lactuca sativa*) show differential responses to high NaCl concentrations.", *Journal of Plant Nutrition and Soil Science*, 175(4), pp. 641-648. doi : 10.1002/jpln.201100217
- Mupondwa, E.K., Li, X., Tabil, L.G., Phani, A., Sokhansanj, S., Stumborg, M., Gruber, M.Y., and Laberge, S. (2012). "Technoeconomic analysis of wheat straw densification in the Canadian Prairie Province of Manitoba.", *Bioresour. Technol.*, 110, pp. 355-363. doi : 10.1016/j.biortech.2012.01.100
- Jonker, A., Gruber, M.Y., Wang, Y., Narvaez, N., Coulman, B.E., McKinnon, J.J., Christensen, D.A., Azarfar, A., and Yu, P. (2012). "Fermentation, degradation and microbial nitrogen partitioning for three forage colour phenotypes within anthocyanidin-accumulating Lc-alfalfa progeny.", *Journal of the Science of Food and Agriculture*, 92(11), pp. 2265-2273. doi : 10.1002/jsfa.5619

## 2011

- Ben Salah, I., Slatni, T., Gruber, M.Y., Mahmoudi, H., Zribi, K., and Abdelly, C. (2011). "Variability in the response of six genotypes of N<sub>2</sub>-fixing *Medicago ciliaris* to NaCl.", *Symbiosis*, 53(3), pp. 139-147. doi : 10.1007/s13199-011-0118-2
- Li, X.L., Gruber, M.Y., Hegedus, D.D., Lydiate, D.J., and Gao, M.-J. (2011). "Effects of a Coumarin Derivative, 4-Methylumbelliferone, on Seed Germination and Seedling Establishment in *Arabidopsis*.", *Journal of Chemical Ecology*, 37(8), pp. 880-890. doi : 10.1007/s10886-011-9987-3
- Xiong, J., Yang, Q., Kang, J., Sun, Y., Zhang, T., Gruber, M.Y., and Ding, W. (2011). "Simultaneous isolation of DNA, RNA, and protein from *Medicago truncatula* L.", *Electrophoresis*, 32(2), pp. 321-330. doi : 10.1002/elps.201000425
- Ben Salah, I., Slatni, T., Gruber, M.Y., Messedi, D., Gandour, M., Benzarti, M., Haouala, R., Zribi, K., Hamed, K.B., Pérez-Alfocea, F., and Abdelly, C. (2011). "Relationship between symbiotic nitrogen fixation, sucrose synthesis and anti-oxidant activities in source leaves of two *Medicago ciliaris* lines cultivated under salt stress.", *Environmental and Experimental Botany*, 70(2-3), pp. 166-173. doi : 10.1016/j.envexpbot.2010.08.014
- Jonker, A., Gruber, M.Y., Wang, Y., Coulman, B.E., Azarfar, A., McKinnon, J.J., Christensen, D.A., and Yu, P. (2011). "Modeling degradation ratios and nutrient availability of anthocyanidin-accumulating Lc-alfalfa populations in dairy cows.", *Journal of Dairy Science (JDS)*, 94(3), pp. 1430-1444. doi : 10.3168/jds.2010-3604
- Li, X.L., Qin, J.-C., Wang, Q.-Y., Wu, X., Lang, C.-Y., Pan, H.-Y., Gruber, M.Y., and Gao, M.-J. (2011). "Metabolic engineering of isoflavone genistein in *Brassica napus* with soybean isoflavone synthase.", *Plant Cell Reports*, 30(8), pp. 1435-1442. doi : 10.1007/s00299-011-1052-8
- Li, X.L., Gao, P., Cui, D., Wu, L., Parkin, I.A.P., Saberianfar, R., Menassa, R., Pan, H.-Y., Westcott, N.D., and Gruber, M.Y. (2011). "The *Arabidopsis* stt19-4 mutant differentially accumulates proanthocyanidin and anthocyanin through a 3' amino acid substitution in glutathione S-transferase.", *Plant, Cell & Environment*, 34(3), pp. 374-388. doi : 10.1111/j.1365-3040.2010.02249.x

Kaddour, R., Mahmoudi, H., Baâtour, Olfa, Tarchoune, I., Nasri, N., Ben Salah, I., Berthomieu, P., Gruber, M.Y., and Mokhtar, L. (2011). "Physiological and molecular responses of two Arabidopsis accessions to calcium amendment and salt constraint.", *Acta Physiologiae Plantarum*, 34(2), pp. 439-450. doi : 10.1007/s11738-011-0840-7

Ben Salah, I., Mahmoudi, H., Gruber, M.Y., Slatni, T., Boulaaba, M., Gandour, M., Messedi, D., Hamed, K.B., Ksouri, R., Hannoufa, A., and Abdelly, C. (2011). "Phenolic content and antioxidant activity in two contrastin *Medicago ciliaris* lines cultivated under salt stress.", *Biologia*, 66(5), pp. 813-820. doi : 10.2478/s11756-011-0102-6

Soroka, J.J., Holowachuk, J., Gruber, M.Y., and Grenkow, L.F. (2011). "Feeding by Flea Beetles (Coleoptera: Chrysomelidae; *Phyllotreta* spp.) Is Decreased on Canola (*Brassica napus*) Seedlings with Increased Trichome Density.", *Journal of Economic Entomology*, 104(1), pp. 125-136. doi : 10.1603/EC10151

Wei, S., Hannoufa, A., Soroka, J.J., Xu, N., Li, X.L., Gruber, M.Y., and Zebarjadi, A. (2011). "Enhanced  $\beta$ -ionone Emission in *Arabidopsis* Over-Expressing *AtCCD1* Reduces Feeding Damage in vivo by the Crucifer Flea Beetle.", *Environmental Entomology*, 40(6), pp. 1622-1630. doi : 10.1603/EN11088

Hossain, Z., McGarvey, B.D., Macfie, S. M., Amyot, L., Gruber, M.Y., Jung, J., Hannoufa, A. (2011). "DIMINUTO 1 affects the lignin profile and secondary cell wall formation in *Arabidopsis*.", *Planta*, 235(3), pp. 485-498. doi : 10.1007/s00425-011-1519-4

## Other Science Related Publications:

### 2015

Arshad, M.A., Hannoufa, A., and Gruber, M.Y. (2015). "MicroRNA156 overexpression enhances drought resistance in alfalfa (An invention disclosure submitted for management review May 2015)."

Hannoufa, A., Gruber, M.Y., Aung, B., Amyot, L., and Omari, K. (2015). "MicroRNA156 as Tool in Plant Metabolic Engineering.", Gordon Research Conference-Plant Metabolic Engineering, Waterville Valley, NH, USA, July 19-24, 2015, #26. (Poster)

Hannoufa, A. and Gruber, M.Y. (2015). "MicroRNA156: A promising tool for alfalfa improvement.", Industry presentation presented to Forage Genetics International, August 28, 2015. (Presentation)

Li, X., Hannoufa, A., Amyot, L., Gruber, M.Y., Zhang, Y., and Yu, P. (2015). "Effect of TT8 and HB12 down-regulation in alfalfa on protein and energy values for dairy cattle.", Western Canadian Dairy Seminar: Taking Care of Dairy Business, Sheraton Red Deer, Red Deer, Alberta, Canada, March 10-13, 2015. (Presentation)

Arshad, M.A., Gruber, M.Y., and Hannoufa, A. (2015). "A step ahead: Improving alfalfa for biomass and environmental stresses.", Botany 2015 Joint Conference: Science and plants for people, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-30, 2015, Oral presentation.

Hannoufa, A., Gruber, M.Y., Aung, B., Bertrand, A., Amyot, L., and Omari, K. (2015). "Overexpression of miR156 affects forage yield and other traits in alfalfa by regulating SPL genes.", Botany 2015 Joint Conference: Science and plants for people, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015, Oral presentation.

Li, X., Hannoufa, A., Amyot, L., Gruber, M.Y., Zhang, Y., and Yu, P. (2015). "Effect of TT8 and HB12 down-regulation in alfalfa on protein and energy values for dairy cattle.", Western Canadian Dairy Seminar: Taking Care of Dairy Business, Sheraton Red Deer, Red Deer, Alberta, Canada, March 10-13, 2015.

Hannoufa, A., Aung, B., Gruber, M.Y., Omari, K., and Amyot, L. (2015). "MicroRNA156 controls forage yield and other traits in alfalfa by regulating target genes.", 2015 Plant and Animal Genome Conference, San Diego, CA, USA, January 10-15, 2015, poster number 772. (Poster)

### 2014

Hannoufa, A., Aung, B., Gruber, M.Y., Amyot, L., and Yu, M. (2014). "The miR156 gene regulatory network controls forage yield and other traits in alfalfa.", North American Alfalfa Improvement Conference, Lethbridge, AB, Canada, July 8-10, 2014, Oral presentation.

Aung, B., Hannoufa, A., Gruber, M.Y., Amyot, L., and Yu, M. (2014). "The miR156-SPL gene regulatory network controls flowering and yield in alfalfa.", 9th IAPB-Canada meeting, Montreal, QC, Canada, May 12-15, 2014, #9. (Poster)

Gao, M-G., Li, X., Huang, J., Gropp, G.M., Lindsay, D., Gjetvaj, B., Wei, S., Wan, X-C., Chen, Z., Gruber, M.Y., Hannoufa, A., Lydiate, D.J., Chen, Z.J., and Hegedus, D.D. (2014). "SCARECROW-LIKE 15 interacts with HISTONE DEACETYLASE 19 and is essential to the repression of the seed maturation program.", 25th International Conference on Arabidopsis Research, Vancouver, BC, Canada, July 28-August 1, 2014, #207. (Poster)

Omari, K., Aung, B., Gruber, M.Y., Amyot, L., Bertrand, A., and Hannoufa, A. (2014). "Analysis of Cell Wall Residue of Alfalfa Overexpressing miR156.", Biology Graduate Research Forum, Western University, London, ON, Canada, September 26, 2014.



Aung, B., Hannoufa, A., Gruber, M.Y., Amyot, L., and Yu, M. (2014). "Ectopic expression of miR156 improves alfalfa yield and quality.", Eastern Regional Meeting of the Canadian Society of Plant Biologists, Guelph, ON, Canada, November 28-29, 2014, Oral presentation.

Gruber, M.Y., Hannoufa, A., Aung, B., Wang, Y., Amyot, L., Yu, M., and Wei, S. (2014). "miR156 is a Key to Improving Biomass Yield in Alfalfa.", 2014 Plant and Animal Genomics Conference, San Diego, CA, USA. (Presentation)

Hannoufa, A., Aung, B., Wang, Y., Amyot, L., Wei, S., and Gruber, M.Y. (2014). "MicroRNA156 regulates yield in Arabidopsis and alfalfa.", Keystone Symposium: RNA Silencing, Seattle WA, USA. (Poster)

Hannoufa, A., Aung, B., Gruber, M.Y., Amyot, L., and Yu, M. (2014). "The miR156-SPL gene network regulates flowering and shoot branching in alfalfa.", 9th IAPB-Canada meeting, Montreal, QC, Canada, May 12-15, 2014, Oral presentation.

## 2013

Hannoufa, A., Yu, B., Gruber, M.Y., Reynolds, B.L., Haughn, G.W., and Gilchrist, E.J. (2013). "Enhancing the carotenoid profile of canola seeds.", 2013 Annual Meeting of the Canadian Society of Plant Biologists, Quebec City, QC, Canada, June 26-28, 2013. (Presentation)

Aung, A., Gruber, M.Y., Amyot, L., Keyghobadi, N., and Hannoufa, A. (2013). "Functional characterization of microRNA156 in *Medicago sativa*.", Biology Graduate Students Forum, Western University, London, ON, Canada, October 19, 2013. (Presentation)

Hannoufa, A. and Gruber, M.Y. (2013). "MicroRNA156-SPL gene network regulates biomass yield in alfalfa.", Forage Genetics International, London, ON, Canada, September 19, 2013. (Presentation)

Aung, B., Gruber, M.Y., Amyot, L., Keyghobadi, N., and Hannoufa, A. (2013). "Overexpression of microRNA156 leads to enhanced forage yield in alfalfa.", 2013 Eastern Regional Meeting of the Canadian Society of Plant Biologists, Mississauga, ON, Canada, December 6-7, 2013. (Presentation)

## 2012

Hannoufa, A., Wang, Y., Gruber, M.Y., Wei, S., and Amyot, L. (2012). "MicroRNA156 regulates secondary metabolism and plant architecture.", 8th International Symposium on Biocatalysis and Agricultural Biotechnology, Sanoma Valley, CA, USA, October 28-31, 2012.

Gruber, M.Y., Wei, S., Li, X., Yu, B., Kadoor, R., Mahmoudi, H., Ben Salah, I., Yu, M., Holowachuk, J., Nayidu, N., Taheri, A., Bonham-Smith, P.C., and Hannoufa, A. (2012). "New Mechanisms and Applications for Plant Secondary Metabolites and non-glandular Trichomes.", Plant Canada 2012 (joint meeting of the Canadian Society of Agronomy (CSA), Canadian Society for Horticultural Science (CSHS), Certified Crop Advisors (CCA), North American Fruit Explorers (NAFEX)): Adapting Crops to Change, University of Saskatchewan, Saskatoon, SK, Canada, July 16-19, 2012.

Lakshminarayan, S., Wei, S., Gruber, M.Y., Bernards, M.A., Tian, L.-N., Qubbaj, T., and Hannoufa, A. (2012). "Role of carotenoid cleavage dioxygenases in volatile emissions and insect resistance in *Arabidopsis*.", Canadian Society of Plant Biologists (CSPB) Eastern Regional Meeting and Plant Development Workshop, Wilfrid Laurier University, Waterloo, ON, Canada, November 30 - December 1, 2012.

Lakshminarayan, S., Wei, S., Gruber, M.Y., Bernards, M.A., and Hannoufa, A. (2012). "Role of Carotenoid Cleavage Dioxygenases in Volatile Emissions and Insect Resistance in *Arabidopsis thaliana*.", 51st Phytochemical Society of North America (PSNA) Annual Meeting, University of Western Ontario, London, ON, Canada, August 11-15, 2012.

Lakshminarayan, S., Wei, S., Gruber, M.Y., Bernards, M.A., Tian, L.-N., Qubbaj, T., and Hannoufa, A. (2012). "Role of carotenoid cleavage dioxygenases in volatile emissions and insect resistance in *Arabidopsis*.", 3rd Annual Biology Graduate Research Forum 2012, University of Western Ontario, London, ON, Canada, October 20, 2012.

Li, X., Gruber, M.Y., Falk, K.C., and Westcott, N.D. (2012). "Phytoremediation capacity of brown-seeded and yellow-seeded *Brassica carinata*.", in Anjum, N.A., Pereira, M.E., Ahmad, I., Duarte, A.C., Umar S., and Khan, N.A. (eds.) - Phytotechnologies: Remediation of Environmental Contaminants, CRC Press Taylor & Francis.

## 2011

Gruber, M.Y., Li, X., Gao, P., Cui, D., Yu, M., Nayidu, N., Alahakoon, U.I., Wei, S., Yu, B., Holowachuk, J., Bonham-Smith, P.C., Regan, S., Hannoufa, A., Hossein, Z., and Parkin, I.A.P. (2011). "Unravelling Mysteries in the Regulation of Plant Secondary Metabolites and Non-glandular Trichomes: New Mechanisms and Crop Applications.", 50th Anniversary Meeting of the Phytochemical Society of North America, Fairmont Orchid Hotel and HILO Conference Centre, Kohala Coast, Big Island, HI, USA, December 10-15, 2011. (Presentation)

Gruber, M.Y. and Soroka, J.J. (2011). "Hairy Canola Meets the Crucifer Flea Beetle.", published by Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC).

Gruber, M.Y. (2011). "Hairy Canola - Flea Beetle's Downfall.", Western Canadian Crop Production Show, Exhibition Centre, Saskatoon, SK, Canada, January 11, 2011. (Presentation)

Gruber, M.Y. (2011). "Hairy Canola - Flea Beetle's Downfall.", Gardenscape, Entomological Society of Saskatchewan booth, Saskatoon, SK, Canada, March 25, 2011. (Presentation)

Nayidu, N., Li, X., and Gruber, M.Y. (2011). "Study of Brassica villosa trichomes and trichome-related genes.", Canadian Society of Plant Biologists CSPB) Conference (with Plant Canada 2011), Halifax, NS, Canada, July 17-21, 2011. (Poster)

Alahakoon, U.I., Bonham-Smith, P.C., and Gruber, M.Y. (2011). "New Hairy Canola line and its potential for resistance to Phyllotreta flea beetles.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011, CSA-S16, pp.200.

Alahakoon, U.I., Gruber, M.Y., and Bonham-Smith, P.C. (2011). "A new hairy canola line and its potential for resistance to crucifer flea beetles.", University of Saskatchewan, Saskatchewan, SK, Canada, October 21, 2011. (Presentation)

Hannoufa, A., Wei, S., Gruber, M.Y., Khachatourians, G.G., Wang, Y., Hegedus, D.D., and Parkin, I.A.P. (2011). "MicroRNA156: A new player in regulating carotenoid accumulation in plants.", Canadian Society of Plant Physiologists Eastern Regional Meeting & Plant Development Workshop / Congrès de la Société Canadienne de Physiologie Végétale & Congrès de Développement Végétale (Congrès Régional de l'Est), Carleton University, Ottawa, ON, Canada, December 2-3, 2011, SB-1, pp. 17.

Nayidu, N., Li, X., and Gruber, M.Y. (2011). "Study of Brassica villosa trichomes and trichome-related genes.", St. Mary's University, Halifax, NS, Canada, July 8-11, 2011. (Poster)

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## Research Publications:

2015

Villeneuve, S., Power, K.A., Guévremont, É., Mondor, M., Tsao, R., Wanasundara, P.K.J.P.D., Zarepoor, L., and Mercier, S. (2015). "Effect of a short-time germination process on the nutrient composition, microbial counts and bread-making potential of whole flaxseed.", *Journal of Food Processing and Preservation*, 39(6), pp. 1574-1586. doi : 10.1111/jfpp.12385

Thibodeau, A., Fravallo, P., Taboada, E.N., Laurent-Lewandowski, S., Guévremont, É., Quessy, S., and Letellier, A. (2015). "Extensive characterization of *Campylobacter jejuni* chicken isolates to uncover genes involved in the ability to compete for gut colonization.", *BMC Microbiology*, 15(1: Article number 15), pp. 14 pages. doi : 10.1186/s12866-015-0433-5

Guévremont, É., Lamoureux, L., Ward, P., and Villeneuve, S. (2015). "Survival of *Campylobacter jejuni* on fresh spinach stored at 4 °C or 12 °C.", *Food Control*, 50, pp. 736-739. doi : 10.1016/j.foodcont.2014.10.023

2014

Thibodeau, A., Fravallo, P., Gauthier, R.P., Guévremont, É., Bergeron, N., Laurent-Lewandowski, S., Quessy, S., Boulianne, M., and Letellier, A. (2014). "Modification of *Campylobacter jejuni* broiler colonization by a feed additive composed of encapsulated organic acids and essential oils.", *Journal of Agricultural Science and Technology A*, 4, pp. 853-864. doi : 10.17265/2161-6256/2014.10.008

Ward, P. and Guévremont, É. (2014). "Comparison of intestinal bacterial populations between two dairy cattle herds colonized or not by *Campylobacter jejuni*.", *Foodborne Pathogens and Disease*, 11(12), pp. 966-968. doi : 10.1089/fpd.2014.1830

Mondor, M., Guévremont, É., and Villeneuve, S. (2014). "Processing, characterization and bread-making potential of malted yellow peas.", *Food Bioscience*, 7, pp. 11-18. doi : 10.1016/j.fbio.2014.05.002

Guévremont, É., Lamoureux, L., Loubier, C. B., Villeneuve, S., and Dubuc, J. (2014). "Detection and characterization of *Campylobacter* spp. from forty dairy cattle herds in Quebec, Canada.", *Foodborne Pathogens and Disease*, 11(5), pp. 388-394. doi : 10.1089/fpd.2013.1706

2011

Brassard, J., Guévremont, É., Gagné, M.-J., and Lamoureux, L. (2011). "Simultaneous recovery of bacteria and viruses from contaminated water and spinach by a filtration method.", *International Journal of Food Microbiology*, 144(3), pp. 565-568. doi : 10.1016/j.ijfoodmicro.2010.11.015

Thibodeau, A., Fravallo, P., Laurent-Lewandowski, S., Guévremont, É., Quessy, S., and Letellier, A. (2011). "Presence and Characterization of *Campylobacter jejuni* from Québec organic chicken production units.", *Canadian Journal of Veterinary Research*, 75(4), pp. 298-307.

## Other Science Related Publications:

2012

Guévremont, É. (2012). "Dairy cattle as an emerging animal reservoir for *Campylobacter* spp. in Quebec.", *Canadian Campylobacter Workshop: Reducing public health impact of campylobacteriosis in Canada*, Ottawa, ON, Canada, October 24 -26, 2012.

Guévremont, É., Lamoureux, L., Loubier, C. B., and Dubuc, J. (2012). "Occurrence of *Campylobacter* spp in dairy cattle farms of Quebec, Canada.", 101st Annual Meeting of the International Association of Food Protection (IAFP 2012), Rhode Island Convention Center, Providence, RI, USA, July 22-25, 2012. (Poster)

Guévremont, É., Lamoureux, L., Loubier, C. B., and Dubuc, J.-F. (2012). "Présence de *Campylobacter* spp. en production laitière: qu'en est-il au Québec?", 3e rencontre annuelle de l'Association Québécoise pour l'Innocuité Alimentaire (AQIA), Centre des Congrès de Lévis, Québec City, QC, Canada, September 13, 2012. (Poster)

2011

Guévremont, É. and Lamoureux, L. (2011). "Occurrence of *Campylobacter* spp in three dairy cattle farms in Quebec, Canada.", 16th International Workshop on *Campylobacter*, *Helicobacter*, and Related Organisms (CHRO 2011), Vancouver, BC, Canada, August 28 -September 1, 2011. (Poster)

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## Research Publications:

2014

Seifers, D.L., Haber, S.M., Martin, T.J., and McCallum, B.D. (2014). "Heritable, De novo Resistance to Leaf Rust and other Novel Traits in Selfed Descendants of Wheat Responding to Inoculation with Wheat Streak Mosaic Virus.", *PLoS ONE*, 9(1): e86307. doi : 10.1371/journal.pone.0086307

Legge, W.G., Tucker, J.R., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Tekauz, A., Turkington, T.K., and Savard, M.E. (2014). "AAC Synergy barley.", *Canadian Journal of Plant Science*, 94(4), pp. 797-803. doi : 10.4141/cjps2013-307

2013

Legge, W.G., Tucker, J.R., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Tekauz, A., Turkington, T.K., and Savard, M.E. (2013). "Major barley.", *Canadian Journal of Plant Science*, 93(2), pp. 291-297. doi : 10.4141/cjps2012-248

Legge, W.G., Tucker, J.R., Bizimungu, B., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Tekauz, A., Turkington, T.K., Savard, M.E., and Choo, T.-M. (2013). "Cerveza barley.", *Canadian Journal of Plant Science*, 93(3), pp. 557-564. doi : 10.4141/cjps2012-299

Mitchell Fetch, J.W., Tekauz, A., Brown, P.D., Ames, N.P., Chong, J., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Townley-Smith, L., Stadnyk, K.D., and Green, D.A. (2013). "Stride oat.", *Canadian Journal of Plant Science*. doi : 10.4141/cjps2012-325

Seifers, D.L., Haber, S.M., Martin, T.J., and Zhang, G. (2013). "New Sources of Temperature-Sensitive Resistance to Wheat streak mosaic virus in Wheat.", *Plant Disease*, 97(8), pp. 1051-1056. doi : 10.1094/PDIS-11-12-1029-RE

Legge, W.G., Tucker, J.R., Bizimungu, B., Tekauz, A., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Turkington, T.K., Martin, R.A., Choo, T.-M., Vigier, B.J., Blackwell, B.A., and Savard, M.E. (2013). "Taylor barley.", *Canadian Journal of Plant Science*, 93(5), pp. 969-977. doi : 10.4141/cjps2013-126

Gilbert, J. and Haber, S.M. (2013). "Overview of some recent research developments in fusarium head blight of wheat.", *Canadian Journal of Plant Pathology*. doi : 10.1080/07060661.2013.772921

2012

Fahim, M., Mechanicos, A.A., Ayala-Navarrete, L., Haber, S.M., and Larkin, P.J. (2012). "Resistance to Wheat streak mosaic virus- a survey of resources and development of molecular markers.", *Plant Pathology*, 61(3), pp. 425-440. doi : 10.1111/j.1365-3059.2011.02542.x

2011

Mitchell Fetch, J.W., Brown, P.D., Ames, N.P., Chong, J., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., and Stadnyk, K.D. (2011). "Summit oat.", *Canadian Journal of Plant Science*, 91(4), pp. 787-791. doi : 10.4141/CJPS10158

Legge, W.G., Tucker, J.R., Bizimungu, B., Tekauz, A., Noll, J.S., Fetch Jr., T.G., Menzies, J.G., Haber, S.M., Savard, M.E., Vigier, B.J., Choo, T.-M., Martin, R.A., Turkington, T.K., Rosznagel, B.G., and Harvey, B.L. (2011). "Norman barley.", *Canadian Journal of Plant Science*, 91(6), pp. 1105-1113. doi : 10.4141/cjps2010-020

Mitchell Fetch, J.W., Brown, P.D., Ames, N.P., Chong, J., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Townley-Smith, L., and Stadnyk, K.D. (2011). "Stainless oat.", *Canadian Journal of Plant Science*, 91(2), pp. 357-361. doi : 10.4141/CJPS10159

## Other Science Related Publications:

2013

Haber, S.M. and Seifers, D.L. (2013). "Rub-inoculation of wheat with wheat streak mosaic virus (WSMV)."

## 2012

Haber, S.M., Desjardins, M., and Bisht, V. (2012). "Cereal virus disease situation in Manitoba and Eastern Saskatchewan in 2011.", Canadian Plant Disease Survey, 92, pp. 77-78.

Gardner, K.M., Wight, C.P., Mitchell Fetch, J.W., Yan, W., Ames, N.P., Rosnagel, B.G., Hermann, M., Molnar, S.J., Frégeau-Reid, J.A., Miller, S.S., Fetch Jr., T.G., Chong, J., Martin, R.A., Tekauz, A., Haber, S.M., Savard, M.E., and Tinker, N.A. (2012). "Prospects of whole genome selection in oat using high throughput genetic markers.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

## 2011

Haber, S.M., Gilbert, J., Singh, A.K., and Clarke, J.M. (2011). "Revisiting an Evolutionary Approach to Deriving Fusarium Head Blight-Resistant Lines from Elite Durum Germplasm.", 2011 National Fusarium Head Blight Forum, Hyatt Regency Hotel, St. Louis, MO, USA, December 4-6, 2011, pp. 24. (Poster)

Haber, S.M., Gilbert, J., and Singh, A.K. (2011). "On the 'Express Route' to fusarium head blight resistance in durum wheat.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 68.

Comeau, A., Langevin, F., Voldeng, H.D., Haber, S.M., Gilbert, J., Randhawa, H.S., Dion, Y., Rioux, S., Eudes, F., Blackwell, B.A., and Martin, R.A. (2011). "One quick solution to FHB problems: the systemic approach.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 72.

Haber, S.M. and Gilbert, J. (2011). "How to make fusarium head blight-susceptible spring wheat resistant: the example of 'Roblin'.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 104.

Haber, S.M. and Gilbert, J. (2011). "Changing Expression to Make Susceptible Bread Wheat Resistant to Fusarium Head Blight.", 2011 National Fusarium Head Blight Forum, Hyatt Regency Hotel, St. Louis, MO, USA, December 4-6, 2011, pp. 23. (Poster)

Comeau, A., Langevin, F., Voldeng, H.D., Haber, S.M., Gilbert, J., Randhawa, H.S., Dion, Y., Rioux, S., McCallum, B.D., Fetch Jr., T.G., Eudes, F., Blackwell, B.A., Martin, R.A., Scheeren, P., Caetano, V., Frégeau-Reid, J.A., and Fedak, G. (2011). "The systemic approach : faster genetic progress for complex goals.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Haber, S.M., Gilbert, J., Seifers, D.L., and Comeau, A. (2011). "Epigenetics serves Genetics: Fusarium Head Blight (FHB) Resistance in Elite Wheat Germplasm.", The Americas Journal of Plant Science and Biotechnology, 5(2), pp. 95.

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## Research Publications:

2015

Mulvey, R.L. and Hambleton, S. (2015). "Stem rust of highbush-cranberry (*Viburnum edule*) caused by *Puccinia linkii* near Juneau, Alaska.", *Plant Disease*, 99(6), pp. 893.

Stielow, J.B., Lévesque, C.A., Seifert, K.A., Meyer, W., Irinyi, L., Smits, D., Renfurm, R., Verkley, G.J.M., Groenewald, M., Chaduli, D., Welti, S., Lesage-Meessen, L., Favel, A., Al-Hatmi, A.M.S., Damm, U., Yilmaz, N., Houbroken, J.A.M.P., Lombard, L., Quaadvlieg, W., Binder, M., Vaas, L.A.I., Vu, K.D., Yurkov, A., Begerow, D., Roehl, O., Guerreiro, M., Fonseca, A., Samerpitak, K., Van Diepeningen, A.D., Dolatabadi, S., Moreno, L.F., Casaregola, S., Jacques, N., Roscini, L., Egidì, E., Bizet, C., Garcia-Hermoso, D., Martin, M., Deng, S., Groenewald, J.Z., Boekhout, T., De Beer, Z.W., Barnes, D.I., Duong, T.A., Wingfield, M.J., de Hoog, G.S., Crous, P.W., Lewis, C.T., Hambleton, S., Moussa, T.A.A., Al-Zahrani, H.S., Almaghrabi, O.A., Louis-Seize, G.W., Assabgui, R., McCormick, W.A., Omer, G., Dukík, K., Cardinali, G., Eberhardt, U., Mallet, S., de Vries, M., and Robert, V.A. (2015). "One fungus, which genes? Development and assessment of universal primers for potential secondary fungal DNA barcodes.", *Persoonia*, 35, pp. 242-263. doi : 10.3767/003158515X689135

Liu, M., McCabe, E., Chapados, J.T., Carey, J., Wilson, S.K., Tropiano, R., Redhead, S.A., Lévesque, C.A., and Hambleton, S. (2015). "Detection and identification of selected cereal rust pathogens by TaqMan® real-time PCR.", *Canadian Journal of Plant Pathology*, 37(1), pp. 92-105. doi : 10.1080/07060661.2014.999123

Rioux, S., Mimee, B., Gagnon, A.-È., and Hambleton, S. (2015). "First report of stripe rust (*Puccinia striiformis* f. sp. *tritici*) on wheat in Quebec, Canada.", *Phytoprotection*, 95(1), pp. 7-9. doi : 10.7202/1028400ar

2014

Seifert, K.A., Hambleton, S., and others (2014). "Finding needles in haystacks: linking scientific names, reference specimens and molecular data for Fungi.", *Database: The Journal of Biological Databases and Curation*, 2014(bau061), pp. 1-21. doi : 10.1093/database/bau061

2013

Sigler, L., Hambleton, S., and Paré, J.A. (2013). "Molecular characterization of reptile pathogens currently known as members of the *Chrysosporium anamorph* of *Nannizziaopsis vriesii* (CANV) complex and relationship with some human-associated isolates.", *Journal of Clinical Microbiology*, 51(10), pp. 3338-3357. doi : 10.1128/JCM.01465-13

Shoemaker, R.A., Hambleton, S., and Liu, M. (2013). "*Vialaea insculpta* revisited.", *North American Fungi*, 8(10), pp. 1-13. doi : 10.2509/naf2013.008.010

Liu, M. and Hambleton, S. (2013). "Laying the foundation for a taxonomic review of *Puccinia coronata* s.l. in a phylogenetic context.", *Mycological Progress*, 12(1), pp. 63-89. doi : 10.1007/s11557-012-0814-1

Liu, M., Szabo, L.J., Hambleton, S., Anikster, Y., and Kolmer, J.A. (2013). "Molecular phylogenetic relationships of the brown leaf rust fungi on wheat, rye and other grasses.", *Plant Disease*, 97(11), pp. 1408-1417. doi : 10.1094/PDIS-02-13-0152-RE

Shoemaker, R.A., Malloch, D., Hambleton, S., and Liu, M. (2013). "A new *Vestigium* on *Abies balsamea*.", *North American Fungi*, 8(9), pp. 1-6. doi : 10.2509/naf2013.008.009

2012

Gorzela, M.A., Hambleton, S., and Massicotte, H.B. (2012). "Community structure of ericoid mycorrhizas and root-associated fungi of *Vaccinium membranaceum* across an elevation gradient in the Canadian Rocky Mountains.", *Fungal Ecology*, 5(1), pp. 36-45. doi : 10.1016/j.funeco.2011.08.008

Liu, M. and Hambleton, S. (2012). "*Puccinia chunji*, a close relative of the cereal stem rusts revealed by molecular phylogeny and morphological study.", *Mycologia*, 104(5), pp. 1056-1067. doi : 10.3852/11-251

2011

Vialle, A., Frey, P., Hambleton, S., Bernier, L., and Hamelin, R.C. (2011). "Poplar rust systematics and refinement of *Melampsora* species delineation.", *Fungal Diversity*, 50(1), pp. 227-248. doi: 10.1007/s13225-011-0129-6

Isard, S.A., Barnes, C.W., Hambleton, S., Ariatti, A., Russo, J.M., Tenuta, A.U., Gay, D.A., and Szabo, L.J. (2011). "Predicting Soybean Rust Incursions into the North American Continental Interior Using Crop Monitoring, Spore Trapping, and Aerobiological Modeling.", *Plant Disease*, 95(11), pp. 1346-1357. doi: 10.1094/PDIS-01-11-0034

Johnson, R.S.P., Sangster, C.R., Sigler, L., Hambleton, S., and Paré, J.A. (2011). "Deep fungal dermatitis caused by the *Chrysosporium* anamorph of *Nannizziopsis vriesii* in captive coastal bearded dragons (*Pogona barbata*).", *Australian Veterinary Journal*, 89(12), pp. 515-519. doi: 10.1111/j.1751-0813.2011.00851.x

Tsuneda, A., Hambleton, S., and Currah, R.S. (2011). "The anamorph genus *Knufia* and its phylogenetically allied species in *Coniosporium*, *Sarcinomyces*, and *Phaeococcomyces*.", *Botany*, 89(8), pp. 523-536. doi: 10.1139/B11-041

## Other Science Related Publications:

2015

Lévesque, C.A., Chen, W., Hambleton, S., Seifert, K.A., Adam, Z., Bilodeau, G.J., Cullis, J., Demeke, T., Dumonceaux, T.J., Gagnon, M., Graefenhan, T., Kawchuk, L.M., Khan, I.U.H., Lewis, C.T., Li, X., Links, M.G., Mimee, B., Rott, M., Tambong, J.T., Topp, E., Yu, Q., and Yuan, K. (2015). Project CRTI 09-462RD - Next generation sequencing, direct detection and genotyping of fungi, bacteria and nematodes in the agri-food system. DRDC-RDDC-2015-C148. Final Close-Out Report. (Report)

2014

Hambleton, S., Eggertson, Q.A., Edwards, T., Barasubiye, T., Redhead, S.A., and Lévesque, C.A. (2014). "DNA-barcoding herbarium specimens of obligate fungal pathogens – targeting the gaps in reference databases.", 10th International Mycological Conference (IMC10), Bangkok, Thailand, August 3-8, 2014. (Poster)

Hambleton, S., Temple, K., and Liu, M. (2014). "Taxonomy and DNA sequence variation of the rust fungi infecting four prairie grass species.", APS-CPS Joint Meeting, Hilton Minneapolis, Minneapolis, MN, USA, August 9-13, 2014. (Poster)

Kesanakurti, P., Richards, L., Gerdis, S., and Hambleton, S. (2014). "Developing a DNA-based toolkit for detection and identification of wheat rust pathogens.", APS-CPS Joint Meeting, Hilton Minneapolis, Minneapolis, MN, USA, August 9-13, 2014. (Poster)

Hambleton, S., Chen, W., Chapados, J.T., Lewis, C.T., and Lévesque, C.A. (2014). "Application of NGS technology in fungal pathogen detection and challenges in identification at species level.", 10th International Mycological Conference (IMC10), Bangkok, Thailand, August 3-8, 2014, Invited oral presentation.

2013

Kesanakurti, P., Setia, R., Temple, K., Hambleton, S., Lévesque, C.A., and Lewis, C.T. (2013). "Genome data mining and diagnostic marker development of *Tilletia indica* for Agri-food system detection screening.", *Phytopathology*, 103(Suppl.2:S2), pp. 73. (Abstract)

Ordoñez, M.E., Vivvanco, C.E., Hambleton, S., and Barnes, C.W. (2013). "Puccinia on wheat and other Poaceae in the Ecuadorian highlands.", *Phytopathology*, 103(Suppl.2:S2), pp. 108. (Abstract)

Sigler, L., Hambleton, S., and Paré, J.A. (2013). "Ophidiomyces gen. nov. and *Ophidiomyces ophiodiicola* comb. nov. - New Species Name registration.", *Index Fungorum*, 19.

Malloch, D., Sigler, L., and Hambleton, S. (2013). "*Leuconeurospora capsici* comb. nov. and *Leuconeurospora polypaeciloides* sp. nov. - New Species Name registration.", *Index Fungorum*, 20.

Fung, S., Rempel, H., Block, G.S., Chen, W., Janzen, T., Lewis, C.T., Zhang, N., El-Kayssi, N., Bilkhu, S., Hambleton, S., Amoako, K.K., Lévesque, C.A., Bach, S.J., Delaquis, P.J., and Diarra, M.S. (2013). "Bacillus species across Canada's agriculture environment: an ecological perspective.", International conference on *Bacillus anthracis*, *B. cereus*, and *B. thuringiensis*, Victoria, BC, Canada, September 1-5, 2013, Abstract. (Poster)

Lewis, C.T., Chen, W., Zhang, N., El-Kayssi, N., Fung, S., Diarra, M.S., Bilkhu, S., Hambleton, S., and Lévesque, C.A. (2013). "Developing an integrated bioinformatics platform to support real-time monitoring of agricultural environments.", 21st Annual Conference of Intelligent Systems for Molecular Biology (ISMB) and European Conference on Computational Biology (ECCB), Berlin, Germany, July 19-23, 2013.



## 2012

Lévesque, C.A., Bilkhu, S., Chapados, J.T., Chen, W., Hambleton, S., Lewis, C.T., Oliver, K., and Seifert, K.A. (2012). "Aero Net: A Canadian spore trapping network monitoring fungi and bacteria with DNA barcodes and next generation sequencing.", The Role of Genomics & Bioinformatics in Protecting Canadians from Microbial Food Safety Risks Workshop, Southway Hotel and Conference Centre, Ottawa, ON, Canada, February 21-22, 2012, Invited oral presentation.

Chen, W., Lewis, C.T., Chapados, J.T., Hambleton, S., Seifert, K.A., Temple, K., Biernacka-Larocque, A., Robleh Djama, Z., and Lévesque, C.A. (2012). "Canada-wide spore-trapping network provides effective monitoring of microbial phytopathogens in air and rain samples.", Annual meeting of the American Phytopathological Society, Providence, RI, USA, August 4-8, 2012, In: *Phytopathology* 102: S4.22.

Seifert, K.A., Graefenhan, T., Chen, W., Lewis, C.T., Bilkhu, S., Chapados, J.T., Hambleton, S., and Lévesque, C.A. (2012). "Prospects for using quantitative PCR and metagenomics to detect mycotoxigenic fungi without culturing.", MycoRed International Conference, Carleton University, Ottawa, ON, Canada, June 2012.

Rintoul, T.L., Rintoul, T., Lévesque, C.A., Robideau, G.P., Eggertson, Q.A., Rodrigue, N., Chen, W., Spies, C.F.J., Bala, K., de Cock, A.W.A.M., Coffey, M.F., Hamilton, J.P., Hambleton, S., Adhikari, B., and Buell, C.R. (2012). "Molecular diagnosis, identification and phylogeny of *Pythium*, *Phytophthora* and related genera.", 4th International Workshop on *Phytophthora*, *Pythium* and *Phytophthora*, College Park, MD, USA, May 21-25, 2012, Invited oral presentation.

## 2011

Marsh, K., McCallum, B.D., Wang, X., Tenuta, A.U., Hambleton, S., and Saville, B. (2011). "Investigating emerging wheat pathogens, new wheat leaf rust virulence in Ontario.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30 - December 2, 2011.

Hambleton, S., Chen, W., Lewis, C.T., Bilkhu, S., Chapados, J.T., Oliver, K., Tenuta, A.U., and Lévesque, C.A. (2011). "AeroNet Canada: Profiling rust fungus diversity in spore trap samples with DNA barcoding and next generation sequencing.", North American Rust Workers Meeting (NARW), St. Paul, MN, USA, June 12, 2011. (Presentation)

Chen, W., Lewis, C.T., Chapados, J.T., Bilkhu, S., Hambleton, S., Seifert, K.A., and Lévesque, C.A. (2011). "Aerobiota diversity in Canada's air: Mining the metagenomic data.", Great Lakes - St. Lawrence Spring Workshop in Mycology, Peterborough, ON, Canada, May 7-8, 2011. (Presentation)

Lévesque, C.A., Bilkhu, S., Chapados, J.T., Chen, W., Hambleton, S., Lewis, C.T., Oliver, K., and Seifert, K.A. (2011). "Aero Net: A Canadian spore trapping network monitoring fungi and bacteria with DNA barcodes and next generation sequencing.", iBOL - Canada: The future of DNA Barcoding in Canada, Beaty Biodiversity Museum, UBC, Vancouver, BC, Canada, April 29-May 1, 2011. (Presentation)

Tsuneda, A., Hambleton, S., and Currah, R.S. (2011). "The anamorph genus *Knufia* and its phylogenetically allied species in *Coniosporium*, *Sarcinomyces*, and *Phaeococcomyces*.", [Botany/Botanique, 89(8), pp. 523-536.] (Corrigendum).", *Botany*, 89(12), pp. 887.

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## Research Publications:

2016

Esmaeili Taheri, A., Hamel, C., and Gan, Y.T. (2016). "Cropping practices impact fungal endophytes and pathogens in durum wheat roots.", *Applied Soil Ecology*, 100, pp. 104-111. doi : 10.1016/j.apsoil.2015.12.007

2015

Bazghaleh, N., Hamel, C., Gan, Y.T., Taran, B., and Knight, J.D. (2015). "Genotype specific variation in the structure of root fungal communities is related to chickpea plant productivity.", *Applied and Environmental Microbiology*, 81(7), pp. 2368-2377. doi : 10.1128/AEM.03692-14

Shi, Y., Lalonde, R., Hamel, C., and Ziadi, N. (2015). "Winter effect on soil microorganisms under different tillage and phosphorus management practices in eastern Canada.", *Canadian Journal of Microbiology*, 61(5), pp. 315-326. doi : 10.1139/cjm-2014-0821

Yang, C., Hamel, C., and Gan, Y.T. (2015). "Incongruous variation of denitrifying bacterial communities as soil N level rises in Canadian canola fields.", *Applied Soil Ecology*, 89, pp. 93-101. doi : 10.1016/j.apsoil.2015.01.002

Taheri, A.E., Hamel, C., and Gan, Y.T. (2015). "Pyrosequencing reveals the impact of foliar fungicide application to chickpea on root fungal communities of durum wheat in subsequent year.", *Fungal Ecology*, 15, pp. 73-81. doi : 10.1016/j.funeco.2015.03.005

ElLouze, W., Taheri, A.E., Bainard, L.D., Yang, C., Bazghaleh, N., Navarro-Borrell, A., Hanson, K.G., and Hamel, C. (2015). "Soil fungal resources in annual cropping systems and their potential for management.", *BioMed Research International*, 2014(Article ID 531824), pp. 1-15. doi : 10.1155/2014/531824

Gan, Y.T., Hamel, C., O'Donovan, J.T., Cutforth, H.W., Zentner, R.P., Campbell, C.A., Niu, Y., and Poppy, L.B. (2015). "Diversifying crop rotations with pulses enhances system productivity.", *Scientific Reports*, 5(Article number: 14625), pp. 1-14. doi : 10.1038/srep14625

ElLouze, W., Hamel, C., Bouzid, S., and St-Arnaud, M. (2015). "Root endophytes modify the negative effects of chickpea on the emergence of durum wheat.", *Applied Soil Ecology*, 96(Article number 2262), pp. 201-210. doi : 10.1016/j.apsoil.2015.08.009

2014

Klabi, R., Bell, T.H., Hamel, C., Iwaasa, A.D., Schellenberg, M.P., Raies, A., and St. Arnaud, M. (2014). "Plant assemblage composition and soil P concentration differentially affect communities of AM and total fungi in a semi-arid grassland.", *FEMS Microbiology Ecology*, 91(1: Article number fiu015). doi : 10.1093/femsec/fiu015

Bainard, L.D., Dai, M., Gomez, E.F., Torres-Arias, Y., Bainard, J.D., Sheng, M., Eilers, W.D., and Hamel, C. (2014). "Arbuscular mycorrhizal fungal communities are influenced by agricultural land use and not soil type among the Chernozem great groups of the Canadian Prairie.", *Plant and Soil*, 387(1-2), pp. 351-362. doi : 10.1007/s11104-014-2288-1

Dai, M., Schneider, K.E., Cade-Menun, B.J., Ferrera-Cerrato, R., and Hamel, C. (2014). "Arbuscular mycorrhiza and the phosphorus nutrition of organic crops.", in Martin, R.C. and MacRae, R. (eds.) - *Managing Energy, Nutrients, and Pests in Organic Field Crops*, CRC Press, Chapter 3, pp. 35-58.

Klabi, R., Hamel, C., Schellenberg, M.P., Iwaasa, A.D., Raies, A., and St-Arnaud, M. (2014). "Interaction between legume and arbuscular mycorrhizal fungi identity alters the competitive ability of warm-season grass species in a grassland community.", *Soil Biology & Biochemistry*, 70, pp. 176-182. doi : 10.1016/j.soilbio.2013.12.019

Bainard, L.D., Bainard, J.D., Hamel, C., and Gan, Y.T. (2014). "Spatial and temporal structuring of arbuscular mycorrhizal communities is differentially influenced by abiotic factors and host crop in a semiarid prairie agroecosystem.", *FEMS Microbiology Ecology*, 88(2), pp. 333-344. doi : 10.1111/1574-6941.12300

Dai, M., Hamel, C., Bainard, L.D., St. Arnaud, M., Grant, C.A., Lupwayi, N.Z., Malhi, S.S., and Lemke, R.L. (2014). "Negative and positive contribution of arbuscular mycorrhizal fungal taxa to wheat production and nutrient uptake efficiency in organic and conventional systems in the Canadian prairie.", *Soil Biology & Biochemistry*, 74, pp. 156-166. doi : 10.1016/j.soilbio.2014.03.016

2013

- Beauregard, M.S., Gauthier, M.-P., Hamel, C., Zhang, T.Q., Welacky, T.W., Tan, C.S., and St-Arnaud, M. (2013). "Various forms of organic and inorganic P fertilizers did not negatively affect soil- and root-inhabiting AM fungi in a maize-soybean rotation system.", *Mycorrhiza*, 23(2), pp. 143-154. doi: 10.1007/s00572-012-0459-6
- Ellouze, W., Hamel, C., Vujanovic, V., Gan, Y.T., Bouzid, S., and St-Arnaud, M. (2013). "Chickpea genotypes shape the soil microbiome and affect the establishment of the subsequent durum wheat crop in the semiarid North American Great Plains.", *Soil Biology & Biochemistry*, 63, pp. 129-141. doi: 10.1016/j.soilbio.2013.04.001
- Shi, Y., Lalonde, R., Hamel, C., Ziadi, N., Gagnon, B., and Hu, Z.Y. (2013). "Seasonal variation of microbial biomass, activity, and community structure in soil under different tillage and phosphorus management practices.", *Biology and Fertility of Soils*. doi: 10.1007/s00374-013-0773-y
- Hamel, C., Bainard, L.D., Dai, M., and Yang, C. (2013). "Arbuscular mycorrhizal fungi assemblages in Chernozem great groups.", in Nelson, K.E. (ed.) - *The Encyclopedia of Metagenomics*, Springer.
- Yang, C., Hamel, C., Gan, Y.T., and Vujanovic, V. (2013). "Pyrosequencing reveals how pulses influence rhizobacterial communities with feedback on wheat growth in the semiarid Prairie.", *Plant and Soil*, 367(1-2), pp. 493-505. doi: 10.1007/s11104-012-1485-z
- Dai, M., Bainard, L.D., Hamel, C., Gan, Y.T., and Lynch, D.H. (2013). "Impact of land use on arbuscular mycorrhizal fungal communities in rural Canada.", *Applied and Environmental Microbiology*, 79(21), pp. 6719-6729. doi: 10.1128/AEM.01333-13
- Sheng, M., Lalonde, R., Hamel, C., and Ziadi, N. (2013). "Effect of long-term tillage and mineral phosphorus fertilization on arbuscular mycorrhizal fungi in a humid continental zone of Eastern Canada.", *Plant and Soil*. doi: 10.1007/s11104-013-1585-4

2012

- Dai, M., Hamel, C., St. Arnaud, M., He, Y., Grant, C.A., Lupwayi, N.Z., Janzen, H.H., Malhi, S.S., Yang, X., and Zhou, Z. (2012). "Arbuscular mycorrhizal fungi assemblages in Chernozem great groups revealed by massively parallel pyrosequencing.", *Canadian Journal of Microbiology*, 58(1), pp. 81-92. doi: 10.1139/W11-111
- Sheng, M., Hamel, C., and Fernandez, M.R. (2012). "Cropping practices modulate the impact of glyphosate on arbuscular mycorrhizal fungi and rhizosphere bacteria in agroecosystems of the semiarid prairie.", *Canadian Journal of Microbiology*, 58(8), pp. 990-1001. doi: 10.1139/W2012-080
- Wang, X., Gan, Y.T., Hamel, C., Lemke, R.L., and McDonald, C.L. (2012). "Water use profiles across the rooting zones of various pulse crops.", *Field Crops Research*, 134, pp. 130-137. doi: 10.1016/j.fcr.2012.06.002
- Vujanovic, V., Mavragani, D., and Hamel, C. (2012). "Fungal communities associated with durum wheat production system: A characterization by growth stage, plant organ and preceding crop.", *Crop Protection*, 37, pp. 26-34. doi: 10.1016/j.cropro.2012.02.006
- Yang, C., Hamel, C., Gan, Y.T., and Vujanovic, V. (2012). "Tag-encoded pyrosequencing analysis of the effects of fungicide application and plant genotype on rhizobacterial communities.", *Applied Soil Ecology*, 60, pp. 92-97. doi: 10.1016/j.apsoil.2012.03.010
- Cruz, A.F., Hamel, C., Yang, C., Mastubara, T., Gan, Y.T., Singh, A.K., Kuwada, K., and Ishii, T. (2012). "Phytochemicals to suppress Fusarium head blight in wheat-chickpea rotation.", *Phytochemistry*, 78, pp. 72-80. doi: 10.1016/j.phytochem.2012.03.003
- Ellouze, W., Hamel, C., Cruz, A.F., Ishii, T., Gan, Y.T., Bouzid, S., and St-Arnaud, M. (2012). "Phytochemicals and spore germination: At the root of AMF host preference?", *Applied Soil Ecology*, 60(September), pp. 98-104. doi: 10.1016/j.apsoil.2012.02.004
- Yang, C., Hamel, C., Vujanovic, V., and Gan, Y.T. (2012). "Nontarget effects of foliar fungicide application on the rhizosphere: diversity of nifH gene and nodulation in chickpea field.", *Journal of Applied Microbiology*, 112(5), pp. 966-974. doi: 10.1111/j.1365-2672.2012.05262.x
- Singh, A.K., Hamel, C., DePauw, R.M., and Knox, R.E. (2012). "Genetic variability in arbuscular mycorrhizal fungi compatibility supports the selection of durum wheat genotypes for enhancing soil ecological services and cropping systems in Canada.", *Canadian Journal of Microbiology*, 58(3), pp. 293-302. doi: 10.1139/W11-140
- Sheng, M., Lalonde, R., Hamel, C., Ziadi, N., and Shi, Y. (2012). "Growth of Corn Roots and Associated Arbuscular Mycorrhizae Are Affected by Long-Term Tillage and Phosphorus Fertilization.", *Agronomy Journal*, 104(6), pp. 1672-1678. doi: 10.2134/agronj2012.0153
- Yang, C., Hamel, C., Gan, Y.T., and Vujanovic, V. (2012). "Bacterial endophytes mediate positive feedback effects of early legume termination times on the yield of subsequent durum wheat crops.", *Canadian Journal of Microbiology*, 58(12), pp. 1368-1377. doi: 10.1139/w2012-114

2011

Taheri, A.E., Hamel, C., Gan, Y.T., and Vujanovic, V. (2011). "First report of *Fusarium redolens* from Saskatchewan and its comparative pathogenicity.", *Canadian Journal of Plant Pathology*, 33(4), pp. 559-564. doi : 10.1080/07060661.2011.620631

Mavragani, D., Hamel, C., and Vujanovic, V. (2011). "Species-specific PCR-DGGE markers to distinguish *Pyrenophora* species associated to cereal seeds.", *Fungal Biology*, 115(2), pp. 169-175. doi : 10.1016/j.funbio.2010.12.001

Yang, C., Hamel, C., Vujanovic, V., and Gan, Y.T. (2011). "Fungicide: modes of action and possible impact on non-target microorganisms - Review Article", *ISRN Ecology*, 2011(ArticleID 130289), pp. 8 pages. doi : 10.5402/2011/130289

Jeannotte, R., Hamel, C., Jabajib, S., and Whalen, J.K. (2011). "Pyrolysis-mass spectrometry and gas chromatography-flame ionization detection as complementary tools for soil lipid characterization.", *Journal of Analytical and Applied Pyrolysis*, 90(2), pp. 232-237. doi : 10.1016/j.jaap.2010.12.010

Gan, Y.T., Liang, C., Hamel, C., Cutforth, H.W., and Wang, H. (2011). "Strategies for reducing the carbon footprint of field crops for semiarid areas. A review.", *Agronomy for Sustainable Development*, 31(4), pp. 643-656. doi : 10.1007/s13593-011-0011-7

## Other Science Related Publications:

2015

Lay, C-Y., Bell, T., Hamel, C., Harker, K.N., Mohr, R.M., and St-Arnaud, M. (2015). "The effects of agricultural practices on the microbiome of the roots and rhizosphere of canola.", *Canadian Society of Microbiologists Annual Conference*, Regina, Saskatchewan, Canada, June 15-18, 2015. (Abstract)

Shi, Y., Ziadi, N., Hamel, C., Lajeunesse, J., and Lafond, J. (2015). "Timothy root and associated arbuscular mycorrhizae as affected by phosphorus fertilization in eastern Canada.", *9th Symposium for the International Society of Root Research*, Canberra, Australia, October 6-9, 2015.

Shi, Y., Ziadi, N., Hamel, C., Lajeunesse, J., and Lafond, J. (2015). "Growth of Timothy root and associated arbuscular mycorrhizae as affected by phosphorus fertilization in North Quebec.", *Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference*, Montreal, QC, Canada, July 5-10, 2015.

2014

Shi, Y.Z., Ziadi, N., Lalande, R., Hamel, C., Lajeunesse, J., Lafond, J., and Bélanger, G. (2014). "Soil microbial biomass, activity, and community structure as affected by mineral P fertilization in two grassland soils.", *ASA, CSSA and SSSA International Annual Meeting 2014*, Long Beach, CA, USA, November 2-5, 2014. (Poster)

Shi, Y.Z., Ziadi, N., Lalande, R., Hamel, C., Lajeunesse, J., Lafond, J., and Bélanger, G. (2014). "Seasonal variation of soil microbial biomasses, activities and community structure as affected by mineral P fertilization in two grassland soils.", *ASA, CSSA and SSSA International Annual Meeting 2014*, Long Beach, CA, USA, November 2-5, 2014.

Catling, P.K., Catling, P.M., Cayouette, J., Oldham, M.J., Ford, B., Hamel, C., and Friesen, C. (2014). "Canadian alvars and limestone barrens: areas of "Special Conservation Concern" for plants?", *Canadian Botanical Association Bulletin*, 47(1), pp. 9-11.

2013

Herath, A., Zhang, T.Q., Tan, C.S., Hamel, C., Welacky, T.W., Parkin, G.W., Goss, M.J., and O'Halloran, I.P. (2013). "Effects of liquid, solid and compost swine manure on soil phosphorus fractions in a clay loam soil under corn-soybean rotation.", *CSSS Annual Meeting*, AB, Canada.

Herath, A., Zhang, T.Q., Tan, C.S., Hamel, C., Bittman, S., Parkin, G.W., and Goss, M.J. (2013). "Development of a soil test for prediction of long-term potential for phosphorus loss in typical Canadian soils.", *ASA/CSSA/SSSA International annual meeting*, Tampa, Florida, USA, November 3-6, 2013.

Ziadi, N., Bélanger, G., Grant, C.A., Cade-Menun, B.J., Lalande, R., Hamel, C., Lafond, J., Lajeunesse, J., Pageau, D., Tremblay, G.F., and Zhang, T.Q. (2013). *Soil and plant phosphorus assessment and modeling in Canadian agro-ecosystems. Final report SAGES#1475. (Report)*

2012

Dai, M., Sheng, M., Bremer, R., He, Y., Wang, H., and Hamel, C. (2012). "Estimating AM fungal resources in wheat fields.", *Soils and Crops Workshop 2012*, University of Saskatchewan, Saskatoon, SK, Canada, March 13-14, 2012, CD-ROM.

Hamel, C. (2012). "Beneficial Microorganisms.", 24th Annual Conference of the Saskatchewan Soil Conservation Association (SSCA), Saskatoon Inn, Saskatoon, SK, Canada, January 11, 2012.

Navarro-Borrell, A., Dai, M., Sheng, M., Bremer, E., Hamel, C., He, Y., and Wang, H. (2012). "Current state of soil P and AM fungal resources in Canadian Prairie wheat fields.", General Meeting of the Saskatchewan Organic Directorate, Farmers' Market, Saskatoon, SK, Canada, March 23, 2012.

Bazghaleh, N., Hamel, C., Ellouze, W., and Singh, D. (2012). "Tweaking biological environments with flower power.", Meeting with wheat-breeding and farmers, Semiarid Prairie Agricultural Research Centre, Swift Current, SK, Canada, March 9, 2012. (Presentation)

Hamel, C. (2012). "Mycorrhiza for agriculture and forestry.", FABS432/APMC832 Microbial Bioproducts in Agriculture, February 16, 2012. (Presentation)

Micali, C., Nadimi, M., Hamel, C., Hijri, M., and St-Arnaud, M. (2012). "Advances in the Characterization of Soil and Root Microbial Communities and their Role in Sustainable Agriculture.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012, pp. 50.

## 2011

Navarro-Borrell, A., Hamel, C., Hanson, K.G., McDonald, C.L., Germida, J.J., and Gan, Y.T. (2011). "Pulse and wheat crops' influence on soil dehydrogenase activity, soil nutrient content and microbial community.", Soils Ecology Society Meeting 2011, University of British Columbia - Okanagan, Kelowna, BC, Canada, May 24-27, 2011, pp. 67.

Mavragani, D., Hamel, C., and Vujanovic, V. (2011). "Species-specific PCR-DGGE markers to distinguish *Pyrenophora* species associated to cereal seeds. [Fungal Biology 115 (2): pp. 169-175 (2011)] (Corrigendum).", Fungal Biology, 115(9), pp. 933.

Dai, M., Hamel, C., St. Arnaud, M., Grant, C.A., Lupwayi, N.Z., Janzen, H.H., Yang, X.Q., and Zhou, Z. (2011). "Composition and diversity of arbuscular mycorrhizal fungi in cropping system associated with different soil zones using pyrosequencing.", Soils Ecology Society Meeting 2011, University of British Columbia - Okanagan, Kelowna, BC, Canada, May 24-27, 2011, pp. 43.

Dai, M., Sheng, M., and Hamel, C. (2011). "AM fungal resources in Prairie soils: Monitoring changes in diversity with commercial soil testing laboratory.", 1st Annual World Congress of Microbes-2011, Beijing, China, July-August 1, 2011.

Yang, C., Hamel, C., Gan, Y.T., and Vujanovic, V. (2011). "Isolation of hydrogen-oxidizing bacteria with positive effects on plant growth from chickpea field.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011.

Navarro-Borrell, A., Hamel, C., Germida, J.J., and Gan, Y.T. (2011). "Elucidating the tripartite association plant-Arbuscular mycorrhizal fungi-dark septate endophytes [CD-Rom].", Soils and Crops Workshop 2011, PrairieLand Park, Saskatoon, SK, Canada, March 15-16, 2011.

Navarro-Borrell, A., Hamel, C., Germida, J.J., and Gan, Y.T. (2011). "Arbuscular mycorrhiza fungi and dark septate endophytes colonization patterns are related with nutrient content in pulse and wheat Brown in the semiarid Canadian Prairie.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011, pp. 18.

Navarro-Borrell, A., Hamel, C., Germida, J.J., and Gan, Y.T. (2011). "Dark septate endophytes and arbuscular mycorrhiza fungi colonization patterns related with plant nutrient content in pulse and wheat.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011, pp. 4.

Hamel, C. (2011). "Adapted crop plants.", Prairie Steward Newsletter. (Newsletter)

Bazghaleh, N., Hamel, C., Knight, J.D., Gan, Y.T., Ishii, T., and Cruz, A.F. (2011). "Chickpea root antifungal activity and mycorrhization.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011, pp. 17.

Hamel, C., Yang, C., Taheri, A.E., Bazghaleh, N., Navarro-Borrell, A., Cruz, A.F., Ishii, T., Vujanovic, V., Knight, J.D., Germida, J.J., and Gan, Y.T. (2011). "Microbial pipeline to next generation pulses.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011, pp. 5.

Ellouze, W., St-Arnaud, M., Hamel, C., Gan, Y.T., Cruz, A.F., and Ishii, T. (2011). "Phytochemicals and spore germination: at the root of AMF host preference?", Soils Ecology Society Meeting 2011, University of British Columbia - Okanagan, Kelowna, BC, Canada, May 24-27, 2011, pp. 64.

Hamel, C. (2011). "Chemical Ecology: Using flower power to feed a sustainable world.", Soils Ecology Society Meeting 2011, University of British Columbia - Okanagan, Kelowna, BC, Canada, May 24-27, 2011.

Hamel, C., Furrzola Gomez, E., and Torres-Arias, Y. (2011). "Diversity of arbuscular mycorrhizal fungi in cultivated soils of the Canadian Prairie.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012, pp. 50.

Hamel, C. (2011). "Mycorrhiza arbuscular en un mundo sostenible.", IV Congreso Colombiano de Biotecnología – Conciencia Industrial, Universidad Nacional de Colombia sede Medellín, Medellín, Colombia, August 8-11, 2011.

Ellouze, W., He, Y., Hamel, C., Wang, H., Hanson, K.G., and Singh, A.K. (2011). "Arbuscular mycorrhiza interaction with historical and modern wheat genotypes.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011. (Poster)

Ellouze, W., Hamel, C., Bouzid, S., and St. Arnaud, M. (2011). "Mycorrhizosphere interactions mediated through rhizodepositions and arbuscular mycorrhizal hyphodeposition and their application in sustainable agriculture", in Fulton, S.M. (ed.) - Mycorrhizal Fungi: Soil, Agriculture and Environmental Implications, Nova Science Publishers Inc, pp. 133-152.

Navarro-Borrell, A., Furrzola, E., Rodes, R., Torres-Arias, Y., Collazo-Albernas, E., Gomez, O., Massia, C., and Hamel, C. (2011). "Influence of arbuscular mycorrhizal fungi inoculation on antioxidant metabolism and physiological development of black bean (*Phaseolus vulgaris* L.) under drought stress conditions.", Western Mycorrhiza Gathering 2011, Winfield Camp, BC, Canada, May 21-23, 2011.

Hamel, C. (2011). "Análisis de comunidades con "R".", IV Congreso Colombiano de Biotecnología – Conciencia Industrial, Universidad Nacional de Colombia sede Medellín, Medellín, Colombia, August 8-11, 2011.

Hamel, C., Bazghaleh, N., Dai, M., Furrzola Gomez, E., Torres-Arias, Y., and Singh, A.K. (2011). "Arbuscular mycorrhizal in a sustainable World.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

Hamel, C. (2011). "Micorriza en un mundo sostenible.", IV Congreso Colombiano de Biotecnología – Conciencia Industrial, Universidad Nacional de Colombia sede Medellín, Medellín, Colombia, August 8-11, 2011.

Knight, J.D., Chao, T., Bazghaleh, N., Navarro, A., Taheri, A.E., Hamel, C., and Gan, Y.T. (2011). "Crop Rotation Effects on Soil Biology.", Agronomy Update Conference 2011, Lethbridge, AB, Canada, January 18-19, 2011.

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## Research Publications:

2015

Hamilton, K.G.A. (2015). "A new tribe and species of Clastopterinae (Hemiptera: Cercopoidea: Clastopteridae) from Africa, Asia and North America.", *Zootaxa*, 3946(2), pp. 151-189. doi: 10.11646/zootaxa.3946.2.1

2014

Hamilton, K.G.A. (2014). "Canadian grasslands and their endemic leafhoppers (Hemiptera: Cicadellidae).", in Passaraki, M. (ed.) - *Handbook of Plant and Crop Physiology*, 3rd Edition, CRC Press, pp. 311-345.

Poinar Jr, G.O., Hamilton, K.G.A., and Brown, A.E. (2014). "Prisciba, n. gen., and two new species of fossil froghoppers (Hemiptera: Cercopoidea: Clastopteridae) in Dominican amber.", *Historical Biology: An International Journal of Paleobiology*, 26(1), pp. 1-5. doi: 10.1080/08912963.2012.751102

Hamilton, K.G.A. (2014). "The old-world Zygonini tr. nov. (Hemiptera, Cercopoidea, Clastopteridae), with new taxa from the related Machaerotinae.", *Zootaxa*, 3768(4), pp. 437-459. doi: 10.11646/zootaxa.3768.4.3

Hamilton, K.G.A. (2014). "Extraordinary endemism: The nearctic leafhoppers of Gloridonus Ball and Ballana DeLong (Hemiptera: Cicadellidae).", *Journal of the Kansas Entomological Society*, 87(2), pp. 111-204. doi: 10.2317/JKES121219.1

Hamilton, K.G.A. (2014). "Zygonini tr. nov.: the link between Clastopterinae and Machaerotinae (Hemiptera, Cercopoidea), with new taxa from the old-world fauna of Machaerotinae.", *Zootaxa*, 3768(4), pp. 437-459.

Hamilton, K.G.A. (2014). "Revision of neotropical Aphrophorine spittlebugs, part 3: the new Caribbean tribe Leocomiini (Hemiptera, Cercopoidea).", *Caribbean Naturalist*(11), pp. 1-45.

2013

Hamilton, K.G.A. (2013). "Spittlebugs of neotropical Aphrophorinae, part 2: Orthorhaphini (Hemiptera, Cercopoidea).", *Zootaxa*, 3710(3), pp. 201-225. doi: 10.11646/zootaxa.3710.3.1

2012

Hamilton, K.G.A. (2012). "Unraveling the Enigma of an Atlantic Prairie.", *Northeastern Naturalist*, 19(Spec. Issue 6), pp. 13-42. doi: 10.1656/045.019.s603

Hamilton, K.G.A. (2012). "Revision of Neotropical aphrophorine spittlebugs, part 1: Ptyelini (Hemiptera, Cercopoidea).", *Zootaxa*, 3497, pp. 41-59.

2011

Arocha-Rosete, Y., Kent, P., Agrawal, V., Hunt, D.W.A., Hamilton, K.G.A., Bertaccini, A., Scott, J., Crosby, W.L., and Michelutti, R. (2011). "Identification of *Graminella nigrifrons* as a potential vector for phytoplasmas affecting *Prunus* and *Pyrus* species in Canada.", *Canadian Journal of Plant Pathology*, 33(4), pp. 465-474. doi: 10.1080/07060661.2011.633561

Bartlett, C.R. and Hamilton, K.G.A. (2011). "Aethodelphax prairianus gen. Et sp. Nov. (Hemiptera: Delphacidae) and seven congeneric species from North American Delphacodes.", *Zootaxa*, 2837, pp. 48-66.

Arocha-Rosete, Y., Kent, P., Agrawal, V., Hunt, D.W.A., Hamilton, K.G.A., Bertaccini, A., Scott, J., Crosby, W.L., and Michelutti, R. (2011). "Preliminary investigations on *Graminella nigrifrons* as a potential vector for phytoplasmas identified at the Canadian Clonal Genebank", *Bulletin of Insectology*, 64(Suppl. Issue 1), pp. S133-S134.

## Other Science Related Publications:

2014

Hamilton, K.G.A. (2014). "How quickly do insects evolve?", *American Entomologist*, 60(1), pp. 14-22.

Hamilton, K.G.A. (2014). "Comment on Tibicina Amyot, 1847 and Lyristes Horváth, 1926 (Insecta, Hemiptera, Homoptera): proposed conservation by the suppression of Tibicen Berthold, 1827 [Latreille, 1825], and concerning the type species of Cicada Linnaeus, 1758 (Case 239; see BZN 41: 163–184; 71: 103–131).", *Bulletin of Zoological Nomenclature*, 71(3), pp. 179-180.

## 2012

Hamilton, K.G.A. (2012). "Darwin's error: fresh perspectives on evolution from the world of bugs", ECORC Seminar, Central Experimental Farm, Neatby Building/ Ferme expérimentale centrale, Ottawa, ON, Canada, December 14, 2012. (Presentation)

Hamilton, K.G.A. (2012). "The leafhoppers and allies, or short-horned bugs (suborder Auchenorrhyncha).", *Technical bulletin - Maine Agricultural and Forest Experiment Station*, 206 (September 2012), pp. 19-22.

Hamilton, K.G.A. (2012). "Are treehoppers neotenus leafhoppers?", *American Entomologist*, 58(4), pp. 224-232.

## 2011

Hamilton, K.G.A. (2011). "Short-horned bugs (Homoptera-Auchenorrhyncha).", in Scudder, G.G.E. and Smith, I.M. (eds.) - *Assessment of Species Diversity in the Montane Cordillera Ecozone. Series: Assessment of Species Diversity in Canadian Ecozones*, Royal British Columbia Museum, Canada, Chapter 13, pp. 1-23.

Hamilton, K.G.A. (2011). "Assessment of species diversity in the Atlantic Maritime Ecozone, edited by D.F. McAlpine and I.M. Smith. (Book Review).", *Biodiversity*, 12(1), pp. 71.

Hamilton, K.G.A. (2011). "Making sense of Fulgoroidea (Hemiptera): new phylogenetic evidence.", *Cicadina*, 12, pp. 57-79.

Hamilton, K.G.A. (2011). "What we have learned from SHUTTERBUGS.", *American Entomologist*, 57(2), pp. 102-109.



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## Research Publications:

2015

Urbez-Torres, J.R., Boulé, J., Haag, P., Hampson, C.R., and O'Gorman, D.T. (2015). "First report of root and crown rot caused by *Fusarium oxysporum* Schltdl. on sweet cherry (*Prunus avium* L.) in British Columbia.", *Plant Disease*. doi : 10.1094/PDIS-08-15-0932-PDN

Cliff, M.A., Stanich, K., Lu, R., and Hampson, C.R. (2015). "Use of descriptive analysis and preference mapping for early-stage assessment of new and established apples.", *Journal of the Science of Food and Agriculture*. doi : 10.1002/jsfa.7334

2014

Stanich, K., Cliff, M.A., Hampson, C.R., and Toivonen, P.M.A. (2014). "Shelf-life and sensory assessments reveal the effects of storage treatments with 1-methylcyclopropane on new and established apples.", *Canadian Journal of Plant Science*, 94, pp. 1427-1439. doi : 10.4141/cjps-2014-139

Hampson, C.R., Stanich, K., McKenzie, D.-L., Herbert, L.C., Lu, R., Li, J.B., and Cliff, M.A. (2014). "Determining the optimum firmness for sweet cherries using Just-About-Right sensory methodology.", *Postharvest Biology and Technology*, 91, pp. 104-111. doi : 10.1016/j.postharvbio.2013.12.022

Neilsen, G.H. and Hampson, C.R. (2014). "'Honeycrisp' apple leaf and fruit nutrient concentration is affected by rootstock during establishment.", *Journal of the American Pomological Society*, 68(4), pp. 178-189.

Hampson, C.R., MacDonald, R.A., McKenzie, D.-L., Herbert, L.C., and Pagliocchini, C. (2014). "'SPC136' (Suite Note™) sweet cherry.", *Canadian Journal of Plant Science*, 94(8), pp. 1555-1558. doi : 10.4141/CJPS-2014-156

Toivonen, P.M.A. and Hampson, C.R. (2014). "Relationship of IAD index to internal quality attributes of apples treated with 1-methylcyclopropane and stored in air or controlled atmospheres.", *Postharvest Biology and Technology*, 91, pp. 90-95. doi : 10.1016/j.postharvbio.2013.12.024

Cliff, M.A., Stanich, K., and Hampson, C.R. (2014). "Consumer research explores acceptability of a new Canadian apple - Salish™.", *Canadian Journal of Plant Science*, 94(1), pp. 99-108. doi : 10.4141/CJPS2013-236

Marini, R.P., Black, B., Crassweller, R.M., Domoto, P.A., Hampson, C.R., Moran, R.E., Robinson, T.L., Staskiak, M., and Wolfe, D. (2014). "Performance of 'Golden Delicious' apple on 23 rootstocks at eight locations: a ten-year summary of the 2003 NC-140 dwarf rootstock trial.", *Journal of the American Pomological Society*, 68(2), pp. 54-68.

2013

Autio, W.R., Robinson, T., Cowgill, W.P., Hampson, C.R., Quezada, R.A., and Wolfe, D. (2013). "'Gala' apple trees on Supporter 4, P.14, and different strains of B.9, M.9 and M.26 rootstocks: final 10-year report on the 2002 NC-140 apple rootstock trial.", *Journal of the American Pomological Society*, 67(2), pp. 62-71.

Hampson, C.R., Kappel, F., MacDonald, R.A., and McKenzie, D.-L. (2013). "'SPC207' (Starblush™): a new blush sweet cherry from Summerland.", *Acta Horticulturae (ISHS)*, 976, pp. 129-131.

Damm, A., Charles, M.T., Gondet, L., Hampson, C.R., Dubé, C., and Khanizadeh, S. (2013). "Activity and concentration of polyphenolic antioxidants and agronomic characteristics of selected cultivars and advanced apple lines from Quebec and British Columbia, Canada.", *Journal of Food, Agriculture & Environment (JFAE)*, 11(3&4), pp. 834-843.

Hampson, C.R. and MacDonald, R.A. (2013). "'September Sentinel' apple.", *Journal of the American Pomological Society*, 67(4), pp. 241-245.

Kappel, F., Lang, G., Azarenko, A., Facteau, T., Gaus, A., Godin, R., Lindstrom, T., Nuñez-Elisea, R., Pokharel, R., Whiting, M., and Hampson, C.R. (2013). "Performance of sweet cherry rootstocks in the 1998 NC-140 regional trial in Western North America.", *Journal of the American Pomological Society*, 67(4), pp. 186-195.

Marini, R.P., Autio, W.R., Black, B., Cline, J.A., Cowgill Jr, W.P., Crassweller, R.M., Domoto, P.A., Hampson, C.R., Moran, R.E., Quezada, R.A., Robinson, T., Ward, D.L., and Wolfe, D. (2013). "Return bloom on 'Golden Delicious' apple trees as affected by previous season's crop density on three rootstocks at 11 locations.", *Journal of the American Pomological Society*, 67(2), pp. 72-79.

Hampson, C.R. (2013). "Inheritance of partial resistance to apple scab in ten apple progenies", *Acta Horticulturae* (ISHS), 976, pp. 543-547.

Hampson, C.R., MacDonald, R.A., McKenzie, D.-L., and Walters, W. (2013). "'SPA493' (Salish™) apple.", *Canadian Journal of Plant Science*, 93(5), pp. 979-982. doi: 10.4141/cjps2013-115

## 2012

Marini, R.P., Autio, W.R., Black, B., Cline, J.A., Cowgill Jr, W.P., Crassweller, R.M., Domoto, P.A., Hampson, C.R., Moran, R.E., Quezada, R.A., Robinson, T., Stasiak, M., Ward, D.L., and Wolfe, D. (2012). "Summary of the NC-140 apple physiology trial: the relationship between 'Golden Delicious' fruit weight and crop density at 12 locations as influenced by three dwarfing rootstocks.", *Journal of the American Pomological Society*, 66(2), pp. 78-90.

Marini, R.P., Autio, W.R., Black, B., Cline, J.A., Crassweller, R.M., Domoto, P.A., Hampson, C.R., Moran, R.E., Quezada, R.A., Robinson, T., Stasiak, M., and Wolfe, D. (2012). "The influence of crop density on annual trunk growth of 'Golden Delicious' apple trees on three rootstocks at 11 locations.", *Journal of the American Pomological Society*, 66(4), pp. 183-195.

Hampson, C.R., Randall, P., and Sholberg, P.L. (2012). "Tolerance of Vineland apple rootstocks to waterlogging and *Phytophthora* infestation.", *Canadian Journal of Plant Science*, 92(2), pp. 267-269. doi: 10.4141/CJPS2011-132

Toivonen, P.M.A. and Hampson, C.R. (2012). "Phenotypic Analysis of New Sweet Cherry and Apple Cultivars Based on Postharvest Quality Characteristics.", *Acta Horticulturae* (ISHS), 945, pp. 219-226.

Hampson, C.R. (2012). "The performance of four Vineland apple rootstocks in British Columbia, Canada.", *Journal of the American Pomological Society*, 66(1), pp. 23-27.

## 2011

Autio, W.R., Robinson, T.L., Cowgill, W.P., Hampson, C.R., Kushad, M.M., Lang, G., Masabni, J., Miller, D.D., Parra Quezada, R.A., Perry, R.L., and Rom, C.R. (2011). "Performance of 'Gala' apple trees on supporter 4 and different strains of B.9, M.9, and M.26 rootstocks as Part of the 2002 NC-140 apple rootstock trial.", *Acta Horticulturae* (ISHS), 903, pp. 311-318.

Hampson, C.R. and Bedford, K.E. (2011). "Efficacy of blossom thinning treatments to reduce fruit set and increase fruit size of ambrosia and Aurora Golden Gala™ apples.", *Canadian Journal of Plant Science*, 91(6), pp. 983-990. doi: 10.4141/cjps2011-070

## Other Science Related Publications:

### 2015

Hampson, C.R. (2015). "PARC rootstock research results.", *Orchard & Vine*, 56(2), pp. 53-56.

McClure, K.A., Gardner, K.M., Toivonen, P.M.A., Hampson, C.R., Lannard, B.L., Rajcan, I., Song, J., and Myles, S. (2015). "Genetic mapping using next-generation DNA sequencing in apple.", *Canadian Plant Genome Workshop (CPGW 2015)*, Victoria, BC, Canada, August 1-13., 2015.

Song, J., Fomey, C.F., Myles, S., Sauerteig, K.A., Du, L., Hampson, C.R., Toivonen, P.M.A., Fan, L., DeLong, J.M., and Fillmore, S.A.E. (2015). "An integrated "omics" investigation on control mechanisms and molecular markers of apple fruit storage disorders.", *AG Connect 2015 Summit*, Truro, NS, USA, March 31-April 1, 2015. (Poster)

Toivonen, P.M.A., DeLong, J.M., Hampson, C.R., Song, J., Fomey, C.F., and Myles, S. (2015). "Peel maturity only correlates with soft scald in a highly susceptible orchard of Ambrosia™ apple.", *HortScience*, 50(9), pp. S181. (Abstract)

### 2014

Norelli, J., Evans, K.M., Wisniewski, M.E., Chao, C.T., Hampson, C.R., and Droby, S. (2014). "Characterization of resistance to fire blight (*Erwinia amylovora*) and blue mold (*Penicillium expansum*) in exotic and domesticated *Malus* (apple) germplasm.", *7th International Rosaceae Genomics Conference*, Seattle, WA, USA, June 24-26, 2014, poster presentation and abstract published in conference program booklet. (Poster)

Hampson, C.R. (2014). "Sweet cherry breeding in Summerland, Canada.", *Compact Fruit Tree*, 47(2), pp. 13-14.

Hampson, C.R. (2014). "Apple breeding and genomics: promise, practicalities, and sources of research funding.", *Tree Fruit Regional Research Users' Meeting*, Summerland, BC., Canada, November 26, 2014. (Presentation)

Toivonen, P.M.A. and Hampson, C.R. (2014). "Replacement of existing cultivars with similar apples having better postharvest traits.", ISHS 29th International Horticultural Congress, Brisbane, Australia, August 17-22, 2014, Oral presentation.

Hampson, C.R., Neilsen, D., Neilsen, G.H., and Forge, T.A. (2014). Report of cooperative regional project NC-140 / British Columbia: Improving economic and environmental sustainability in tree fruit production through changes in rootstock use. <http://www.nc140.org/annualreports.html>. (Report)

Hampson, C.R. (2014). "New variety prospects.", B.C. Cherry Council Annual General Meeting. Kelowna, BC., February 21, 2014. (Presentation)

Hampson, C.R. (2014). "British Columbia cherry varieties.", International Fruit Tree Association 57th Annual Conference, Kelowna, BC., Canada, February 22-26, 2014, Oral presentation.

## 2013

Toivonen, P.M.A. and Hampson, C.R. (2013). "Respiration rates of sweet cherry cultivars at optimal and abusive temperatures over three growing seasons.", VIIIth International Cherry Symposium, Plasencia, Spain, June 23-27, 2013, Poster.

Hampson, C.R. (2013). "Essais de porte-greffes de pommiers en C.-B.", Journée pomicole, December 4, 2013. (Presentation)

Hampson, C.R. (2013). "AAC programme d'amélioration des pommes.", Journée pomicole, December 4, 2013. (Presentation)

## 2012

Norelli, J., Evans, K.M., Hampson, C.R., and Wisniewski, M.E. (2012). "Developing new sources of resistance to fire blight for use in apple scion breeding programs.", Annual Conference of the American Society for Horticultural Science, Miami, Florida, USA, July 31-August 3, 2012. (Poster)

Toivonen, P.M.A., Mostofi, Y., Hampson, C.R., and Wiersma, P.A. (2012). "Evaluating the synchronicity of flesh and peel ripening in standard and new cultivars of apples.", Annual Conference of the American Society for Horticultural Science, Miami, Florida, USA, July 31-August 3, 2012. (Poster)

Toivonen, P.M.A., Mostofi, Y., Hampson, C.R., and Wiersma, P.A. (2012). "Exciting New Technologies for Today.", Okanagan Fieldmens Association Horticultural Forum, Kelowna, BC, Canada, March 1, 2012.

Toivonen, P.M.A., Mostofi, Y., Hampson, C.R., and Wiersma, P.A. (2012). "Storage Research With New Cultivars.", 10th Ontario Fruit and Vegetable Convention (OFVC 2012), Niagara Falls, ON, Canada, February 22-23, 2012.

Toivonen, P.M.A., Mostofi, Y., Wiersma, P.A., and Hampson, C.R. (2012). Evaluation of Non-Destructive Instruments for Assessing Apple Maturity and Quality: 2011 Results., Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC). (Report)

## 2011

Hampson, C.R., Kappel, F., MacDonald, R.A., and McKenzie, D.-L. (2011). "'SPC207' (Starblush™): a new blush sweet cherry from Summerland.", XIII Eucarpia Symposium on Fruit Breeding and Genetics, Warsaw, Poland, September 11-15, 2011, Published Abstract, p.116 of Abstracts of XIII Eucarpia. (Poster)

Hampson, C.R. (2011). "Inheritance of partial resistance to apple scab in 10 apple progenies.", XIII Eucarpia Symposium on Fruit Breeding and Genetics, Warsaw, Poland, September 11-15, 2011, Published Abstract, p.194 of Abstracts of XIII Eucarpia, etc. (Poster)

Toivonen, P.M.A. and Hampson, C.R. (2011). "Phenotypic analysis of new sweet cherry and apple cultivars based on postharvest characteristics.", 4th International Conference Postharvest Unlimited 2011, Wenatchee, WA, USA, May 23-26, 2011, pp. 69.

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## Research Publications:

2015

Li, X., Zhang, Y., Hannoufa, A., and Yu, P. (2015). "Transformation with TT8 and HB12 RNAi constructs in model forage (*Medicago sativa*, Alfalfa) affects carbohydrate structure and metabolic characteristics in ruminant livestock systems.", *Journal of Agricultural and Food Chemistry*, 63(43), pp. 9590-9600. doi : 10.1021/acs.jafc.5b03717

Aung, B., Gruber, M.Y., and Hannoufa, A. (2015). "The MicroRNA156 system: A tool in plant biotechnology.", *Biocatalysis and Agricultural Biotechnology*. doi : 10.1016/j.bcab.2015.08.002

Gao, M.-J., Li, X., Huang, J., Gropp, G.M., Gjetvaj, B., Lindsay, D., Wei, S., Coutu, C., Chen, Z., Wan, X.-C., Hannoufa, A., Lydiate, D.J., Gruber, M.Y., Chen, Z.J., and Hegedus, D.D. (2015). "SCARECROW-LIKE15 interacts with HISTONE DEACETYLASE19 and is essential for repressing the seed maturation programme.", *Nature Communications*, 6(Article number 7243). doi : 10.1038/ncomms8243

Aung, B., Gruber, M.Y., Amyot, L., Omari, K., Bertrand, A., and Hannoufa, A. (2015). "Ectopic expression of LjmiR156 delays flowering, enhances shoot branching, and improves forage quality in alfalfa.", *Plant Biotechnology Reports*, 9(6), pp. 379-393. doi : 10.1007/s11816-015-0375-2

Cáceres, L.A., McDowell, T.W., Scott, I.M., Hannoufa, A., McGarvey, B.D., Tian, L.-N., Yeung, K.K.-C., and Sumarah, M.W. (2015). "In vivo extraction of volatile organic compounds (VOCs) from Micro-Tom tomato flowers with multiple solid phase microextraction (SPME) fibers.", *Canadian Journal of Chemistry*, 93(2), pp. 143-150. doi : 10.1139/cjc-2014-0269

Aung, B., Gruber, M.Y., Amyot, L., Omari, K., Bertrand, A., and Hannoufa, A. (2015). "MicroRNA156 as a promising tool for alfalfa improvement.", *Plant Biotechnology Journal*, 13, pp. 779-790. doi : 10.1111/pbi.12308

Wang, Y., Wang, Z., Amyot, L., Tian, L.-N., Xu, Z., Gruber, M.Y., and Hannoufa, A. (2015). "Ectopic expression of miR156 represses nodulation and causes morphological and developmental changes in *Lotus japonicus*.", *Molecular Genetics and Genomics*, 290(2), pp. 471-484. doi : 10.1007/s00438-014-0931-4

Wei, S., Xi, Y.Z., Song, D.-P., Wei, H., Gruber, M.Y., Gao, M.-J., Parkin, I.A.P., Kachatourians, G., and Hannoufa, A. (2015). "Quantitative and structural analyses of T-DNA tandem repeats in transgenic *Arabidopsis* SK mutant lines.", *Plant Cell, Tissue and Organ Culture*, 123(1), pp. 183-192. doi : 10.1007/s11240-015-0825-0

2014

Hannoufa, A., Pillai, B., and Chellamma, S. (2014). "Genetic enhancement of *Brassica napus* seed quality.", *Transgenic Research*, 23(1), pp. 39-52. doi : 10.1007/s11248-013-9742-3

2013

Wang, Y., Hua, W., Wang, J., Hannoufa, A., Xu, Z., and Wang, Z. (2013). "Deep sequencing of *Lotus corniculatus* L. reveals key enzymes and potential transcription factors related to the flavonoid biosynthesis pathway.", *Molecular Genetics and Genomics*, 288(3-4), pp. 131-139. doi : 10.1007/s00438-013-0736-x

2012

Hossain, Z., Amyot, L., McGarvey, B.D., Gruber, M.Y., Jung, J., and Hannoufa, A. (2012). "The Translation Elongation Factor eEF-1B $\beta$ 1 Is Involved in Cell Wall Biosynthesis and Plant Development in *Arabidopsis thaliana*.", *PLoS ONE*, 7(1), Article No. e30425. doi : 10.1371/journal.pone.0030425

Hannoufa, A. and Hossain, Z. (2012). "Regulation of carotenoid accumulation in plants.", *Biocatalysis and Agricultural Biotechnology*, 1(3), pp. 198-202. doi : 10.1016/j.bcab.2012.03.004

Mahmoudi, H., Ben Massoud, R., Baâtour, Olfa, Tarchoune, I., Ben Salah, I., Nasri, N., Abidi, W., Kaddour, R., Hannoufa, A., Lachaâl, M., and Quergui, Z. (2012). "Influence of different seed priming methods for improving salt stress tolerance in lettuce plants.", *Journal of Plant Nutrition*, 35(12), pp. 1910-1922. doi : 10.1080/01904167.2012.711410

Yu, B., Gruber, M.Y., Khachatourians, G.G., Zhou, R., Epp, D.J., Hegedus, D.D., Parkin, I.A.P., Welsch, R., and Hannoufa, A. (2012). "Arabidopsis cpSRP54 regulates carotenoid accumulation in Arabidopsis and Brassica napus.", *Journal of Experimental Botany*, 63(14), pp. 5189-5202. doi : 10.1093/jxb/ers179

Mahmoudi, H., Ben Nasri, A.M., Baâtour, Olfa, Huang, A.J., Tarchoune, I., Nasri, N., Rym, K., Gruber, M.Y., Lachaâl, M., Hannoufa, A., and Ouerghi, Z. (2012). "Differential response to elevated NaCl by antioxidant enzymes and gene transcripts in two contrasting lettuce genotypes.", *Australian Journal of Crop Science*, 6(4), pp. 632-640.

Mahmoudi, H., Baâtour, Olfa, Huang, A.J., Nasri, N., Salah, I.B., Tarchoune, I., Zaghdoudi, M., Gruber, M.Y., Lachaâl, M., Ouerghi, Z., and Hannoufa, A. (2012). "Verte and Romaine lettuce varieties (*Lactuca sativa*) show differential responses to high NaCl concentrations.", *Journal of Plant Nutrition and Soil Science*, 175(4), pp. 641-648. doi : 10.1002/jpln.201100217

Wei, S., Gruber, M.Y., Yu, B., Gao, M.-J., Khachatourians, G.G., Hegedus, D.D., Parkin, I.A.P., and Hannoufa, A. (2012). "Arabidopsis mutant sk156 reveals complex regulation of SPL15 in a miR156-controlled gene network", *BMC Plant Biology*, 12:169. doi : 10.1186/1471-2229-12-169

Chellamma, S., Pillai, B., and Hannoufa, A. (2012). "Probing the genes expressed in developing seed of oilseed plants: *Brassica napus* (L.) as a case example.", in Agrawal, G.K. and Rakwal, R. (eds.) - *Seed Development: OMICS Technologies toward Improvement of Seed Quality and Crop Yield. OMICS in Seed Biology*, Springer, Chapter 10, pp. 171-186.

2011

Wei, S., Hannoufa, A., Soroka, J.J., Xu, N., Li, X.L., Gruber, M.Y., and Zebarjadi, A. (2011). "Enhanced  $\beta$ -ionone Emission in Arabidopsis Over-Expressing AtCCD1 Reduces Feeding Damage in vivo by the Crucifer Flea Beetle.", *Environmental Entomology*, 40(6), pp. 1622-1630. doi : 10.1603/EN11088

Hossain, Z., McGarvey, B.D., Macfie, S. M., Amyot, L., Gruber, M.Y., Jung, J., Hannoufa, A. (2011). "DIMINUTO 1 affects the lignin profile and secondary cell wall formation in Arabidopsis.", *Planta*, 235(3), pp. 485-498. doi : 10.1007/s00425-011-1519-4

Ben Salah, I., Mahmoudi, H., Gruber, M.Y., Slatni, T., Boulaaba, M., Gandour, M., Messedi, D., Hamed, K.B., Ksouri, R., Hannoufa, A., and Abdelly, C. (2011). "Phenolic content and antioxidant activity in two contrast in *Medicago ciliaris* lines cultivated under salt stress.", *Biologia*, 66(5), pp. 813-820. doi : 10.2478/s11756-011-0102-6

Mahmoudi, H., Nasri, N., Tarchoune, I., Zargouni, H., Ben Salah, I., Ben Massoud, R., Baâtour, Olfa, Kaddour, R., Ben Nasri, A.M., Hannoufa, A., Mokhtar, L., and Zeineb, O. (2011). "Salt stress induced changes in germination, lipid peroxidation and antioxidant activities in lettuce (*Lactuca sativa* L.) seedlings.", *African Journal of Biotechnology*, 10(65), pp. 14498-14506.

Mahmoudi, H., Kaddour, R., Huang, A.J., Nasri, N., Olfa, B., M'Rah, S., Hannoufa, A., Mokhtar, L., and Zeineb, O. (2011). "Varied tolerance to NaCl salinity is related to biochemical changes in two contrasting lettuce genotypes.", *Acta Physiologica Plantarum*, 33(5), pp. 1613-1622. doi : 10.1007/s11738-010-0696-2

## Other Science Related Publications:

2015

Li, X., Hannoufa, A., Amyot, L., Gruber, M.Y., Zhang, Y., and Yu, P. (2015). "Effect of TT8 and HB12 down-regulation in alfalfa on protein and energy values for dairy cattle.", *Western Canadian Dairy Seminar: Taking Care of Dairy Business*, Sheraton Red Deer, Red Deer, Alberta, Canada, March 10-13, 2015. (Presentation)

Wang, Z., Kohalmi, S.E., Wang, Y., Amyot, L., and Hannoufa, A. (2015). "The miR156/SPL network determine plant fertility by regulating AS2 gene.", *Botany 2015 Joint Conference: Science and plants for people*, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-30, 2015. (Poster)

Hannoufa, A., Aung, B., Gruber, M.Y., Omari, K., and Amyot, L. (2015). "MicroRNA156 controls forage yield and other traits in alfalfa by regulating target genes.", *2015 Plant and Animal Genome Conference*, San Diego, CA, USA, January 10-15, 2015, poster number 772. (Poster)

Hannoufa, A. and Gruber, M.Y. (2015). "MicroRNA156: A promising tool for alfalfa improvement.", *Industry presentation presented to Forage Genetics International*, August 28, 2015. (Presentation)

Arshad, M.A., Gruber, M.Y., and Hannoufa, A. (2015). "A step ahead: Improving alfalfa for biomass and environmental stresses.", *Botany 2015 Joint Conference: Science and plants for people*, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-30, 2015, Oral presentation.

Hannoufa, A., Gruber, M.Y., Aung, B., Bertrand, A., Amyot, L., and Omari, K. (2015). "Overexpression of miR156 affects forage yield and other traits in alfalfa by regulating SPL genes.", *Botany 2015 Joint Conference: Science and plants for people*, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015, Oral presentation.

Li, X., Hannoufa, A., Amyot, L., Gruber, M.Y., Zhang, Y., and Yu, P. (2015). "Effect of TT8 and HB12 down-regulation in alfalfa on protein and energy values for dairy cattle.", Western Canadian Dairy Seminar: Taking Care of Dairy Business, Sheraton Red Deer, Red Deer, Alberta, Canada, March 10-13, 2015.

Arshad, M.A., Hannoufa, A., and Gruber, M.Y. (2015). "MicroRNA156 overexpression enhances drought resistance in alfalfa (An invention disclosure submitted for management review May 2015)."

Hannoufa, A., Gruber, M.Y., Aung, B., Amyot, L., and Omari, K. (2015). "MicroRNA156 as Tool in Plant Metabolic Engineering.", Gordon Research Conference-Plant Metabolic Engineering, Waterville Valley, NH, USA, July 19-24, 2015, #26. (Poster)

## 2014

Challa, S., Scott, I.M., Cáceres, L.A., Sumarah, M.W., Tian, L.-N., and Hannoufa, A. (2014). "Natural Plant Volatiles: A Sustainable Pest Control Strategy.", Eastern Regional Meeting of the Canadian Society of Plant Biologists, Guelph, ON, Canada, November 28-29, 2014, Oral presentation.

Hannoufa, A., Aung, B., Wang, Y., Amyot, L., Wei, S., and Gruber, M.Y. (2014). "MicroRNA156 regulates yield in Arabidopsis and alfalfa.", Keystone Symposium: RNA Silencing, Seattle WA, USA. (Poster)

Gruber, M.Y., Hannoufa, A., Aung, B., Wang, Y., Amyot, L., Yu, M., and Wei, S. (2014). "miR156 is a Key to Improving Biomass Yield in Alfalfa.", 2014 Plant and Animal Genomics Conference, San Diego, CA, USA. (Presentation)

Aung, B., Hannoufa, A., Gruber, M.Y., Amyot, L., and Yu, M. (2014). "Ectopic expression of miR156 improves alfalfa yield and quality.", Eastern Regional Meeting of the Canadian Society of Plant Biologists, Guelph, ON, Canada, November 28-29, 2014, Oral presentation.

Hannoufa, A., Aung, B., Gruber, M.Y., Amyot, L., and Yu, M. (2014). "The miR156-SPL gene network regulates flowering and shoot branching in alfalfa.", 9th IAPB-Canada meeting, Montreal, QC, Canada, May 12-15, 2014, Oral presentation.

Omari, K., Aung, B., Gruber, M.Y., Amyot, L., Bertrand, A., and Hannoufa, A. (2014). "Analysis of Cell Wall Residue of Alfalfa Overexpressing miR156.", Biology Graduate Research Forum, Western University, London, ON, Canada, September 26, 2014.

Gao, M-G., Li, X., Huang, J., Gropp, G.M., Lindsay, D., Gjetvaj, B., Wei, S., Wan, X-C., Chen, Z., Gruber, M.Y., Hannoufa, A., Lydiate, D.J., Chen, Z.J., and Hegedus, D.D. (2014). "SCARECROW-LIKE 15 interacts with HISTONE DEACETYLASE 19 and is essential to the repression of the seed maturation program.", 25th International Conference on Arabidopsis Research, Vancouver, BC, Canada, July 28-August 1, 2014, #207. (Poster)

Aung, B., Hannoufa, A., Gruber, M.Y., Amyot, L., and Yu, M. (2014). "The miR156-SPL gene regulatory network controls flowering and yield in alfalfa.", 9th IAPB-Canada meeting, Montreal, QC, Canada, May 12-15, 2014, #9. (Poster)

Abdallah, S., Aung, B., Amyot, L., Lachâal, M., Karray Bouraoui, N., and Hannoufa, A. (2014). "Salt stress affects accumulation of flavonoids and carotenoids in *Solanum villosum* L.", Biology Graduate Research Forum, Western University, London, ON, Canada, September 26, 2014. (Poster)

Scott, I.M., Cáceres, L.A., Challa, S., Hannoufa, A., Sumarah, M.W., Tian, L.-N., Shipp, L., and Shipp, J.L. (2014). "Deterring tomato pests by manipulating the flower volatiles.", Joint Annual Meeting of the Entomological Societies of Canada and Saskatchewan. Symposium: Arthropod "omics" – Impact on Management, Saskatoon, Canada, September 26-October 1, 2014, Platform presentation.

Cáceres, L.A., McGarvey, B.D., Yeung, K.K.-C., Hannoufa, A., Sumarah, M.W., Benitez, X., and Scott, I.M. (2014). "Insect repellent and attractant activities of Brassicaceae apocarotenoid volatiles  $\alpha$ - $\beta$ - and dihydro- $\beta$ -ionone.", Annual Meeting of the Entomological Society of Ontario, Toronto, ON, Canada, October 3-5, 2014, Platform presentation.

Hannoufa, A., Aung, B., Gruber, M.Y., Amyot, L., and Yu, M. (2014). "The miR156 gene regulatory network controls forage yield and other traits in alfalfa.", North American Alfalfa Improvement Conference, Lethbridge, AB, Canada, July 8-10, 2014, Oral presentation.

## 2013

Hannoufa, A., Wang, Y., Aung, A., and Amyot, L. (2013). "Unraveling the function of microRNA156 in plants.", The 2013 Canadian Plant Genomics Workshop, Halifax, NS, Canada, August 12-15, 2013. (Presentation)

Aung, B., Gruber, M.Y., Amyot, L., Keyghobadi, N., and Hannoufa, A. (2013). "Overexpression of microRNA156 leads to enhanced forage yield in alfalfa.", 2013 Eastern Regional Meeting of the Canadian Society of Plant Biologists, Mississauga, ON, Canada, December 6-7, 2013. (Presentation)

Ben Abdallah, S., Amyot, L., Lachâal, M., Karray Bouraoui, N., and Hannoufa, A. (2013). "Salt stress affects accumulation of flavonoids and carotenoids in *Solanum nigrum*.", Biology Graduate Students Forum, Western University, London, ON, Canada, October 19, 2013. (Poster)

Wang, Y., Amyot, L., Xu, Z., Tian, L.-N., and Hannoufa, A. (2013). "MicroRNA156 regulates plant development and nodulation in *Lotus japonicus*.", 2013 Eastern Regional Meeting of the Canadian Society of Plant Biologists, Mississauga, ON, Canada, December 6-7, 2013. (Poster)

Hannoufa, A., Yu, B., Gruber, M.Y., Reynolds, B.L., Haughn, G.W., and Gilchrist, E.J. (2013). "Enhancing the carotenoid profile of canola seeds.", 2013 Annual Meeting of the Canadian Society of Plant Biologists, Quebec City, QC, Canada, June 26-28, 2013. (Presentation)

Aung, A., Gruber, M.Y., Amyot, L., Keyghobadi, N., and Hannoufa, A. (2013). "Functional characterization of microRNA156 in *Medicago sativa*.", Biology Graduate Students Forum, Western University, London, ON, Canada, October 19, 2013. (Presentation)

Hannoufa, A. (2013). "Reducing levels of antinutritional factors in camelina seed.", Presented via videoconference to Linnaeus Plant Sciences, London (ON)-Saskatoon (SK), Canada, September 26, 2013. (Presentation)

Emami Meybodi, D. and Hannoufa, A. (2013). "Establishing the link between miR156/SPL15 and carotenoid accumulation in *Arabidopsis*.", 2013 Eastern Regional Meeting of the Canadian Society of Plant Biologists, Mississauga, ON, Canada, December 6-7, 2013. (Presentation)

Lakshminarayan, S., Bernards, M.A., Tian, L.-N., Qubbaj, T., and Hannoufa, A. (2013). "Analysis of *Arabidopsis* plants overexpressing carotenoid cleavage dioxygenases for volatile emissions and insect resistance.", 2013 Eastern Regional Meeting of the Canadian Society of Plant Biologists, Mississauga, ON, Canada, December 6-7, 2013. (Presentation)

Hannoufa, A. and Gruber, M.Y. (2013). "MicroRNA156-SPL gene network regulates biomass yield in alfalfa.", Forage Genetics International, London, ON, Canada, September 19, 2013. (Presentation)

## 2012

Lakshminarayan, S., Wei, S., Gruber, M.Y., Bernards, M.A., Tian, L.-N., Qubbaj, T., and Hannoufa, A. (2012). "Role of carotenoid cleavage dioxygenases in volatile emissions and insect resistance in *Arabidopsis*.", 3rd Annual Biology Graduate Research Forum 2012, University of Western Ontario, London, ON, Canada, October 20, 2012.

Emami Meybodi, D., Percival-Smith, A., and Hannoufa, A. (2012). "Uncovering the molecular link between miR156 and carotenoid accumulation in *Arabidopsis thaliana*.", Canadian Society of Plant Biologists (CSPB) Eastern Regional Meeting and Plant Development Workshop, Wilfrid Laurier University, Waterloo, ON, Canada, November 30- December 1, 2012.

Lakshminarayan, S., Wei, S., Gruber, M.Y., Bernards, M.A., and Hannoufa, A. (2012). "Role of Carotenoid Cleavage Dioxygenases in Volatile Emissions and Insect Resistance in *Arabidopsis thaliana*.", 51st Phytochemical Society of North America (PSNA) Annual Meeting, University of Western Ontario, London, ON, Canada, August 11-15, 2012.

Lakshminarayan, S., Wei, S., Gruber, M.Y., Bernards, M.A., Tian, L.-N., Qubbaj, T., and Hannoufa, A. (2012). "Role of carotenoid cleavage dioxygenases in volatile emissions and insect resistance in *Arabidopsis*.", Canadian Society of Plant Biologists (CSPB) Eastern Regional Meeting and Plant Development Workshop, Wilfrid Laurier University, Waterloo, ON, Canada, November 30- December 1, 2012.

Wang, Y., Amyot, L., Xu, Z., Tian, L.-N., and Hannoufa, A. (2012). "Role of two RNA-binding proteins in carotenoid and chlorophyll biosynthesis and stress adaptation.", 8th Canadian Plant Biotechnology Conference, University of Guelph, Guelph, ON, Canada, May 14-17, 2012.

Hannoufa, A., Wang, Y., Gruber, M.Y., Wei, S., and Amyot, L. (2012). "MicroRNA156 regulates secondary metabolism and plant architecture.", 8th International Symposium on Biocatalysis and Agricultural Biotechnology, Sanoma Valley, CA, USA, October 28-31, 2012.

Gruber, M.Y., Wei, S., Li, X., Yu, B., Kadoor, R., Mahmoudi, H., Ben Salah, I., Yu, M., Holowachuk, J., Nayidu, N., Taheri, A., Bonham-Smith, P.C., and Hannoufa, A. (2012). "New Mechanisms and Applications for Plant Secondary Metabolites and non-glandular Trichomes.", Plant Canada 2012 (joint meeting of the Canadian Society of Agronomy (CSA), Canadian Society for Horticultural Science (CSHS), Certified Crop Advisors (CCA), North American Fruit Explorers (NAFEX)): Adapting Crops to Change, University of Saskatchewan, Saskatoon, SK, Canada, July 16-19, 2012.

Aung, B., Amyot, L., Keyghobadi, N., and Hannoufa, A. (2012). "Characterization and Target Validation of miR156 in *Medicago sativa*.", Canadian Society of Plant Biologists (CSPB) Eastern Regional Meeting and Plant Development Workshop, Wilfrid Laurier University, Waterloo, ON, Canada, November 30- December 1, 2012.

Cáceres, L.A., McGarvey, B.D., Scott, I.M., Sumarah, M.W., and Hannoufa, A. (2012). "Apocarotenoid emission study in wild type and transgenic *Arabidopsis* plants over-expressing CCD-1 and their feeding effects against cabbage loopers.", 51st Phytochemical Society of North America (PSNA) Annual Meeting, University of Western Ontario, London, ON, Canada, August 11-15, 2012.

2011

Gruber, M.Y., Li, X., Gao, P., Cui, D., Yu, M., Nayidu, N., Alahakoon, U.I., Wei, S., Yu, B., Holowachuk, J., Bonham-Smith, P.C., Regan, S., Hannoufa, A., Hossein, Z., and Parkin, I.A.P. (2011). "Unravelling Mysteries in the Regulation of Plant Secondary Metabolites and Non-glandular Trichomes: New Mechanisms and Crop Applications.", 50th Anniversary Meeting of the Phytochemical Society of North America, Fairmont Orchid Hotel and HILO Conference Centre, Kohala Coast, Big Island, HI, USA, December 10-15, 2011. (Presentation)

Hannoufa, A., Wei, S., Gruber, M.Y., Khachatourians, G.G., Wang, Y., Hegedus, D.D., and Parkin, I.A.P. (2011). "MicroRNA156: A new player in regulating carotenoid accumulation in plants.", Canadian Society of Plant Physiologists Eastern Regional Meeting & Plant Development Workshop / Congrès de la Société Canadienne de Physiologie Végétale & Congrès de Développement Végétale (Congrès Régional de l'Est), Carleton University, Ottawa, ON, Canada, December 2-3, 2011, SB-1, pp. 17.

Hannoufa, A. and Hossain, Z. (2011). "Carotenoid Biosynthesis and Regulation in Plants.", published in The Lipid Library, American Oil Chemists Society (AOCS), September 12th, 2011.



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## Research Publications :

2012

Papadopoulos, A.P., Yaganza, E.-S., Hao, X.M., Martynenko, A., Ramados, M., Saha, U.K., Ehret, D.L., Dorais, M., and Khosla, S. (2012). "Effects of Oxygen Super-Saturated Nutrient Solutions on Greenhouse Tomato.", *Acta Horticulturae (ISHS)*, 952, pp. 713-720.

Hao, X.M., Zheng, J.M., Little, C., and Khosla, S. (2012). "LED inter-lighting in year-round greenhouse mini-cucumber production.", *Acta Horticulturae (ISHS)*, 956, pp. 335-340.

2011

Hao, X.M., Zhang, L., Borhan, M.S., and Khosla, S. (2011). "Effects of temperature integration with low pre-morning temperatures on microclimate, fruit yield and energy use efficiency in greenhouse tomato production.", *Acta Horticulturae (ISHS)*, 893, pp. 815-820.

Papadopoulos, A.P., Madhiyazhagan, R., Hao, X.M., Khosla, S., Ehret, D.L., and Lin, W.-C. (2011). "Integrated systems for the production of organic greenhouse tomatoes.", *Acta Horticulturae (ISHS)*, 893, pp. 1201-1208.

Aberkani, K., Hao, X.M., de Halleux, D., Papadopoulos, A.P., Dorais, M., and Vineberg, S. (2011). "Energy saving achieved by retractable liquid foam between double polyethylene films covering greenhouses.", *Transactions of the ASABE*, 54(1), pp. 275-284.

## Other Science Related Publications :

2015

Hao, X.M. (2015). "Greenhouse Lighting.", Oral presentation to Ontario Greenhouse Vegetable Growers, OGVG Science Day, Leamington, Ontario, Canada, March 13, 2015. (Presentation)

Hao, X.M., Guo, X.-B., Zheng, J.M., Little, C., and Khosla, S. (2015). "Liquid desiccant dehumidification system for improving greenhouse microclimate and energy use efficiency in year-round greenhouse vegetable production.", *Greensys2015*, Evora, Portugal, July 19-23, 2015. (Poster)

Hao, X.M., Guo, X.-B., Chen, X., and Khosla, S. (2015). "Dynamic temperature integration with temperature drop improved the response of greenhouse tomato to long photoperiod of supplemental lighting.", *Greensys2015*, Evora, Portugal, July 19-23, 2015. An international symposium on new technologies and management for greenhouses.

Hao, X.M., Guo, X.-B., Chen, X., and Khosla, S. (2015). "Response of greenhouse tomato to different vertical spectra of LED lighting under top high pressure sodium and plasma lighting.", *Greensys2015*, Evora, Portugal, July 19-23, 2015. (Poster)

2014

Hao, X.M., Zheng, J.M., and Little, C. (2014). "Dynamic temperature integration with temperature drop to improve early fruit yield and energy efficiency in greenhouse cucumber production.", *ISHS 29th International Horticultural Congress*, Brisbane, Australia, August 17-22, 2014. (Abstract)

Hao, X.M., Guo, X.-B., Chen, X., and Khosla, S. (2014). "Interlighting in mini-cucumbers: interactions with overhead lighting and plant density.", *ISHS 29th International Horticultural Congress*, Brisbane, Australia, August 17-22, 2014. (Abstract)

Hao, X.M., Zheng, J.M., and Little, C. (2014). "Response of poinsettia to dynamic temperature integration with pre-morning and early morning temperature drop and root zone heating.", *ISHS 29th International Horticultural Congress*, Brisbane, Australia, August 17-22, 2014. (Abstract)

Hao, X.M., Zheng, J.M., Little, C., and Khosla, S. (2014). "Effects of LED interlighting on plant growth, fruit yield and quality, and energy use efficiency in greenhouse mini-cucumber production.", *2014 American Society for Horticultural Science Annual Meeting*, Orlando, FL, USA, July 28-31, 2014. (Abstract)

Hao, X.M., Zheng, J.M., and Little, C. (2014). "Response of Chrysanthemums to various day-night air temperature differences/drops and root zone temperatures at the same daily integrated temperature.", 2014 American Society for Horticultural Science Annual Meeting, Orlando, FL, USA, July 28-31, 2014. (Abstract)

Hao, X.M. (2014). "Lighting from HPS to LED.", Canadian Greenhouse Conference 2014, Niagara Fall, Ontario, Canada, October 8-9, 2014.

Hao, X.M. (2014). New cover materials for sustainable greenhouse vegetable production, Annual project report to Ontario Greenhouse Vegetable Growers (AIP-029, Activity 5), 6 pages. (Report)

Hao, X.M. (2014). Sustainable Year-Round Greenhouse Vegetable Production with Supplemental lighting. Annual project report (AAFC, March 31, 2014), 10 pages. (Report)

Hao, X.M. (2014). Novel climate control technology to improve energy use efficiency in greenhouse vegetable production. Annual project report (AAFC, March 31, 2014), 9 pages. (Report)

Hao, X.M. (2014). Improving efficiency and fruit quality in greenhouse vegetable production, Annual project report to Ontario Greenhouse Vegetable Growers (AIP-029, Activity 4), 6 pages. (Report)

## 2013

Hao, X.M. (2013). "How Dynamic Climate Control can Conserve Energy and Improve Crop Productivity.", 55th Annual Horticulture Growers' Short Course, Abbotsford, BC, January 24-26, 2013. (Presentation)

Hao, X.M. (2013). "Lighting research at GPCRC (AAFC-Harrow).", Invited presentation to the 63rd Southwest Horticulture Expo, Leamington, Ontario, November 2013. (Presentation)

Hao, X.M., Zheng, Y., Dixon, M.A., and Brown, W. (2013). Dynamic greenhouse climate control to conserve energy and improve crop quality, Final Ornamental Cluster Research Project Report, 12 pages. (Report)

Hao, X.M. (2013). "Lighting workshop.", Organized by AAFC-Harrow and OMAFRA, Light research greenhouse, Harrow, Ontario, Canada, December 4, 2013. (Presentation)

Khosla, S., Hao, X.M., and Yang, X.M. (2013). "Precision Fertigation in Greenhouse Vegetables to Minimize Offsite Nutrient Discharge.", 29th International Horticultural Congress, Brisbane, Queensland, Australia. (Abstract)

## 2012

Hao, X.M., Zheng, J.M., and Little, C. (2012). "Response of poinsettia to various air temperature drops and root zone temperatures at the same daily integrated temperature.", 109th Annual Conference of the American Society for Horticultural Science (ASHS), InterContinental Miami Hotel, Miami, FL, USA, July 31-August 3, 2012.

Hao, X.M., Zheng, Y., Dixon, M.A., and Brown, W. (2012). Dynamic greenhouse climate control to conserve energy and improve crop quality. Annual Research Project Report. (Report)

Hao, X.M. (2012). "Heating & Climate Management for Poinsettias and Chrysanthemums.", Canadian Greenhouse Conference (CGC2012), Scotiabank Convention Centre, Niagara Falls, ON, Canada, October 3-4, 2012. (Presentation)

Hao, X.M. (2012). "Dynamic Greenhouse Climate Control to Conserve Energy and Improve Crop Quality.", Ornamental Cluster Research & Innovation Forum, Toronto, ON, Canada, December 5, 2012. (Presentation)

Hao, X.M., Zheng, J.M., and Little, C. (2012). "Dynamic temperature integration with temperature drop to improve early fruit yield in greenhouse cucumber production.", HORTIMODEL 2012, Nanjing, China. (Abstract)

Hao, X.M. (2012). "Lighting for Greenhouse Cucumbers.", Canadian Greenhouse Conference (CGC2012), Scotiabank Convention Centre, Niagara Falls, ON, Canada, October 3-4, 2012. (Presentation)

Hao, X.M., Dorais, M., Ehret, D.L., and Papadopoulos, A.P. (2012). Dynamic plant-based environment control to improve energy use efficiency in greenhouse crop production. Final A-Base Research Project (2008-12) Report, 13 pages. (Report)

Hao, X.M. (2012). "Improving Light Environment for Year-round Greenhouse Vegetable Production.", Canadian Greenhouse Conference (CGC2012), Scotiabank Convention Centre, Niagara Falls, ON, Canada, October 3-4, 2012. (Presentation)

Hao, X.M. (2012). "Potential technologies for northern greenhouses.", Improving Food Security in the North: A Workshop on Sustainable Northern Greenhouses, University of Saskatchewan, Saskatoon, SK, Canada, November 7-8, 2012. (Presentation)

Hao, X.M., Zheng, J.M., Little, C., and Khosla, S. (2012). "LED inter-lighting in year-round greenhouse mini-cucumber production.", 7th International Symposium on Light in Horticultural Systems, Wageningen, The Netherlands, October 14-18, 2012. (Abstract)

Hao, X.M., Tsao, R., and Khosla, S. (2012). Sustainable year-round greenhouse vegetable production with supplemental lighting, First Interim Research Project Report to Ontario Greenhouse Vegetable Growers, 8 pages. (Report)

Hao, X.M. (2012). Novel climate control technology to improve energy use efficiency in greenhouse vegetable production, Annual Research Project Report, 6 pages. (Report)

Hao, X.M. (2012). Sustainable year-round greenhouse vegetable production with supplemental lighting, Annual Research Project Report, 10 pages. (Report)

Hao, X.M., Zheng, J.M., Little, C., and Khosla, S. (2012). "LED inter-lighting in year-round greenhouse mini-cucumber production.", 7th International Symposium on Light in Horticultural Systems, Wageningen, The Netherlands, October 14-18, 2012.

## 2011

Hao, X.M., Zheng, Y., Dixon, M.A., and Brown, W. (2011). Dynamic greenhouse climate control to conserve energy and improve crop quality. Annual Ornamental Cluster Research Project Report, 10 pages. (Report)

Hao, X.M., Zheng, J.M., and Little, C.M. (2011). "Response of poinsettia to various air temperature drops and root zone temperatures at the same daily integrated temperature.", 108th Annual Conference of the American Society for Horticultural Science (ASHS), Hilton, Waikoloa, HI, USA, September 25-28, 2011.

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## Research Publications:

2015

- Wang, Z., Li, Y., Hao, X., Zhao, M.L., and Han, G.D. (2015). "Responses of plant community coverage to simulated warming and nitrogen addition in a desert steppe in Northern China.", *Ecological Research*, 30(4), pp. 605-614. doi : 10.1007/s11284-015-1265-3
- Miller, J.J., Beasley, B.W., Drury, C.F., Lamey, F.J., and Hao, X. (2015). "Influence of Long-Term Application of Manure Type and Bedding on Yield, Protein, Fiber, and Energy Value of Irrigated Feed Barley.", *Agronomy Journal*, 107(1), pp. 121-128. doi : 10.2134/agronj14.0321
- Yang, G.-R., Hao, X., Li, C.L., and Li, Y.-M. (2015). "Effects of greenhouse intensive cultivation and organic amendments on greenhouse gas emission according to a soil incubation study.", *Archives of Agronomy and Soil Science*, 61(1), pp. 89-103. doi : 10.1080/03650340.2014.922177
- Miller, J.J., Beasley, B.W., Drury, C.F., Lamey, F.J., and Hao, X. (2015). "Influence of Long-Term (9 yr) Composted and Stockpiled Feedlot Manure Application on Selected Soil Physical Properties of a Clay Loam Soil in Southern Alberta.", *Compost Science & Utilization*, 23(1), pp. 1-10. doi : 10.1080/1065657X.2014.963741
- Wang, B., Li, J., Ren, Y., Xin, J., Hao, X., Ma, Y., and Ma, X. (2015). "Validation of a soil phosphorus accumulation model in the wheat-maize rotation production areas of China.", *Field Crops Research*, 178, pp. 42-48. doi : 10.1016/j.fcr.2015.03.007
- Nkemka, V.N., Marchbank, D.H., and Hao, X. (2015). "Anaerobic digestion of paunch in a CSTR for renewable energy production and nutrient mineralization.", *Waste Management*, 43, pp. 123-129. doi : 10.1016/j.wasman.2015.05.016
- Miller, J.J., Beasley, B.W., Drury, C.F., Lamey, F.J., and Hao, X. (2015). "Influence of long-term manure application on mineral composition of irrigated barley silage.", *Canadian Journal of Plant Science*, 95(4), pp. 759-770. doi : 10.4141/cjps-2014-329
- Xia, M., Zhao, B., Hao, X., and Zhang, J.-B. (2015). "Soil Quality in Relation to Agricultural Production in the North China Plain.", *Pedosphere*, 25(4), pp. 592-604. doi : 10.1016/S1002-0160(15)30039-4
- Hao, X. (2015). "Nitrous Oxide and Carbon Dioxide Emissions During the Nongrowing Season from Manured Soils under Rainfed and Irrigated Conditions.", *Geomicrobiology Journal*, 32(7), pp. 648-654. doi : 10.1080/01490451.2014.920940
- Gilroyed, B.H., Li, C.L., Reuter, T.R., Beauchemin, K.A., Hao, X., and McAllister, T.A. (2015). "Influence of distiller's grains and condensed tannins in the diet of feedlot cattle on biohydrogen production from cattle manure.", *International Journal of Hydrogen Energy*, 40(18), pp. 6050-6058. doi : 10.1016/j.ijhydene.2013.07.014
- Alotaibi, K.D., Schoenau, J.J., and Hao, X. (2015). "Crop and Soil Responses to Fertilization with Distillers' Grains-Derived Manure in a Saskatchewan Soil.", *Communications in Soil Science and Plant Analysis*, pp. 1-19. doi : 10.1080/00103624.2015.1104331
- Nkemka, V.N., Gilroyed, B.H., Yanke, L.J., Gruninger, R.J., Vedres, D.D., McAllister, T.A., and Hao, X. (2015). "Bioaugmentation with an anaerobic fungus in a two-stage process for biohydrogen and biogas production using corn silage and cattail.", *Bioresour Technol*, 185, pp. 79-88. doi : 10.1016/j.biortech.2015.02.100

2014

- Smith, E.G., Hao, X., and Miller, J.J. (2014). "Economics of Utilizing Biodigested Beef Feedlot Manure to Manage Nutrient Application to Cropland.", *International Journal of Renewable Energy & Biofuels*, 2014(Article ID 371507). doi : 10.5171/2014.371507
- Miller, J.J., Beasley, B.W., Drury, C.F., Lamey, F.J., and Hao, X. (2014). "Nitrogen budgets following land application of composted or stockpiled feedlot manure containing wood-chips or straw bedding to barley silage for 12 years.", *Compost Science & Utilization*, 22(2), pp. 57-67. doi : 10.1080/1065657X.2014.895453
- Lupwayi, N.Z., Benke, M.B., Hao, X., O'Donovan, J.T., and Clayton, G.W. (2014). "Relating Crop Productivity to Soil Microbial Properties in Acid Soil Treated with Cattle Manure.", *Agronomy Journal*, 106(2), pp. 612-621. doi : 10.2134/agronj2013.0427

Miller, J.J., Beasley, B.W., Drury, C.F., Hao, X., and Lamey, F.J. (2014). "Soil properties following long-term application of stockpiled feedlot manure containing straw or wood-chip bedding to barley silage production.", *Canadian Journal of Soil Science*, 94(3), pp. 389-402. doi: 10.4141/CJSS2013-087

Yang, G.-R., Hao, X., Li, C.L., and Li, Y.-M. (2014). "Effect of Land Use on Soil Phosphorus Sorption-Desorption Under Intensive Agricultural Practices in Plastic-Film Greenhouses.", *Pedosphere*, 24(3), pp. 367-377. doi: 10.1016/S1002-0160(14)60023-0

Chiyoka, W.L., Zvomuya, F., and Hao, X. (2014). "Changes in Nitrogen Availability in Chernozemic Soils Amended with Anaerobically Digested Cattle Manure.", *Soil Science Society of America Journal*, 78(3), pp. 843-851. doi: 10.2136/sssaj2013.07.0297

Alotaibi, K., Schoenau, J.J., and Hao, X. (2014). "Fertilizer potential of thin stillage from wheat-based ethanol production.", *BioEnergy Research*, 7(4), pp. 1421-1429. doi: 10.1007/s12155-014-9473-1

Chiyoka, W.L., Zvomuya, F., and Hao, X. (2014). "A Bioassay of Nitrogen Availability in Soils Amended with Solid Digestate from Anaerobically Digested Beef Cattle Feedlot Manure.", *Soil Science Society of America Journal*, 78(4), pp. 1291-1300. doi: 10.2136/sssaj2013.01.0030

Hao, X., Hill, B.R., Caffyn, P.R., Travis, G.R., Olson, A.F., Lamey, F.J., McAllister, T.A., and Alexander, T.W. (2014). "Co-composting of beef cattle feedlot manure with construction and demolition waste.", *Journal of Environmental Quality*, 43(5), pp. 1799-1808. doi: 10.2134/jeq2014.02.0087

## 2013

Miller, J.J., Beasley, B.W., Drury, C.F., Hao, X., and Lamey, F.J. (2013). "Transport of Residual Nitrogen and Carbon through Intact Soil Cores Amended with Stockpiled Feedlot Manure with Wood-Chip or Straw Bedding.", *Journal of Environmental Quality*, 42(6), pp. 1881-1888. doi: 10.2134/jeq2013.02.0061

Xu, S., Reuter, T.R., Gilroyed, B.H., Tymensen, L.D., Hao, Y.-X., Hao, X., Belosevic, M., Leonard, J.J., and McAllister, T.A. (2013). "Microbial communities and greenhouse gas emissions associated with the biodegradation of specified risk material in compost.", *Waste Management*, 33, pp. 1372-1380. doi: 10.1016/j.wasman.2013.01.036

Zhao, B., Chen, J., Zhang, J.-B., Xin, X.-L., and Hao, X. (2013). "How different long-term fertilization strategies influence crop yield and soil properties in a maize field in the North China Plain.", *Journal of Plant Nutrition and Soil Science*, 176(1), pp. 99-109. doi: 10.1002/jpln.201200076

Benke, M.B., Indraratne, S.P., and Hao, X. (2013). "Long-Term Manure Applications Impact on Irrigated Barley Forage Mineral Concentrations.", *Agronomy Journal*, 105(5), pp. 1441-1450. doi: 10.2134/agronj2012.0204

Benke, M.B., Indraratne, S.P., and Hao, X. (2013). "Long-term manure applications impact on irrigated barley forage mineral concentrations.", *Crops & Soils Magazine* (September/October), pp. 34-39.

## 2012

Yang, G.-R., Hao, X., Li, C.L., Wang, Z.-L., and Li, Y.-M. (2012). "Effects of intensive agricultural production on farmland soil carbon and nitrogen contents and their  $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$  isotope abundances.", *Chinese Journal of Applied Ecology*, 23(3), pp. 751-757.

Hao, X., Indraratne, S.P., and Blackshaw, R.E. (2012). "Will genetically engineered crop production affect soil carbon?", *Canadian Journal of Soil Science*, 92(6), pp. 841-844. doi: 10.4141/CJSS2011-072

Hao, X. and Benke, M.B. (2012). "Long-Term Cattle Manure Plots.", *Prairie Soils and Crops*, 5, pp. 132-138.

Li, C.L., Hao, X., Willms, W.D., and McAllister, T.A. (2012). "Responses of herbage and cattle tail switch hair  $\delta^{15}\text{N}$  value to long-term stocking rates on a rough fescue grassland.", *Soil Science and Plant Nutrition*, 58(3), pp. 326-333. doi: 10.1080/00380768.2012.682283

Olatuyi, S.O., Akinremi, O.O., and Hao, X. (2012). "Solute transport in a hummocky landscape: II. Vertical and seasonal redistribution of bromide and  $^{15}\text{N}$ -labelled nitrate.", *Canadian Journal of Soil Science*, 92(4), pp. 631-643. doi: 10.4141/CJSS2011-090

Benke, M.B., Goh, T.B., Karamanos, R.E., Lupwayi, N.Z., and Hao, X. (2012). "Retention and nitrification of injected anhydrous  $\text{NH}_3$  as affected by soil pH.", *Canadian Journal of Soil Science*, 92(4), pp. 589-598. doi: 10.4141/CJSS2011-108

Li, C.L., Hao, X., Ellert, B.H., Willms, W.D., Zhao, M.G., and Han, G.D. (2012). "Changes in soil C, N, and P with long-term (58 years) cattle grazing on rough fescue grassland.", *Journal of Plant Nutrition and Soil Science*, 175(3), pp. 339-344. doi: 10.1002/jpln.201100212

Caron, E., Farenhorst, A., Hao, X., and Sheedy, C. (2012). "Solid beef cattle manure application impacts on soil properties and  $17\beta$ -estradiol fate in a clay loam soil.", *Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Wastes*, 47(6), pp. 495-504. doi: 10.1080/03601234.2012.665658

Lim, S.-S., Lee, K.-S., Lee, S.-I., Lee, D.-S., Kwak, J.-H., Hao, X., Ro, H.-M., and Choi, W.-J. (2012). "Carbon mineralization and retention of livestock manure composts with different substrate qualities in three soils.", *Journal of Soils and Sediments*, 12(3), pp. 312-322. doi: 10.1007/s11368-011-0458-9

Li, C.L., Hao, X., Blackshaw, R.E., O'Donovan, J.T., Harker, K.N., and Clayton, G.W. (2012). "Nitrous oxide emissions in response to ESN and urea, herbicide management and canola cultivar in a no-till cropping system.", *Soil & Tillage Research*, 118, pp. 97-106. doi: 10.1016/j.still.2011.10.017

Tang, X., Ellert, B.H., Hao, X., Ma, Y., Nakonechny, E.M., and Li, J. (2012). "Temporal changes in soil organic carbon contents and  $\delta^{13}\text{C}$  values under long-term maize-wheat rotation systems with various soil and climate conditions.", *Geoderma*, 183-184, pp. 67-73. doi: 10.1016/j.geoderma.2012.03.003

2011

Hao, X., Benke, M.B., Li, C.L., Lamey, F.J., Beauchemin, K.A., and McAllister, T.A. (2011). "Nitrogen transformations and greenhouse gas emissions during composting of manure from cattle fed diets containing corn dried distillers grains with soluble and condensed tannins.", *Animal Feed Science and Technology*, 166-167, pp. 539-549. doi: 10.1016/j.anifeedsci.2011.04.038

Chiyoka, W.L., Hao, X., Zvomuya, F., and Li, X. (2011). "Nitrous oxide emissions from Chernozemic soils amended with anaerobically digested beef cattle feedlot manure: A laboratory study.", *Animal Feed Science and Technology*, 166-167, pp. 492-502. doi: 10.1016/j.anifeedsci.2011.04.035

Sharma, R., Ryan, K., Hao, X., Lamey, F.J., McAllister, T.A., and Topp, E. (2011). "Real-time quantification of *mcrA*, *pmoA* for methanogen, methanotroph estimations during composting.", *Journal of Environmental Quality*, 40(1), pp. 199-205. doi: 10.2134/jeq2010.0088

Blackshaw, R.E., Hao, X., Brandt, R.N., Clayton, G.W., Harker, K.N., O'Donovan, J.T., Johnson, E.N., and Vera, C.L. (2011). "Canola response to ESN and urea in a four-year no-till cropping system.", *Agronomy Journal*, 103(1), pp. 92-99. doi: 10.2134/agronj2010.0299

McAllister, T.A., Beauchemin, K.A., McGinn, S.M., Hao, X., and Robinson, P.H. (2011). "Greenhouse gases in animal agriculture-Finding a balance between food production and emissions.", *Animal Feed Science and Technology*, 166-167, pp. 1-6. doi: 10.1016/j.anifeedsci.2011.04.057

Wang, Z.W., Jiao, S., Han, G.D., Zhao, M.G., Willms, W.D., Hao, X., Wang, J., Din, H., and Havstad, K.M. (2011). "Impact of Stocking Rate and Rainfall on Sheep Performance in a Desert Steppe.", *Rangeland Ecology & Management*, 64(3), pp. 249-256. doi: 10.2111/REM-D-09-00033.1

Tang, X., Shi, X., Ma, Y., and Hao, X. (2011). "Phosphorus efficiency in a long-term wheat-rice cropping system in China.", *Journal of Agricultural Science*, 149(3), pp. 297-304. doi: 10.1017/S002185961000081X

Wang, Z.W., Hao, X., Shan, D., Han, G.D., Willms, W.D., Wang, Z., and Han, X. (2011). "Influence of increasing temperature and nitrogen input on greenhouse gas emissions from a desert steppe soil in Inner Mongolia.", *Soil Science and Plant Nutrition*, 57(4), pp. 508-518. doi: 10.1080/00380768.2011.591283

Hao, X., Benke, M.B., Lamey, F.J., and McAllister, T.A. (2011). "Greenhouse gas emissions when composting manure from cattle fed wheat dried distillers' grains with solubles.", *Nutrient Cycling in Agroecosystems*, 89(1), pp. 105-114. doi: 10.1007/s10705-010-9380-6

Gilroyed, B.H., Hao, X., Lamey, F.J., and McAllister, T.A. (2011). "Greenhouse Gas Emissions from Cattle Feedlot Manure Composting and Anaerobic Digestion as a Potential Mitigation Strategy.", in Lei Guo, L., Gunasekara, A.S. and McConnell, L.L. (eds.) - *Emissions from Agricultural Management*. ACS Symposium Series. Vol. 1072, American Chemical Society (ACS), Chapter 22, pp. 419-441.

Lamey, F.J., Hao, X., and Topp, E. (2011). "Manure Management", in Hatfield, J.L. and Sauer, T.J. (eds.) - *Soil Management: Building a Stable Base for Agriculture*, Soil Science Society of America (SSA), Chapter 16, pp. 247-263.

Ojekanmi, A.A., Ige, D.V., Hao, X., and Akinremi, O.O. (2011). "Phosphorus Mobility in a Soil with Long Term Manure Application.", *Journal of Agricultural Science*, 3(3), pp. 25-38. doi: 10.5539/jas.v3n3p25

Kim, H.-Y., Lim, S.-S., Kwak, J.-H., Lee, S.-I., Lee, D.-S., Hao, X., Yoon, K.-S., and Choi, W.-J. (2011). "Soil and Compost Type Affect Phosphorus Leaching from Inceptisol, Ultisol, and Andisol in a Column Experiment.", *Communications in Soil Science and Plant Analysis*, 42(18), pp. 2188-2199. doi: 10.1080/00103624.2011.602450

Blackshaw, R.E., Hao, X., Harker, K.N., O'Donovan, J.T., Johnson, E.N., and Vera, C.L. (2011). "Barley productivity response to polymer-coated urea in a no-till production system.", *Agronomy Journal*, 103(4), pp. 1100-1105. doi: 10.2134/agronj2010.0494

Godlinski, F., Aust, M.-O., Travis, G.R., Hao, X., Thiele-Bruhn, S., McAllister, T.A., and Leinweber, P. (2011). "Phosphorus and trace metal distribution under confined cattle feeding operations in Southern Alberta. (Verteilung von Phosphor und Schwermetallen in Böden unterhalb intensiver Rinderhaltung im südlichen Alberta, Kanada).", *Agriculture and Forestry Research*, 61(3), pp. 249-260.

Hao, X., Xu, S., Lamey, F.J., Stanford, K.I.M., Cessna, A.J., and McAllister, T.A. (2011). "Inclusion of antibiotics in feed alters greenhouse gas emissions from feedlot manure during composting.", *Nutrient Cycling in Agroecosystems*, 89(2), pp. 257-267. doi : 10.1007/s10705-010-9391-3

Cessna, A.J., Lamey, F.J., Kuchta, S.L., Hao, X., Entz, T., Topp, E., and McAllister, T.A. (2011). "Veterinary antimicrobials in feedlot manure: dissipation during composting, effects on composting processes and extent in ground water.", *Journal of Environmental Quality*, 40(1), pp. 188-198. doi : 10.2134/jeq2010.0079

## Other Science Related Publications :

2015

Alotaibi, K., Schoenau, J.J., and Hao, X. (2015). "Erratum to: Fertilizer potential of thin stillage from wheat-based ethanol production.", *BioEnergy Research*, 8(3), pp. 1457-1458. doi : 10.1007/s12155-015-9601-6

Alemu, A.W., Little, S.M., Hao, X., Iwaasa, A.D., Baron, V.S., Chai, L.L., Janzen, H.H., Beauchemin, K.A., Thompson, D., and Kröbel, R. (2015). "Application of life cycle assessment approach to beef production systems in the Canadian prairies with regard to environmental impact and energy use efficiency.", *LCA Conference XV - A bright green future*, Vancouver, Canada, October 6-8, 2015, Presentation.

Hao, X. (2015). "Effect of cattle manure/compost type and application frequency on canola yield and nutrient uptake from an acid soil under greenhouse conditions.", *14th International Rapeseed Congress*, Saskatoon, Canada, July 5-9, 2015. (Abstract)

Hao, X., Lamey, F.J., Ellert, B.H., Alexander, T.W., and McAllister, T.A. (2015). "Co-composting cattle feedlot manure with construction and demolition waste.", *International Compost Conference*, Beijing, China, November 22-25, 2015. (Abstract)

2014

Agomoh, I., Hao, X., and Zvomuya, F. (2014). "Variation in nutrient utilization by various crops grown in a previously heavily manured Dark Brown Chernozemic soil.", *ASA, CSSA and SSSA International Annual Meeting 2014*, Long Beach, CA, USA, November 2-5, 2014. (Abstract)

Hao, X., Lamey, F.J., Alexander, T.W., and McAllister, T.A. (2014). "Co-composting beef cattle feedlot manure with construction & demolition (C&D) waste.", *ASA, CSSA and SSSA International Annual Meeting 2014*, Long Beach, CA, USA, November 2-5, 2014, Oral presentation. (Abstract)

Hao, X., Hill, B.D., Caffyn, P.R., Travis, G.R., Olsen, P.A., Lamey, F.J., McAllister, T.A., and Alexander, T.W. (2014). "Co-composting of beef cattle feedlot manure with construction and demolition waste.", *51st Annual Alberta Soil Science Workshop*, Calgary, AB, Canada, February 12-14, 2014. (Abstract)

Yang, X.M., Drury, C.F., Gregorich, E.G., Hao, X., Geng, X.Y., Reid, K., Fox, C.A., and VandenBygaart, A.J. (2014). "Mid-Infrared Spectral Characteristics of Different Agricultural Soils across Canada.", *CSSS/CGU 2014 Annual Meeting*, Banff, AB, Canada, May 4-8, 2014.

Hao, X., Li, X., and Luo, Y. (2014). "Effect of compost source and soil type on canola yield and nutrient uptake from calcareous and acid soils under greenhouse conditions.", *9th Conference on Organic Resources and Biological Treatment (ORBIT 2014)*, Gödöllő, Hungary, June 26-28, 2014. (Abstract)

Hao, X., Benke, M.B., and Indraratne, S.P. (2014). "Long-term Cattle Manure Applications Impact Irrigated Barley Forage Yield and Mineral Concentrations.", *CSSS/CGU 2014 Annual Meeting*, Banff, AB, Canada, May 4-8, 2014. (Abstract)

Hao, X. and Ellert, B.H. (2014). "Greenhouse gas emissions during co-composting of cattle manure with construction and demolition (C&D) waste.", *CSSS/CGU 2014 Annual Meeting*, Banff, AB, Canada, May 4-8, 2014. (Abstract)

Nkemka, V.N. and Hao, X. (2014). "Biogas Potential from Miscanthus and Pennisetum Grass Species: Effect of Alkaline Pretreatment.", *51st Annual Alberta Soil Science Workshop*, Calgary, AB, Canada, February 12-14, 2014. (Abstract)

Agomoh, I., Hao, X., and Zvomuya, F. (2014). "Nutrient availability and biomass yield in soils receiving manure from cattle fed DDGS diet.", *ASA, CSSA and SSSA International Annual Meeting 2014*, Long Beach, CA, USA, November 2-5, 2014. (Abstract)

Hao, X. (2014). "Agronomic value of anaerobically digested cattle feedlot manure (ADM).", *Pacific Agriculture Show – Agri-Energy Forum*, Abbotsford, BC, Canada, January 31, 2014. (Presentation)

Hao, X. (2014). "Co-composting beef cattle feedlot manure with construction & demolition (C&D) waste.", *Department of Soil Science*, University of Manitoba, May 16, 2014. (Presentation)

Miller, J.J., Beasley, B.W., Hao, X., Lamey, F.J., and Drury, C.F. (2014). "Transport of chemicals through intact soil cores amended with composted or stockpiled feedlot manure with wood-chip or straw bedding.", *51st Annual Alberta Soil Science Workshop*, Calgary, AB, Canada, February 12-14, 2014, pp. 31. (Abstract)

Hao, X., Hill, B.D., Caffyn, P.R., Travis, G.R., Olson, A.F., Lamey, F.J., McAllister, T.A., and Alexander, T.W. (2014). "Co-composting of beef cattle feedlot manure with housing construction waste for value-added organic fertilizer.", 51st Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 12-14, 2014, pp. 30. (Abstract)

Hao, X. and Lamey, F.J. (2014). "Calgary project recycles construction waste materials.", Western Producer, 2014(December 25), pp. 11.

Hao, X., Hill, B.R., Caffyn, P.R., Nelson, V., and Li, X. (2014). "Improving barley utilization of N and P nutrients from soil amended with bio-digested cattle manure.", 9th Conference on Organic Resources and Biological Treatment (ORBIT 2014), Gödöllő, Hungary, June 26-28, 2014. (Abstract)

Miller, J.J., Beasley, B.W., Drury, C.F., Zebarth, B.J., Bremer, E., Hao, X., and Lamey, F.J. (2014). "Influence of long-term composted or stockpiled feedlot manure application on crop and soil.", Canadian Geophysical Union-Canadian Society of Soil Science (CGU/CSSS) Joint Annual Meeting, Banff, AB, Canada, May 4-8, 2014. (Abstract)

## 2013

Agomoh, I., Hao, X., Li, C., Yang, G., Schoenau, J.J., and McAllister, T.A. (2013). "Greenhouse gas emission from soil amended with DDGS manure and compost: a laboratory study.", 50th Annual Alberta Soil Science Workshop, Lethbridge, AB, Canada, February 19-21, 2013.

Hao, X., Hill, B.D., Caffyn, P.R., Travis, G.R., Nelson, V., and Li, X. (2013). "Yield, Nitrogen, Phosphorus, Copper and Zinc Uptake by Barley Forage Amended with Anaerobically Digested Cattle Feedlot Manure (ADM).", E3S Web of Conferences, 1(04002).

Hao, X., Hill, B.D., Caffyn, P.R., Nelson, V., and Li, X. (2013). "Improving barley utilization of N and P nutrients from soil amended with bio-digested cattle manure.", 50th Annual Alberta Soil Science Workshop, Lethbridge, AB, Canada, February 19-21, 2013.

Hao, X. (2013). "GHG emissions and barley response to digestate applications.", Tri-Provincial Manure Management Workshop, Lethbridge, AB, Canada, March 20-21, 2013.

## 2012

Hao, X., Hill, B.D., Caffyn, P.R., Travis, G.R., Nelson, V., and Li, X. (2012). "Yield, Nitrogen, Phosphorus, Copper and Zinc Uptake by Barley Forage Amended with Anaerobically Digested Cattle Feedlot Manure (ADM).", 16th International Conference on Heavy Metals in the Environment, Rome, Italy, September 23-27, 2012.

Hao, X. (2012). "Nitrous oxide emission from soil amended with bio-digested materials.", 49th Annual Alberta Soil Science Workshop, Ramada Inn, Edmonton, AB, Canada, February 14-16, 2012, pp. 29.

Yang, L., Li, C., and Hao, X. (2012). "Effect of compost source and soil type on canola and pea under controlled greenhouse conditions.", Plant Canada 2012 (joint meeting of the Canadian Society of Agronomy (CSA), Canadian Society for Horticultural Science (CSHS), Certified Crop Advisors (CCA), North American Fruit Explorers (NAFEX): Adapting Crops to Change, University of Saskatchewan, Saskatoon, SK, Canada, July 16-19, 2012.

Schoenau, J.J., Alotaibi, K., Stefankiw, J., Benke, M.B., and Hao, X. (2012). "Plant and soil responses to manure from cattle fed dried distillers grain.", Tri-Provincial Manure Management Council, Saskatoon, SK, Canada, February 7-8, 2012.

Hao, X., Lamey, F.J., and McAllister, T.A. (2012). "Effect of dried distillers' grains with solubles (DDGS) in cattle diets and windrow turning frequency on greenhouse gas emissions during feedlot manure composting.", 2012 World Congress on Advances in Civil, Environmental and Materials Research (ACEM'12), Seoul, South Korea, August 26-30, 2012, pp. 76.

Hao, X. (2012). "Greenhouse gas emission from stockpiling cattle feedlot manure. ASA-CSSA-SSSA 2012 International Annual Meeting.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012, Electronic Abs. Computer CD.

## 2011

Li, C.L., Hao, X., Yang, G., Schoenau, J.J., and McAllister, T.A. (2011). "Greenhouse gas emission from soil amended with DDGS cattle manure and compost: The effect of condensed tannin co-application.", 48th Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 15-17, 2011, pp. 23. (Workshop)

Li, C.L., Hao, X., Yang, G., Schoenau, J.J., and McAllister, T.A. (2011). "Greenhouse Gas Emissions from Soil Amended with Cattle Manure and Compost - The Effect of Condensed Tannin Co-applications.", 48th Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 15-17, 2011.

Stefankiw, J., Schoenau, J.J., Farrell, R.E., and Hao, X. (2011). "Composted versus fresh distillers grain and solubles derived manure as nutrient source for canola.", Soils and Crops Workshop 2011, Prairieland Park, Saskatoon, SK, Canada, March 15-16, 2011, Electronic Abs. Computer CD.



Hao, X. (2011). "Impact of dietary DDGS on nutrient composition and management of cattle feedlot manure.", Insights into Use of DDGS in Western Canadian Feedlot Diets, Lethbridge Lodge Hotel, Lethbridge, AB, Canada, June 9, 2011.

Hao, X., Li, C.L., and McAllister, T.A. (2011). "Greenhouse gas emission from stockpiling cattle feedlot manure.", 48th Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 15-17, 2011, pp. 24. (Workshop)

Hao, X., Hill, B.D., Nelson, V., and Li, X. (2011). "Nitrous oxide emissions and barley yields from soil receiving anaerobically digested manure by-product applications.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011, Electronic Abs. CD-ROM.

Gilroyed, B.H., Li, C.L., McAllister, T.A., and Hao, X. (2011). "Anaerobic fermentative hydrogen production using manure from cattle fed on a modified distiller's grain diet", 48th Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 15-17, 2011, pp. 19. (Workshop)

Chiyoka, W.L., Zvomuya, F., and Hao, X. (2011). "Nitrogen uptake by barley grown in Chernozemic soils amended with anaerobically digested manure.", 54th Annual Manitoba Soil Science Society Meeting, Winnipeg, MB, Canada, February 3-4, 2011, pp. 12.

Lamey, F.J., Cessna, A.J., Kuchta, S.L., Hao, X., Entz, T., Topp, E., and McAllister, T.A. (2011). "Composting effects on antibiotics in feedlot manure.", Manure Management Update 2011, Lethbridge, AB, Canada, January 17, 2011, pp. 46-54.

Hao, X. and Lamey, F.J. (2011). "Reducing greenhouse gas emissions from livestock manure: From diet manipulation to composting.", Manure Management Update 2011, Lethbridge, AB, Canada, January 17, 2011, pp. 37-45.

Hao, X. (2011). "Managing cattle manure nutrient for sustainable agriculture production.", Saskatchewan Agronomy Update, Saskatoon, SK, Canada, December 7-8, 2011. (Presentation)

Hao, X. and Lamey, F.J. (2011). "Manure management practices: effective use of nutrients from feedlot cattle in Alberta.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011, Electronic Abs. CD-ROM.

Blackshaw, R.E., Hao, X., Clayton, G.W., Harker, K.N., O'Donovan, J.T., Johnson, E.N., and Vera, C.L. (2011). "Canola response to polymer-coated urea versus urea in a four-year zero-tillage cropping system on the Canadian prairies.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, pp. 61-64.

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## Research Publications:

2015

Lupwayi, N.Z., Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Hall, L.M., Willenborg, C.J., Gan, Y.T., Lafond, G.P., May, W.E., and Grant, C.A. (2015). "Relating soil microbial properties to yields of no-till canola on the Canadian prairies.", *European Journal of Agronomy*, 62, pp. 110-119. doi: 10.1016/j.eja.2014.10.004

Turkington, T.K., O'Donovan, J.T., Harker, K.N., Xi, K., Blackshaw, R.E., Johnson, E.N., Peng, G., Kutcher, H.R., May, W.E., Lafond, G.P., Mohr, R.M., Irvine, R.B., and Stevenson, C. (2015). "The impact of fungicide and herbicide timing on foliar disease severity, and barley productivity and quality.", *Canadian Journal of Plant Science*, 95(3), pp. 525-537. doi: 10.4141/CJPS-2014-364

O'Donovan, J.T., Anbessa, Y., Grant, C.A., MacLeod, A., Edney, M.J., Izydorczyk, M.S., Turkington, T.K., Juskiw, P.E., Lafond, G.P., May, W.E., Harker, K.N., Johnson, E.N., Beres, B.L., McAllister, T.A., Smith, E.G., and Chapman, W. (2015). "Relative responses of new malting barley cultivars to increasing nitrogen rates in western Canada.", *Canadian Journal of Plant Science*, 95(5), pp. 831-839. doi: 10.4141/cjps-2014-415

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Dossall, L.M., Hall, L.M., Kutcher, H.R., Willenborg, C.J., Peng, G., Irvine, R.B., and Mohr, R.M. (2015). "Canola cultivar mixtures and rotations do not mitigate the negative impacts of continuous canola.", *Canadian Journal of Plant Science*, 95(6), pp. 1085-1099. doi: 10.4141/cjps-2015-126

Harker, K.N., Yu, A.Z., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Johnson, E.N., Gan, Y.T., Kutcher, H.R., Dossall, L.M., Peng, G. (2015). "Canola rotation frequency impacts canola yield and associated pest species.", *Canadian Journal of Plant Science*, 95(1), pp. 9-20. doi: 10.4141/cjps-2014-289

Tozzi, E., Harker, K.N., Blackshaw, R.E., O'Donovan, J.T., Strelkov, S.E., and Willenborg, C.J. (2015). "Late glyphosate applications alter yield and yield components in glyphosate-resistant canola (*Brassica napus*L.).", *Weed Technology*, 29(4), pp. 675-683. doi: 10.1614/WT-D-15-00009.1

Harker, K.N., O'Donovan, J.T., Smith, E.G., Johnson, E.N., Peng, G., Willenborg, C.J., Gulden, R.H., Mohr, R.M., Gill, K.S., and Grenkow, L.A. (2015). "Seed size and seeding rate effects on canola emergence, development, yield and seed weight.", *Canadian Journal of Plant Science*, 95(1), pp. 1-8. doi: 10.4141/cjps-2014-222

St. Luce, M., Grant, C.A., Zebarth, B.J., Ziadi, N., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Khakbazan, M., and Smith, E.G. (2015). "Legumes can reduce economic optimum nitrogen rates and increase yields in a wheat-canola cropping sequence in western Canada.", *Field Crops Research*, 179, pp. 12-25. doi: 10.1016/j.fcr.2015.04.003

2014

Yang, C., Gan, Y.T., Harker, K.N., Kutcher, H.R., Gulden, R.H., Irvine, R.B., May, W.E., and O'Donovan, J.T. (2014). "Up to 32% yield increase with uniform canola stands in western Canada.", *Agronomy for Sustainable Development*, 34(4), pp. 793-801. doi: 10.1007/s13593-014-0218-5

Khakbazan, M., Grant, C.A., Huang, J., Smith, E.G., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Lafond, G.P., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., and Lupwayi, N.Z. (2014). "Economic effects of preceding crops and nitrogen application on canola and subsequent barley.", *Agronomy Journal*, 106(6), pp. 2055-2066. doi: 10.2134/agronj14.0253

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Turkington, T.K., Lupwayi, N.Z., Stevenson, F.C., McLaren, D.L., Khakbazan, M., and Smith, E.G. (2014). "Rotational effects of legumes and non-legumes on hybrid canola and malting barley.", *Agronomy Journal*, 106(6), pp. 1921-1932. doi: 10.2134/agronj14.0236

2013

Khakbazan, M., Grant, C.A., Finlay, G., Wu, R.G., Malhi, S.S., Selles, F., Clayton, G.W., Lupwayi, N.Z., Soon, Y.K., and Harker, K.N. (2013). "An economic study of controlled release urea and split applications of nitrogen as compared with non-coated urea under conventional and reduced tillage management.", *Canadian Journal of Plant Science*, 93(3), pp. 523-534. doi: 10.4141/CJPS2012-107

Kutcher, H.R., Turkington, T.K., Clayton, G.W., and Harker, K.N. (2013). "Response of herbicide-tolerant canola (*Brassica napus* L.) cultivars to four row spacings and three seeding rates in a no-till production system.", *Canadian Journal of Plant Science*, 93(6), pp. 1229-1236. doi: 10.4141/cjps2013-173

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Johnson, E.N., Brandt, S.A., Kutcher, H.R., and Clayton, G.W. (2013). "Weed interference impacts and yield recovery after four years of variable crop inputs in no-till barley and canola.", *Weed Technology*, 27(2), pp. 281-290. doi: 10.1614/WT-D-12-00115.1

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Hall, L.M., Willenborg, C.J., Kutcher, H.R., Gan, Y.T., Lafond, G.P., May, W.E., Grant, C.A., Barthelet, V., McDonald, T., Wispinski, D., and Hartman, M. (2013). "Effect of agronomic inputs and crop rotation on biodiesel quality and fatty acid profiles of direct-seeded canola.", *Canadian Journal of Plant Science*, 93(4), pp. 577-588. doi: 10.4141/cjps2012-277

St. Luce, M., Ziadi, N., Zebarth, B.J., Whalen, J.K., Grant, C.A., Gregorich, E.G., Lafond, G.P., Blackshaw, R.E., Johnson, E.N., O'Donovan, J.T., and Harker, K.N. (2013). "Particulate organic matter and soil mineral nitrogen concentrations are good predictors of the soil nitrogen supply to canola following legume and non-legume crops in western Canada.", *Canadian Journal of Soil Science*, 93(5), pp. 607-620. doi: 10.4141/cjss2013-005

O'Donovan, J.T., Harker, K.N., Turkington, T.K., and Clayton, G.W. (2013). "Combining cultural practices with herbicides reduces wild oat (*Avena fatua*) seed in the soil seed bank and improves barley yield.", *Weed Science*, 61(2), pp. 328-333. doi: 10.1614/WS-D-12-00168.1

Harker, K.N. (2013). "Slowing weed evolution with integrated weed management.", *Canadian Journal of Plant Science*, 93(5), pp. 759-764. doi: 10.4141/cjps2013-049

Irvine, R.B., Lafond, G.P., May, W.E., Kutcher, H.R., Clayton, G.W., Harker, K.N., Turkington, T.K., and Beres, B.L. (2013). "Stubble options for winter wheat in the Blacksoil zone of western Canada.", *Canadian Journal of Plant Science*, 93(2), pp. 261-270. doi: 10.4141/CJPS2012-198

Harker, K.N. and O'Donovan, J.T. (2013). "Recent weed control, weed management, and integrated weed management.", *Weed Technology*, 27(1), pp. 1-11. doi: 10.1614/wt-d-12-00109.1

## 2012

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Klein-Gebbinck, H.W., Dossdall, L.M., Hall, L.M., Willenborg, C.J., Kutcher, H.R., Malhi, S.S., Vera, C.L., Gan, Y.T., Lafond, G.P., May, W.E., Grant, C.A., and McLaren, D.L. (2012). "High-yield no-till canola production on the Canadian prairies.", *Canadian Journal of Plant Science*, 92(2), pp. 221-233. doi: 10.4141/CJPS2011-125

Smith, E.G., O'Donovan, J.T., Henderson, W.J., Turkington, T.K., McKenzie, R.H., Harker, K.N., Clayton, G.W., Juskiw, P.E., Lafond, G.P., Brandt, S.A., Edney, M.J., Johnson, E.N., and May, W.E. (2012). "Net return risk for malting barley production in Western Canada as influenced by production strategies.", *Agronomy Journal*, 104(5), pp. 1374-1382. doi: 10.2134/agronj2011.0416

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Beckie, H.J., Mallory-Smith, C., and Maxwell, B.D. (2012). "Our view.", *Weed Science*, 60(2), pp. 143-144. doi: 10.1614/WS-D-11-00177.1

Turkington, T.K., O'Donovan, J.T., Edney, M.J., Juskiw, P.E., McKenzie, R.H., Harker, K.N., Clayton, G.W., Xi, K., Lafond, G.P., Irvine, R.B., Brandt, S.A., Johnson, E.N., May, W.E., and Smith, E.G. (2012). "Effect of crop residue, nitrogen rate and fungicide application on malting barley productivity, quality, and foliar disease severity.", *Canadian Journal of Plant Science*, 92(3), pp. 577-588. doi: 10.4141/CJPS2011-216

Edney, M.J., O'Donovan, J.T., Turkington, T.K., Clayton, G.W., McKenzie, R.H., Juskiw, P.E., Lafond, G.P., Brandt, S.A., Grant, C.A., Harker, K.N., Johnson, E.N., and May, W.E. (2012). "Effects of seeding rate, nitrogen rate and cultivar on barley malt quality.", *Journal of the Science of Food and Agriculture*, 92(13), pp. 2672-2678. doi: 10.1002/jsfa.5687

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Johnson, E.N., Lafond, G.P., and May, W.E. (2012). "Seeding depth and seeding speed effects on no-till canola emergence, maturity, yield and seed quality.", *Canadian Journal of Plant Science*, 92(4), pp. 795-802. doi: 10.4141/CJPS2011-189

Hummel, J.D., Dossdall, L.M., Clayton, G.W., Harker, K.N., and O'Donovan, J.T. (2012). "Ground Beetle (Coleoptera: Carabidae) Diversity, Activity Density, and Community Structure in a Diversified Agroecosystem.", *Environmental Entomology*, 41(1), pp. 72-80. doi: 10.1603/EN11072

Dossdall, L.M., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Kutcher, H.R., Gan, Y.T., and Johnson, E.N. (2012). "Crop Sequence Effects on Root Maggot (Diptera: Anthomyiidae: *Delia* spp.) Infestations in Canola.", *Journal of Economic Entomology*, 105(4), pp. 1261-1267. doi: 10.1603/EC11440

O'Donovan, J.T., Turkington, T.K., Edney, M.J., Juskiw, P.E., McKenzie, R.H., Harker, K.N., Clayton, G.W., Lafond, G.P., Grant, C.A., Brandt, S.A., Johnson, E.N., May, W.E., and Smith, E.G. (2012). "Effect of seeding date and seeding rate on malting barley production in western Canada.", *Canadian Journal of Plant Science*, 92(2), pp. 321-330. doi: 10.4141/cjps2011-130

Li, C.L., Hao, X., Blackshaw, R.E., O'Donovan, J.T., Harker, K.N., and Clayton, G.W. (2012). "Nitrous oxide emissions in response to ESN and urea, herbicide management and canola cultivar in a no-till cropping system.", *Soil & Tillage Research*, 118, pp. 97-106. doi : 10.1016/j.still.2011.10.017

Grant, C.A., Wu, R.G., Selles, F., Harker, K.N., Clayton, G.W., Bittman, S., Zebbarth, B.J., and Lupwayi, N.Z. (2012). "Crop yield and nitrogen concentration with controlled release urea and split applications of nitrogen as compared to non-coated urea applied at seeding", *Field Crops Research*, 127(27), pp. 170-180. doi : 10.1016/j.fcr.2011.11.002

2011

Beckie, H.J., Warwick, S.I., Sauder, I.C.A., Hall, L.M., Harker, K.N., and Lozinski, C. (2011). "Pollen-mediated gene flow in commercial fields of spring wheat in Western Canada.", *Crop Science*, 51(1), pp. 306-313. doi : 10.2135/cropsci2010.03.0176

O'Donovan, J.T., Turkington, T.K., Edney, M.J., Clayton, G.W., McKenzie, R.H., Juskiw, P.E., Lafond, G.P., Grant, C.A., Brandt, S.A., Harker, K.N., Johnson, E.N., and May, W.E. (2011). "Seeding Rate, Nitrogen Rate, and Cultivar Effects on Malting Barley Production.", *Agronomy Journal*, 103(3), pp. 709-716. doi : 10.2134/agronj2010.0490

Blackshaw, R.E., Hao, X., Brandt, R.N., Clayton, G.W., Harker, K.N., O'Donovan, J.T., Johnson, E.N., and Vera, C.L. (2011). "Canola response to ESN and urea in a four-year no-till cropping system.", *Agronomy Journal*, 103(1), pp. 92-99. doi : 10.2134/agronj2010.0299

Beckie, H.J., Harker, K.N., Hall, L.M., Holm, F.A., and Gulden, R.H. (2011). "Risk assessment of glyphosate resistance in western Canada.", *Weed Technology*, 25(1), pp. 159-164. doi : 10.1614/wt-d-10-00080.1

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Johnson, E.N., Holm, F.A., and Clayton, G.W. (2011). "Environmental effects on the relative competitive ability of canola and small-grain cereals in a direct-seeded system.", *Weed Science*, 59(3), pp. 404-415. doi : 10.1614/WS-D-10-00121.1

Kosinski, S.M., King, J.R., Harker, K.N., Turkington, T.K., and Spaner, D.M. (2011). "Barley and triticale underseeded with a kura clover living mulch: Effects on weed pressure, disease incidence, silage yield, and forage quality.", *Canadian Journal of Plant Science*, 91(4), pp. 667-687. doi : 10.4141/CJPS10138

Blackshaw, R.E., Hao, X., Harker, K.N., O'Donovan, J.T., Johnson, E.N., and Vera, C.L. (2011). "Barley productivity response to polymer-coated urea in a no-till production system.", *Agronomy Journal*, 103(4), pp. 1100-1105. doi : 10.2134/agronj2010.0494

## Other Science Related Publications:

2015

Turkington, T.K., Xi, K., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., McAllister, T.A., and Lupwayi, N.Z. (2015). "The impact of barley variety rotation, mixtures, and intercropping on leaf disease and silage production.", *Canadian Journal of Plant Pathology*. (Abstract)

Turkington, T.K., Xi, K., Peng, G., Martin, R.A., Harker, K.N., O'Donovan, J.T., Beres, B.L., May, W.E., and Mohr, R.M. (2015). "The impact of seed treatment, foliar fungicide timing, and plant growth regulator on barley leaf disease severity and productivity.", *Canadian Journal of Plant Pathology*. (Abstract)

Turkington, T.K., O'Donovan, J.T., Harker, K.N., Xi, K., Blackshaw, R.E., Johnson, E.N., Peng, G., Kutcher, H.R., May, W.E., Lafond, G.P., Mohr, R.M., and Irvine, R.B. (2015). "The impact of fungicide and herbicide timing on foliar disease severity, and barley productivity and quality.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015, ID: P HERBI 7. (Poster)

Turkington, T.K., Xi, K., O'Donovan, J.T., Harker, K.N., Peng, G., Martin, R.C., Beres, B.L., May, W.E., and Mohr, R.M. (2015). "The impact of seed treatment, foliar fungicide timing, and plant growth regulator on leaf-disease severity and productivity of barley.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015, ID: P IPM 42. (Poster)

Turkington, T.K., Xi, K., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., McAllister, T.A., and Lupwayi, N.Z. (2015). "The impact of barley variety rotation, mixtures, and intercropping on leaf disease and silage production.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015.

O'Donovan, J.T., Turkington, T.K., Harker, K.N., Oatway, L., Grant, C.A., Beres, B.L., Johnson, E.N., May, W.E., Izydorczyk, M.S., MacLeod, A., Anbessa, Y., and Vera, C.L. (2015). "Malting barley cultivar response to increasing nitrogen rates in western Canada.", ASA-CSSA-SSSA International Annual Meeting: Synergy in Science. Partnering for Solutions, Minneapolis, MN, USA, November 15-18, 2015. (Poster)

Baron, V.S., Lemke, R.L., Young, D.G., Harker, K.N., O'Donovan, J.T., and Flesch, T.K. (2015). "Ecosystem carbon balance of field-scale canola and barley in central Alberta.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. (Poster)

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2015). "Legumes in rotation affect hybrid canola and malting barley.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015, Keynote Theme D oral presentation.

Harker, K.N. (2015). "Canola weed management systems - mitigating weed resistance to herbicides.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015, Keynote theme oral presentation.

Lay, C-Y., Bell, T., Hamel, C., Harker, K.N., Mohr, R.M., and St-Arnaud, M. (2015). "The effects of agricultural practices on the microbiome of the roots and rhizosphere of canola.", Canadian Society of Microbiologists Annual Conference, Regina, Saskatchewan, Canada, June 15-18, 2015. (Abstract)

Tidemann, B.D., Harker, K.N., and Hall, L.M. (2015). "The Potential for Harvest Weed Seed Control on the Canadian Prairies.", Western Society of Weed Science Annual Meeting, Portland, OR, USA, March 9-12, 2015, Oral presentation.

Morrison, M.J., Blackshaw, R.E., O'Donovan, J.T., Harker, K.N., and Holzapfel, C.B. (2015). "Innovations underpinning yield improvements in the Canadian canola industry.", Crop Updates, Perth, Australia, February 24-25, 2015.

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Johnson, E.N., Pageau, D., Shirliffe, S.J., Gulden, R.H., Rowsell, J., Hall, L.M., and Willenborg, C.J. (2015). "Cultural techniques for integrated wild oat management.", Canadian Weed Science Society Meeting, Edmonton, AB, Canada, November 23-26, 2015, Oral presentation. (Abstract)

Chatterton, S., Carcamo, H.A., Thomas, J.B., Meers, S., Harding, M.W., Harker, K.N., Vandenberg, A., Shirliffe, S.J., Bowness, R.T., Reid, P., Broatch, J.S., Barkley, S., Syrový, A., Kaur, S., Brar, P., and Bruhjel, D. (2015). "Reducing necrotic spots on faba beans: *lygus*, chocolate spot or both?", West Forum Pest Management, Abbotsford, BC, Canada, October 21-23, 2015.

Carcamo, H.A., Otani, J.K., Harker, K.N., Reid, P., Broatch, J.S., Meers, S., Barkley, S., and Daniel, S. (2015). "Of *lygus* and canola: where is the threshold?", Entomological Society of Alberta Annual General Meeting, Jasper, AB, Canada, October 1-3, 2015.

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Johnson, E.N., Kutcher, H.R., Willenborg, C.J., Gan, Y.T., Dossall, L.M., Hall, L.M., Peng, G., Irvine, R.B., and Mohr, R.M. (2015). "Sustainable canola production increases with cropping system diversity.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. (Poster)

Gan, Y.T., Harker, K.N., Kutcher, H.R., Gulden, R.H., Irvine, R.B., May, W.E., O'Donovan, J.T., and Yang, C. (2015). "Uniform plant stands enhance the synergy of pod formation and seed yield in canola.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. (Poster)

## 2014

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Baron, V.S., Blackshaw, R.E., Hall, L.M., Johnson, E.N., Willenborg, C.J., Shirliffe, S.J., Gulden, R.H., Kobler, J.F., and Pageau, D. (2014). "Delaying herbicide resistance with integrated wild oat (*Avena fatua*) management.", 2014 Weed Science Society of America (WSSA) and the Canadian Weed Science Society (CWSS) Annual Meeting, Vancouver, B.C., Canada, February 3-6, 2014. (Abstract)

Blackshaw, R.E., Harker, K.N., O'Donovan, J.T., Johnson, E.N., Gan, Y.T., and Peng, G. (2014). "How frequently can oilseed rape be grown in sustainable cropping systems.", 13th Congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014, Available online at <http://www.esa2014.hu/news/post-conference-updates-8.html>, pp. 331-332. (Poster)

Turkington, T.K., Xi, K., Peng, G., O'Donovan, J.T., and Harker, K.N. (2014). "An update on malt barley research at Lacombe.", Rahr Malting Canada Annual Grower Meeting, Alix, Alberta, Canada, February 6, 2014. (Presentation)

Turkington, T.K., Xi, K., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., McAllister, T.A., and Lupwayi, N.Z. (2014). "The impact of barley variety monoculture, rotation and mixtures, and intercropping on leaf disease and silage production.", 1st International Workshop on Barley Leaf Diseases, Salsomaggiore Terme, Italy, June 3-6, 2014, pp. 73. (Abstract)

Turkington, T.K., Xi, K., Peng, G., Martin, R.A., Harker, K.N., and O'Donovan, J.T. (2014). "The impact of seed treatment, foliar fungicide, and variety resistance on barley leaf disease severity and productivity.", 1st International Workshop on Barley Leaf Diseases, Salsomaggiore Terme, Italy, June 3-6, 2014, Also in Canadian Journal of Plant Pathology (in press), pp. 18. (Abstract)

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Lafond, G.P., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2014). "Rotational Effects of Legumes and Non-Legumes on Hybrid Canola, and Malting Barley.", American Society of Agronomy Annual Meeting 2014, Long Beach, CA, USA, November 3-5, 2014.

O'Donovan, J.T., Blackshaw, R.E., Grant, C.A., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., and Turkington, T.K. (2014). "Legume crops grown in rotation enhance canola and barley productivity in western Canada.", 13th Congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014, pp. 357-358.

O'Donovan, J.T., Edney, M.J., MacLeod, A., Turkington, T.K., Grant, C.A., Harker, K.N., Johnson, E.N., Lafond, G.P., May, W.E., Beres, B.L., Kabeta, Y., and Juskiw, P.E. (2014). "Response of new malting barley cultivars to increasing nitrogen rates in western Canada.", 13th Congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014, pp. 141-142. (Poster)

O'Donovan, J.T., Harker, K.N., Turkington, T.K., Blackshaw, R.E., Beres, B.L., Clayton, G.W., Lafond, G.P., Lupwayi, N.Z., and Dossdall, L.M. (2014). "The role of agronomic research in meeting cropping system challenges in western Canada.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

O'Donovan, J.T., Harker, K.N., Turkington, T.K., and Clayton, G.W. (2014). "Combining cultural practices with herbicides reduces wild oat seed in the soil seed bank and improves barley yield.", 2014 Weed Science Society of America (WSSA) and the Canadian Weed Science Society (CWSS) Annual Meeting, Vancouver, B.C., Canada, February 3-6, 2014. (Abstract)

Lupwayi, N.Z., Harker, K.N., Lamey, F.J., Blackshaw, R.E., and O'Donovan, J.T. (2014). "Correlating soil microbial properties with crop yields in the Canadian prairies: two case studies.", Soil's Role in Restoring Ecosystem Services Conference, Sacramento, CA, USA, March 6-9, 2014. (Abstract)

## 2013

O'Donovan, J.T., Harker, K.N., Turkington, T.K., Lafond, G.P., Lupwayi, N.Z., Blackshaw, R.E., Clayton, G.W., and Dossdall, L.M. (2013). "The Role of Agronomic Research in Meeting Current and Future Cropping System Challenges in Western Canada.", ASA/CSSA/SSSA International annual meeting: Water, Food, Energy and Innovation for a Sustainable World, Tampa, Florida, USA, November 3-6, 2013.

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Turkington, T.K., Johnson, E.N., Lafond, G.P., May, W.E., Gan, Y.T., Edney, M., and Juskiw, P.E. (2013). "Effect of legume crops grown two years prior to barley on malting barley yield and quality.", ASA/CSSA/SSSA International annual meeting: Water, Food, Energy and Innovation for a Sustainable World, Tampa, Florida, USA, November 3-6, 2013.

O'Donovan, J.T., Turkington, T.K., Edney, M., Juskiw, P.E., May, W.E., Grant, C.A., Smith, E.G., Harker, K.N., Johnson, E.N., Beres, B.L., Kadeta, Y., and Chapman, B. (2013). "Relative responses of malting barley varieties to increasing nitrogen rates.", 16th Australian Barley Technical Symposium, Melbourne, Australia, September 8-11, 2013, pp. 58.

O'Donovan, J.T., Turkington, T.K., Edney, M., Smith, E.G., Harker, K.N., Beres, B.L., Clayton, G.W., Brandt, S.A., Johnson, E.N., Lafond, G.P., May, W.E., Grant, C.A., McKenzie, R., Juskiw, P.E., Kadeta, Y., Stonehouse, K., and Chapman, B. (2013). "Varietal and agronomic impacts on malting barley yield and quality.", FarmTech 2013, Westin Hotel, Edmonton, AB, Canada, January 29-31, 2013.

## 2012

Harker, K.N. and O'Donovan, J.T. (2012). "Canola after pulse crops.", Agronomy Update Conference 2012, Red Deer, AB, Canada, January 17-18, 2012, pp. 9.

Beaudoin, N., Sansoulet, J.B., Pattey, E., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., O'Donovan, J.T., and Gervois, S. (2012). "Adaptation de STICS à la culture de canola au Canada à partir du module colza en vue de simuler les émissions de N<sub>2</sub>O par Modulo STICS.", IXe Séminaire du modèle de culture STICS, Sainte-Montaine, France, October 16-19, 2012. (Poster)

Harker, K.N., Willenborg, C.J., Gulden, R.H., Shirliff, S.J., and Hall, L.M. (2012). "Harvest losses in canola.", 52nd Annual Meeting of the Weed Science Society of America (WSSA), Waikoloa, HI, USA, February 6-9, 2012.

## 2011

Grant, C.A., Zebarth, B.J., Malhi, S.S., Soon, Y.K., Selles, F., Lupwayi, N.Z., O'Donovan, J.T., Harker, K.N., and Clayton, G.W. (2011). "Changes in soil ammonium and nitrate concentration over the growing season in western Canada as affected by urea or controlled release urea application.", 12th International Symposium on Soil and Plant Analysis, Mediterranean Agronomic Institute of Chania, Crete, Greece, June 6-10, 2011.

O'Donovan, J.T., Blackshaw, R.E., Grant, C.A., Harker, K.N., Lafond, G.P., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., and Lupwayi, N.Z. (2011). "Legume Crops to Improve Soil Fertility for Enhanced Canola Production.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Poster)

Blackshaw, R.E., Hao, X., Clayton, G.W., Harker, K.N., O'Donovan, J.T., Johnson, E.N., and Vera, C.L. (2011). "Canola response to polymer-coated urea versus urea in a four-year zero-tillage cropping system on the Canadian prairies.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, pp. 61-64.

Blackshaw, R.E., Harker, K.N., and O'Donovan, J.T. (2011). "Polymer-coated urea compared with urea reduces N uptake by weeds.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 65. (Poster)

Turkington, T.K., Kutcher, H.R., Xi, K., Harker, K.N., O'Donovan, J.T., and Johnson, E.N. (2011). "The impact of fungicide and herbicide timing on barley leaf disease severity, weed management and crop productivity.", *The Western Producer*, 101(6), pp. S180. (Abstract)

Harker, K.N., Brandt, S.A., O'Donovan, J.T., Blackshaw, R.E., Johnson, E.N., and Kutcher, H.R. (2011). "The Impact of Two Years of Wild Oat Management After Four Years of Low Crop Inputs in Barley and Canola.", 51st Meeting Weed Science Society of America, Hilton Portland & Executive Tower Hotel, Portland, OR, USA, February 7-10, 2011, pp. 62. (Presentation)

Hugh, J.B., Harker, K.N., Légère, A., Morrison, M.J., Séguin-Swartz, G.T., and Falk, K.C. (2011). "GM Canola: The Canadian Experience.", *Farm Policy Journal*, 8(1), pp. 43-49.

Beckie, H.J., Harker, K.N., Hall, L.M., Holm, F.A., and Gulden, R.H. (2011). "Risk Assessment of Glyphosate Resistance in Western Canada.", 51st Meeting Weed Science Society of America, Hilton Portland & Executive Tower Hotel, Portland, OR, USA, February 7-10, 2011, pp. 64. (Presentation)

O'Donovan, J.T., Harker, K.N., and Blackshaw, R.E. (2011). "Implications of sub-economic threshold wild oat densities in a cereal/field pea rotation under no-till.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 46. (Abstract)

Harker, K.N., Turkington, T.K., O'Donovan, J.T., Kutcher, H.R., and Johnson, E.N. (2011). "Barley Herbicide and Fungicide Tank-Mixtures?", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 46. (Abstract)

Harker, K.N., Turkington, T.K., O'Donovan, J.T., Kutcher, H.R., and Johnson, E.N. (2011). "Barley Herbicide and Fungicide Tank-Mixtures?", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 24, 2011. (Presentation)

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## Research Publications:

2016

Harris, L.J., Balcerzak, M., Johnston, A., Schneiderman, D., and Ouellet, T. (2016). "Host-preferential *Fusarium graminearum* gene expression during infection of wheat, barley, and maize.", *Fungal Biology*, 120, pp. 111-123. doi : 10.1016/j.funbio.2015.10.010

Kebede, A.Z., Woldemariam, T., Reid, L.M., and Harris, L.J. (2016). "Quantitative trait loci mapping for *Gibberella ear rot* resistance and associated agronomic traits using genotyping-by-sequencing in maize.", *Theoretical and Applied Genetics (TAG)*, 129(1), pp. 17-29. doi : 10.1007/s00122-015-2600-3

2015

Bahadoor, A., Schneiderman, D., Gemmill, L., Bosnich, W., Blackwell, B.A., Melanson, J., McRae, G., and Harris, L.J. (2015). "Hydroxylation of longiboneol by a Clm2-encoded CYP450 mono-oxygenase to produce culmorin in *Fusarium graminearum*.", *Journal of Natural Products*, pp. 1-8. doi : 10.1021/acs.jnatprod.5b00676

Subramaniam, R., Narayanan, S., Walkowiak, S., Wang, L., Joshi, M., Rocheleau, H., Ouellet, T., and Harris, L.J. (2015). "Leucine metabolism regulates TRI6 expression and affects deoxynivalenol production and virulence in *Fusarium graminearum*.", *Molecular Microbiology*, 98(4), pp. 760-769. doi : 10.1111/mmi.13155

Ghobakhlou, A.F., Johnston, A., Harris, L.J., Antoun, H., and Laberge, S. (2015). "Microarray transcriptional profiling of Arctic *Mesorhizobium* strain N33 at low temperature provides insights into cold adaption strategies.", *BMC Genomics*, 16(1 Article 383). doi : 10.1186/s12864-015-1611-4

2014

Lysøe, E., Harris, L.J., Walkowiak, S., Subramaniam, R., Divon, H.H., Riiser, E.S., Llorens, C., Gabaldón, T., Kistler, H.C., Jonkers, W., Kolseth, A.-K., Nielsen, K.F., Thrane, U., and Frandsen, R.J.N. (2014). "The genome of the generalist plant pathogen *Fusarium avenaceum* is enriched with genes involved in redox, signaling and secondary metabolism.", *PLoS ONE*, 9(11: e112703). doi : 10.1371/journal.pone.0112703

Miller, J.D., Schaafsma, A.W., Bhatnagar, D., Bondy, G.S., Carbone, I., Harris, L.J., Harrison, G., Munkvold, G.P., Oswald, I.P., Pestka, J.P., Sharpe, L., Sumarah, M.W., Tittlemier, S.A., and Zhou, T. (2014). "Mycotoxins that affect the North American Agriculture sector: state of the art and directions for the future.", *World Mycotoxin Journal*, 7(1), pp. 63-82. doi : 10.3920/WMJ2013.1624

Kennedy, M.A., Gable, K., Niewola-Staszewska, K., Abreu, S., Johnston, A., Harris, L.J., Reggiori, F., Loewith, R., Dunn, T., Bennett, S.A.L., and Baetz, K. (2014). "A neurotoxic glycerophosphocholine impacts PtdIns-4,5-bisphosphate and TOR2 signaling by altering ceramide biosynthesis in yeast.", *PLoS Genetics*, 10(1). doi : 10.1371/journal.pgen.1004010.g001

2013

Harris, L.J., Ouellet, T., and Subramaniam, R. (2013). "Applying proteomics to investigate the interactions between pathogenic *Fusarium* species and their hosts.", in Brown, D.W. and Proctor, R.H. (eds.) - *Fusarium: Genomics, Molecular and Cellular Biology*, Caister Academic Press, Chapter 5.

Li, Y.B., Harris, L.J., and Dooner, H.K. (2013). "TED, an Autonomous and Rare Maize Transposon of the Mutator Superfamily with a High Gametophytic Excision Frequency.", *Plant Cell*, 25(9), pp. 3251-3265. doi : 10.1105/tpc.113.116517

2012

Qi, P.-F., Johnston, A., Balcerzak, M., Rocheleau, H.J., Harris, L.J., Long, X.-Y., Wei, Y.-M., Zheng, Y.-L., and Ouellet, T. (2012). "Effect of salicylic acid on *Fusarium graminearum*, the major causal agent of fusarium head blight in wheat.", *Fungal Biology*, 116(3), pp. 413-426. doi : 10.1016/j.funbio.2012.01.001

Balcerzak, M., Harris, L.J., Subramaniam, R., and Ouellet, T. (2012). "The feruloyl esterase gene family of *Fusarium graminearum* is differentially regulated by aromatic compounds and hosts.", *Fungal Biology*, 116(4), pp. 478-488. doi : 10.1016/j.funbio.2012.01.007



Kant, P., Gulati, A., Harris, L.J., Gleddie, S.C., Singh, J., and Pauls, K.P. (2012). "Transgenic corn plants with modified ribosomal protein L3 show decreased ear rot disease after inoculation with *Fusarium graminearum*.", *Australian Journal of Crop Science*, 6(12), pp. 1598-1605.

2011

Xu, Y., Badea, C., Tran, F., Frick, M., Schneiderman, D., Robert, L.S., Harris, L.J., Thomas, D.K., Tinker, N.A., Gaudet, D.A., and Laroche, A. (2011). "Next-Gen sequencing of the transcriptome of triticale.", *Plant Genetic Resources: Characterization and Utilization*, 9(2), pp. 181-184. doi : 10.1017/s1479262111000281

Mohammadi, M., Anoop, V., Gleddie, S.C., and Harris, L.J. (2011). "Proteomic profiling of two maize inbreds during early gibberella ear rot infection.", *Proteomics*, 11(18), pp. 3675-3684. doi : 10.1002/pmic.201100177

Nasmith, C.G., Walkowiak, S., Wang, L., Leung, W.W.Y., Gong, Y., Johnston, A., Harris, L.J., Guttman, D.S., and Subramaniam, R. (2011). "Tri6 Is a Global Transcription Regulator in the Phytopathogen *Fusarium graminearum*.", *PLoS Pathogens*, 7(9, Article No. e1002266). doi : 10.1371/journal.ppat.1002266

## Other Science Related Publications:

2015

Harris, L.J., Bosnich, W., Johnston, A., Kwan, R., Schneiderman, D., Blackwell, B.A., and Bahadoor, A. (2015). "Interaction studies between *Fusarium graminearum* and *F. avenaceum* during durum wheat infection.", 28th Fungal Genetics Conference, Pacific Grove, CA, USA, March 17-22, 2015. (Abstract)

Kebede, A.Z., Woldemariam, T., Reid, L.M., and Harris, L.J. (2015). "Molecular mapping of Gibberella ear rot resistance and kernel drydown rate in maize.", 13th European Fusarium Seminar, Martina Franca, Italy, May 10-14, 2015, pp. 168. (Abstract)

Harris, L.J., Bosnich, W., Johnston, A., Kwan, R., Schneiderman, D., Blackwell, B.A., and Bahadoor, A. (2015). "A *F. graminearum* ABC transporter is induced during interactions with *F. avenaceum* and by enniatin B1.", 13th European Fusarium Seminar, Martina Franca, Italy, May 10-14, 2015, Poster, pp. 121. (Abstract)

Kebede, A.Z., Johnston, A., Schneiderman, D., Bosnich, W., and Harris, L.J. (2015). "Whole genome gene expression profiles of two inbred lines with distinct resistance to gibberella ear rot disease of maize.", 3rd Plant Genomics Congress USA -Global Engage, St. Louis, MO, USA, September 14-15, 2015. (Abstract)

Kebede, A.Z., Woldemariam, T., Reid, L.M., and Harris, L.J. (2015). "Molecular mapping of gibberella ear rot resistance and kernel drydown rate in maize.", 57th Annual Maize Genetics Conference, Charles, IL, USA, March 12-15, 2015. (Abstract)

2013

Gleddie, S.C., Harris, L.J., Hermans, A., Mitchell, L.G., Baetz, K., and Bosnich, W. (2013). "Fusarium fungal toxin screens against yeast genome deletion collections to define novel resistance mechanisms.", *Plant & Animal Genome XIV Conference*, Town & Country Convention Center, San Diego, CA, USA, January 14-18, 2013.

Harris, L.J., Johnston, A., Bosnich, W., LeBlanc, A., Blackwell, B.A., and Schneiderman, D. (2013). "Elucidation of the *Fusarium graminearum* butenolide biosynthetic gene cluster.", *The 12th European Fusarium Seminar*, Bordeaux, France, May 12-16, 2013, Invited talk, pp. 42.

Zuniga, A., Bosnich, W., Bala, K., Harris, L.J., Gleddie, S.C., and Mester, Z. (2013). "LC-MS/MS-based structural analysis of novel enniatins produced by Canadian strains of *Fusarium avenaceum* in liquid culture.", *61st American Society of Mass Spectrometry Conference*, Minneapolis, MN, USA, June 9-13, 2013. (Poster)

Bala, K., Blackwell, B.A., Morales, A.Z., Johnston, A., Brown, C., Schneiderman, D., Gleddie, S.C., and Harris, L.J. (2013). "Interactions between different *Fusarium* species to uncover multi-toxin synergistic mechanisms.", *The 12th European Fusarium Seminar*, Bordeaux, France, May 12-16, 2013, pp. 100.

Laroche, A., Xu, Y., Penniket, C., Robert, L.S., Robert, L.S., Harris, L.J., Tran, F., Schneiderman, D., Gulick, P.J., and Frick, M. (2013). "A comprehensive reference transcriptome for triticale (x *Triticosecale* Wittm.)", *The 8th International Triticale Symposium*, Ghent, Belgium, June 10-14, 2013, O10.

Xu, Y., Frick, M., Penniket, C., Robert, L.S., Harris, L.J., Tran, F., Schneiderman, D., Gulick, P.J., and Laroche, A. (2013). "Identification and regulation of cell wall transcripts in triticale (x *Triticosecale* Wittm.)", *The 8th International Triticale Symposium*, Ghent, Belgium, June 10-14, 2013, pp. 3. (Poster)

Harris, L.J., Johnston, A., Bosnich, W., LeBlanc, A., Schneiderman, D., and Blackwell, B.A. (2013). "Elucidation of the *Fusarium graminearum* butenolide biosynthetic gene cluster.", *Gordon Research Conference, Mycotoxins & Phycotoxins*, Easton, MA, USA, June 16-21, 2013. (Poster)

2012

Frick, M., Xu, Y., Penniket, C., Robert, L.S., Harris, L.J., Tran, F., Schneiderman, D., Gulick, P., and Laroche, A. (2012). "A triticale (x Triticosecale Wittm.) reference transcriptome.", 22nd International Triticeae Mapping Initiative (ITMI) and 4th National Wheat Genomics Committee Joint Workshop, Fargo, ND, USA, June 25-29, 2012, pp. 12.

2011

Gleddie, S.C., Hermans, A., Mitchell, L., Baetz, K., Bosnich, W., and Harris, L.J. (2011). "Yeast genome deletion screening identifies new cellular targets of the *Fusarium graminearum* fungal toxin deoxynivalenol.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 94.

Harris, L.J., Bosnich, W., Johnston, A., Woldemariam, T., Reid, L.M., Schneiderman, D., Mohammadi, M., and Gleddie, S.C. (2011). "Mapping gibberella ear rot resistance in maize using a large B73 X CO441 F6 recombinant inbred population.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 95.

Allard, G.C., Subramaniam, R., Ouellet, T., Harris, L.J., and Singh, J. (2011). "Rapid screening of Arabidopsis mutants to identify transporter genes for resistance to *Fusarium graminearum*.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 100.

Frick, M., Xu, Y., Robert, L.S., Gulick, P., Harris, L.J., Badea, C., Penniket, C., and Laroche, A. (2011). "Transcriptional analyses of plant defense pathway related genes in cereals.", VI International Scientific Seminar on Plant Health and II International Phytoplasma Workshop, Havana, Cuba, September 22-26, 2008, pp. 13.

Harris, L.J., Balcerzak, M., Schneiderman, D., Johnson, A., and Ouellet, T. (2011). "Transcriptome profiles of *F. graminearum* during infection of wheat, barley, and maize.", 26th Fungal Genetics Conference (26th FCG), Asilomar, CA, USA, March 15-20, 2011, Poster.

# Hebb, Dale, P. Eng., M.A.Sc.

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## Research Publications:

2015

Amon-Armah, F., Yiridoe, E.K., Jamieson, R.C., and Hebb, D. (2015). "Comparison of Crop Yield and Pollution Production Response to Nitrogen Fertilization Models, Accounting for Crop Rotation Effect.", *Agroecology and Sustainable Food Systems*, 39(3), pp. 245-275. doi : 10.1080/21683565.2014.967435

2014

Sinclair, A.C., Jamieson, R.C., Madani, A., Gordon, R.J., Hart, W., and Hebb, D. (2014). "A watershed modeling framework for phosphorus loading from residential and agricultural sources.", *Journal of Environmental Quality*, 43(4), pp. 1356-1369. doi : 10.2134/jeq2013.09.0368

Goulden, T., Jamieson, R.C., Hopkinson, C., Sterling, S., Sinclair, A.C., and Hebb, D. (2014). "Sensitivity of hydrological outputs from SWAT to DEM spatial resolution.", *Photogrammetric Engineering & Remote Sensing*, 80(7), pp. 639-652. doi : 10.14358/PERS.80.7.639

2011

Ahmad, N.H.M., Sinclair, A.C., Jamieson, R.C., Madani, A., Hebb, D., Havard, P., and Yiridoe, E.K. (2011). "Modeling sediment and nitrogen export from a rural watershed in eastern Canada using the soil and water assessment tool.", *Journal of Environmental Quality*, 40(4), pp. 1182-1194. doi : 10.2134/jeq2010.0530

## Other Science Related Publications:

2014

Sinclair, A.C., Jamieson, R.C., Gordon, R.J., Madani, A., Hart, W., and Hebb, D. (2014). "Modeling impacts of residential and agricultural development and beneficial management practice scenarios on phosphorus dynamics in a small watershed.", *American Society of Agricultural and Biological Engineers Annual International Meeting 2014, Montreal, Canada, July 13-16, 2014*, pp. 1373-1391.

2012

Hebb, D. (2012). "Thomas Brook 2012: Surface Water Quality Observations from 10 years for a rural watershed in Nova Scotia, Canada.", *21st Century Watershed Technology Conference and Workshop: Improving Water Quality and the Environment*, Palace Hotel, Bari, Italy, May 27-June 1, 2012, Oral presentation.

Amon-Armah, F., Yiridoe, E.K., and Hebb, D. (2012). "A Comparison of Pollution Production and Crop Yield Response Models Using SWAT-Simulated Data for Watershed Management.", *2012 Annual Meeting of the Canadian Agricultural Economics Society (CAES)*, Niagara Falls, ON, Canada, June 17-19, 2012.

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## Research Publications:

2015

Hegedus, D.D., Gerbrandt, K., and Coutu, C. (2015). "The eukaryotic protein kinase superfamily of the necrotrophic fungal plant pathogen, *Sclerotinia sclerotiorum*.", *Molecular Plant Pathology*. doi: 10.1111/mp.12321

Hegedus, D.D., Toprak, U., and Erlandson, M.A. (2015). "Lepidopteran peritrophic matrix composition, function, and formation.", in Chandrasekar, R., Goldsmith, M.R. and Agunbiade, T.A. (eds.) - *Short Views on Insect Genomics and Proteomics, Volume 2*, Springer-Verlag GmbH, pp. 63-87.

Gao, M.-J., Li, X., Huang, J., Gropp, G.M., Gjetvaj, B., Lindsay, D., Wei, S., Coutu, C., Chen, Z., Wan, X.-C., Hannoufa, A., Lydiate, D.J., Gruber, M.Y., Chen, Z.J., and Hegedus, D.D. (2015). "SCARECROW-LIKE 15 interacts with HISTONE DEACETYLASE 19 and is essential for repressing the seed maturation programme.", *Nature Communications*, 6 (Article number 7243). doi: 10.1038/ncomms8243

Hegedus, D.D., Coutu, C., Harrington, M., Hope, B., Gerbrandt, K., and Nikolov, I. (2015). "Multiple internal sorting determinants can contribute to the trafficking of cruciferin to protein storage vacuoles.", *Plant Molecular Biology*, 88(1-2), pp. 3-20. doi: 10.1007/s11103-015-0297-y

Toprak, U., Erlandson, M.A., Baldwin, D., Karcz, S.R., Wan, L., Coutu, C., Gillott, C., and Hegedus, D.D. (2015). "Identification of the *Mamestra configurata* (Lepidoptera: Noctuidae) peritrophic matrix proteins and enzymes involved in peritrophic matrix chitin metabolism.", *Insect Science*. doi: 10.1111/1744-7917.12225

Taylor, W.G., Sutherland, D.H., Zhang, H., and Hegedus, D.D. (2015). "Sequence determination by MALDI-TOF mass spectrometry of an insecticidal lentil peptide of the PA1b type.", *Phytochemistry Letters*, 12, pp. 105-112. doi: 10.1016/j.phytol.2015.03.003

2014

Toprak, U., Coutu, C., Baldwin, D., Erlandson, M.A., and Hegedus, D.D. (2014). "Development of an improved RNA interference vector system for *Agrobacterium*-mediated plant transformation.", *Turkish Journal of Biology*, 38, pp. 40-47. doi: 10.3906/biy-1304-4

Donly, B.C., Theilmann, D.A., Hegedus, D.D., Baldwin, D., and Erlandson, M.A. (2014). "*Mamestra configurata* nucleopolyhedrovirus-A transcriptome from infected host midgut.", *Virus Genes*, 48(1), pp. 174-183. doi: 10.1007/s11262-013-0986-z

Toprak, U., Hegedus, D.D., Baldwin, D., Coutu, C., and Erlandson, M.A. (2014). "Spatial and temporal synthesis of *Mamestra configurata* peritrophic matrix through a larval stadium.", *Insect Biochemistry and Molecular Biology*, 54, pp. 89-97. doi: 10.1016/j.ibmb.2014.09.002

Withana-Gamage, T.S., Hegedus, D.D., Qiu, X., and Wanasundara, P.K.J.P.D. (2014). "Solubility, Heat-Induced Gelation and Pepsin Susceptibility of Cruciferin Protein as Affected by Subunit Composition.", *Food Biophysics*, 10(2), pp. 103-115. doi: 10.1007/s11483-014-9370-3

Hegedus, D.D., Baron, M., Labbe, N., Coutu, C., Lydiate, D.J., Liu, H.L., and Rozwadowski, K. (2014). "A strategy for targeting recombinant proteins to protein storage vacuoles by fusion to *Brassica napus napin* in napin-depleted seeds.", *Protein Expression and Purification*, 26(5), pp. 162-168.

Toprak, U., Guz, N., Gurkan, M.O., and Hegedus, D.D. (2014). "Identification and coordinated expression of perilipin genes in the biological cycle of sunn pest, *Eurygaster maura* (Hemiptera: Scutelleridae): Implications for lipolysis and lipogenesis.", *Comparative Biochemistry and Physiology - Part B: Biochemistry & Molecular Biology*, 171(1), pp. 1-11. doi: 10.1016/j.cbpb.2014.02.001

2013

Bahar, M.H., Hegedus, D.D., Soroka, J.J., Coutu, C., Bekkaoui, D.R., and Dossall, L.M. (2013). "Survival and Hsp70 Gene Expression in *Plutella xylostella* and Its Larval Parasitoid *Diadegma insulare* Varied between Slowly Ramping and Abrupt Extreme Temperature Regimes", *PLoS ONE*, 8(9): Article e73901. doi: 10.1371/journal.pone.0073901

Toprak, U., Baldwin, D., Erlandson, M.A., Gillott, C., Harris, S., and Hegedus, D.D. (2013). "In vitro and in vivo application of RNA interference for targeting genes involved in peritrophic matrix synthesis in a lepidopteran system.", *Insect Science*, 20(1), pp. 92-100. doi : 10.1111/j.1744-7917.2012.01562.x

Withana-Gamage, T.S., Hegedus, D.D., Qiu, X., Yu, P., May, T., Lydiate, D.J., and Wanasundara, P.K.J.P.D. (2013). "Characterization of Arabidopsis thaliana lines with altered seed storage protein profiles using synchrotron-powered FT-IR spectromicroscopy.", *Journal of Agricultural and Food Chemistry*, 61(4), pp. 901-912. doi : 10.1021/jf304328n

Bashi, Z.D., Rimmer, S.R., Khachatourians, G.G., and Hegedus, D.D. (2013). "Brassica napus polygalacturonase inhibitor proteins inhibit Sclerotinia sclerotiorum polygalacturonase enzymatic and necrotizing activities and delay symptoms in transgenic plants.", *Canadian Journal of Microbiology*, 59(2), pp. 79-86. doi : 10.1139/cjm-2012-0352

Toprak, U., Baldwin, D., Hegedus, D.D., and Erlandson, M.A. (2013). "Per os feeding with antisera specific to peritrophic matrix proteins stimulates larval growth in Mamestra configurata Walker (Lepidoptera: Noctuidae).", *Turkish Journal of Entomology*, 37(2), pp. 203-212.

## 2012

Yu, B., Gruber, M.Y., Khachatourians, G.G., Zhou, R., Epp, D.J., Hegedus, D.D., Parkin, I.A.P., Welsch, R., and Hannoufa, A. (2012). "Arabidopsis cpSRP54 regulates carotenoid accumulation in Arabidopsis and Brassica napus.", *Journal of Experimental Botany*, 63(14), pp. 5189-5202. doi : 10.1093/jxb/ers179

Bashi, Z.D., Rimmer, S.R., Khachatourians, G.G., and Hegedus, D.D. (2012). "Factors governing the regulation of Sclerotinia sclerotiorum cutinase A and polygalacturonase 1 during different stages of infection.", *Canadian Journal of Microbiology*, 58(5), pp. 605-616. doi : 10.1139/W2012-031

Gruber, M.Y., Wu, L., Links, M.G., Gjetvaj, B., Durkin, J.M.H., Lewis, C.T., Sharpe, A.G., Lydiate, D.J., and Hegedus, D.D. (2012). "Analysis of expressed sequence tags in Brassica napus cotyledons damaged by crucifer flea beetle feeding.", *Genome*, 55(2), pp. 118-133. doi : 10.1139/G11-083

Wei, S., Gruber, M.Y., Yu, B., Gao, M.-J., Khachatourians, G.G., Hegedus, D.D., Parkin, I.A.P., and Hannoufa, A. (2012). "Arabidopsis mutant sk156 reveals complex regulation of SPL15 in a miR156-controlled gene network.", *BMC Plant Biology*, 12:169. doi : 10.1186/1471-2229-12-169

Toprak, U., Harris, S., Baldwin, D., Theilmann, D.A., Gillott, C., Hegedus, D.D., and Erlandson, M.A. (2012). "The role of enhancin in Mamestra configurata nucleopolyhedrovirus virulence: Selective degradation of host peritrophic matrix proteins.", *Journal of General Virology*, 93(4), pp. 744-753. doi : 10.1099/vir.0.038117-0

## 2011

Gao, M.-J., Li, X.L., Lui, H., Gropp, G.M., Lydiate, D.J., Wei, S., and Hegedus, D.D. (2011). "ASL1 is required for proper timing of seed filling in Arabidopsis.", *Plant Signaling & Behavior*, 6(12), pp. 1886-1888. doi : 10.4161/psb.6.12.18709

Withana-Gamage, T.S., Hegedus, D.D., Qiu, X., and Wanasundara, P.K.J.P.D. (2011). "In Silico Homology Modeling To Predict Functional Properties of Cruciferin.", *Journal of Agricultural and Food Chemistry*, 59(24), pp. 12925-12938. doi : 10.1021/jf201979a

Terenius, O., Papanicolaou, A., Garbutt, J.S., Eleftherianos, I., Huvenne, H., Kanginakudru, S., Albrechtsen, M., An, C., Aymeric, J.-L., Barthel, A., Bebas, P., Bitra, K., Bravo, A., Chevalier, F., Collinge, D.P., Crava, C.M., de Maagd, R.A., Duvic, B., Erlandson, M.A., Faye, I., Felföldi, G., Fujiwara, H., Futahashi, R., Gandhe, A.S., Gatehouse, H.S., Gatehouse, L.N., Giebultowicz, J.M., Gómez, I., Grimmekhuijzen, C.J.P., Groot, A.T., Hauser, F., Heckel, D.G., Hegedus, D.D., Hrycaj, S., Huang, L., Hull, J.J., Iatrou, K., Iga, M., Kanost, M.R., Kotwica, J., Li, C., Li, J., Liu, J., Lundmark, M., Matsumoto, S., Meyering-Vos, M., Millichap, P.J., Monteiro, A., Mrinal, N., Niimi, T., Nowara, D., Ohnishi, A., Oostra, V., Ozaki, K., Papakonstantinou, M., Popadic, A., Rajam, M.V., Saenko, S., Simpson, A.J., Soberón, M., Strand, M.R., Tomita, S., Toprak, U., Wang, P., Wee, C.W., Whyard, S., Zhang, W., Nagaraju, J., Gordon, R.H.J., Herrero, S., Gordon, K., Smagghe, G., and Swevers, L. (2011). "RNA interference in Lepidoptera: An overview of successful and unsuccessful studies and implications for experimental design.", *Journal of Insect Physiology*, 57(2), pp. 231-245. doi : 10.1016/j.jinsphys.2010.11.006

Li, X.L., Gruber, M.Y., Hegedus, D.D., Lydiate, D.J., and Gao, M.-J. (2011). "Effects of a Coumarin Derivative, 4-Methylumbelliferone, on Seed Germination and Seedling Establishment in Arabidopsis.", *Journal of Chemical Ecology*, 37(8), pp. 880-890. doi : 10.1007/s10886-011-9987-3

Links, M.G., Holub, E.B., Jiang, R.H.Y., Sharpe, A.G., Hegedus, D.D., Beynon, E., Sillito, D., Clarke, W.E., Uzuhashi, S., and Borhan, M.H. (2011). "de novo sequence assembly of Albugo candida reveals a small genome relative to other biotrophic oomycetes.", *BMC Genomics*, 12(503). doi : 10.1186/1471-2164-12-503

## Other Science Related Publications:

2015

Theilmann, D.A., Willis, L.G., Weis, M.M., Donly, B.C., Hegedus, D.D., and Erlandson, M.A. (2015). "Analysis of occlusion derived virus infection in tissue culture using gene knockout viruses of the per os infectivity factors and GP64.", 48th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Vancouver, B.C., Canada, August 9-13, 2015, Oral Presentation.

Erlandson, M.A., Harris, S., Sieminska, E.A., Baldwin, D., Hegedus, D.D., and Theilmann, D.A. (2015). "Inhibition of *Cotesia vanessae* development in *Trichoplusia ni* larvae infected with alphabaculoviruses from *Mamestra configurata*.", 48th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Vancouver, B.C., Canada, August 9-13, 2015, Oral Presentation.

Erlandson, M.A., Coutu, C., Holowachuk, J., Olfert, O.O., Garipey, T.D., and Hegedus, D.D. (2015). "Developing genotyping-by-sequencing strategies for characterizing *Mamestra configurata* populations.", Joint Annual Meeting of Société d'entomologie du Québec and Entomological Society of Canada, Montreal, QC, Canada, November 8-11, 2015, Oral Presentation.

Javed, M.A., Harris, S., Theilmann, D.A., Erlandson, M.A., and Hegedus, D.D. (2015). "AcMNPV infection process in *Trichoplusia ni* midgut.", 48th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Vancouver, B.C., Canada, August 9-13, 2015. (Poster)

2014

Erlandson, M.A., Donly, B.C., Theilmann, D.A., Hegedus, D.D., Coutu, C., and Baldwin, D. (2014). "Mamestra configurata nucleopolyhedrovirus-A transcriptome from infected host midgut.", 47th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Johannes Gutenberg University, Mainz, Germany, August 3-7, 2014, oral presentation, pp. 80.

Erlandson, M.A., Donly, B.C., Theilmann, D.A., Hegedus, D.D., Coutu, C., and Baldwin, D. (2014). "Mamestra configurata nucleopolyhedrovirus-A transcriptome from infected host midgut.", 47th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Mainz, Germany, August 3-7, 2014, Oral Presentation.

Harris, S., Sieminska, E., Theilmann, D.A., Hegedus, D.D., and Erlandson, M.A. (2014). "Interaction between baculovirus infection and *Cotesia* parasitism in *Trichoplusia ni* larvae.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014. (Poster)

Sieminska, E., Erlandson, M.A., Hegedus, D.D., and Gray, J. (2014). "Characterization of the pheromone communication channel in bertha armyworm, *Mamestra configurata*.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014. (Poster)

Gao, M-G., Li, X., Huang, J., Gropp, G.M., Lindsay, D., Gjetvaj, B., Wei, S., Wan, X-C., Chen, Z., Gruber, M.Y., Hannoufa, A., Lydiate, D.J., Chen, Z.J., and Hegedus, D.D. (2014). "SCARECROW-LIKE 15 interacts with HISTONE DEACETYLASE 19 and is essential to the repression of the seed maturation program.", 25th International Conference on Arabidopsis Research, Vancouver, BC, Canada, July 28-August 1, 2014, #207. (Poster)

2012

Gao, M.-J., Li, X., Huang, J., Gjetvaj, B., Gropp, G.M., and Hegedus, D.D. (2012). "Negative regulation of the transition of seed maturation program to vegetative growth by SCL15.", 23rd International Conference on Arabidopsis Research (ICAR), Vienna, Austria, July 3-7 2012, P429. (Poster)

Bahar, M.H., Soroka, J.J., Hegedus, D.D., and Dodsall, L.M. (2012). "Thermal tolerance and HSP70 gene expression in DBM and *Diadegma insulare*.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #7. (Abstract)

Buchwaldt, L., Hegedus, D.D., and Parkin, I.A.P. (2012). "Advances in sclerotinia resistance research.", Canola Industry Meeting, Garden Inn Hotel, Saskatoon, SK, Canada, December 5, 2012. (Presentation)

Buchwaldt, L., Hegedus, D.D., and Parkin, I.A.P. (2012). "Characterization of *S. sclerotiorum* clones in western Canada for pathogenicity and genomic relatedness.", Canola Cluster update, Saskatoon, SK, Canada, March 21, 2012.

Hegedus, D.D., Buchwaldt, L., and Parkin, I.A.P. (2012). "Development of sclerotinia resistant Brassica napus lines and molecular markers for marker-assisted breeding.", Canola Cluster update, Saskatoon, SK, Canada, March 21, 2012.

Gao, M.-J., Gropp, G.M., Wei, S., Hegedus, D.D., and Lydiate, D.J. (2012). "Combinatorial networks regulating seed development and seed filling.", in Sato, K.I. (ed.) - Embryogenesis, InTech, Open Access Publisher, Chapter 9, pp. 189-228.

Sanjeeva, W.G.T., Hegedus, D.D., Yu, P., Qiu, X., McIntosh, T.C., May, T.W., and Wanasundara, P.K.J.P.D. (2011). "Influence of seed storage protein composition on structural features of major crucifer proteins: Protein secondary structure study of *Arabidopsis thaliana*.", 102nd Annual Meeting of the American Oil Chemists' Society (AOCS) & Expo, Duke Energy Center, Cincinnati, OH, USA, May 1-4, 2011.

Kutcher, H.R., Dokken-Bouchard, F.L., Turkington, T.K., Fernando, W.G.D., Boyetchko, S.M., Buchwaldt, L., Hegedus, D.D., and Parkin, I.A.P. (2011). "Managing sclerotinia stem rot in canola.", Canola Research Summit meeting, Winnipeg, MB, Canada, April 12-13, 2011.

Fu, F., Harrington, M., Hegedus, D.D., Bekkaoui, D.R., Parkin, I.A.P., and Buchwaldt, L. (2011). "Co-location of defence genes from expression studies with QTLs conferring sclerotinia resistance in *Brassica napus*.", 8th Canadian Plant Genomics Workshop, Niagara Falls, ON, Canada, August 22-25, 2011. (Workshop)

Gyawali, S., Buchwaldt, L., Harrington, M., Parkin, I.A.P., Bekkaoui, D.R., Homer, K., Higgins, E.E., and Hegedus, D.D. (2011). "Association mapping of stem rot resistance in a world collection of *Brassica napus*.", American Phytopathological Society (APS) 2011 Joint Annual Meeting & International Association for the Plant Protection Sciences (IPPC), Honolulu, HI, USA, August 6-10, 2011.

Buchwaldt, L., Lydiate, D.J., Yu, F.Q., Hegedus, D.D., and Rimmer, S.R. (2011). "QTLs contributing to sclerotinia stem rot resistance in *Brassica napus* Zhongyou 821.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011.

Noakes, A.L., Gillott, C., Hegedus, D.D., Theilmann, D.A., and Erlandson, M.A. (2011). "Mamestra configurata nucleopolyhedrovirus (MacoNPV): potential chitin-binding proteins and their role in oral infectivity.", 44th Annual Meeting of the Society for Invertebrate Pathology, Halifax, NS, Canada, August 7-11, 2011.

Hannoufa, A., Wei, S., Gruber, M.Y., Khachatourians, G.G., Wang, Y., Hegedus, D.D., and Parkin, I.A.P. (2011). "MicroRNA156: A new player in regulating carotenoid accumulation in plants.", Canadian Society of Plant Physiologists Eastern Regional Meeting & Plant Development Workshop / Congrès de la Société Canadienne de Physiologie Végétale & Congrès de Développement Végétale (Congrès Régional de l'Est), Carleton University, Ottawa, ON, Canada, December 2-3, 2011, SB-1, pp. 17.

Hegedus, D.D., Buchwaldt, L., and Parkin, I.A.P. (2011). A genomics approach to sclerotinia resistance in *Brassica napus*. SaskCanola 20th Anniversary Research Summary., Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC). (Report)

Buchwaldt, L., Hegedus, D.D., and Parkin, I.A.P. (2011). "Sclerotinia resistance in *B. napus* – an update.", Cargill, Aberdeen, SK, Canada, November 23, 2011. (Presentation)

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## Research Publications:

2015

Gregorich, E.G., Janzen, H.H., Helgason, B.L., and Ellert, B.H. (2015). "Nitrogenous gas emissions from soils and greenhouse gas effects.", *Advances in Agronomy (Bookseries)*, 132, pp. 39-74. doi : 10.1016/bs.agron.2015.02.004

VandenBygaart, A.J., Gregorich, E.G., and Helgason, B.L. (2015). "Cropland C erosion and burial: Is buried soil organic matter biodegradable?", *Geoderma*, 239-240, pp. 240-249. doi : 10.1016/j.geoderma.2014.10.011

Gillespie, A.W., Gregorich, E.G., Peak, D., and Helgason, B.L. (2015). "Instrumental Methods in Environmental Biogeochemistry.", - *Encyclopedia of Analytical Chemistry*, John Wiley & Sons, Ltd.

2014

Helgason, B.L., Gregorich, E.G., Janzen, H.H., Ellert, B.H., Lorenz, N., and Dick, R.P. (2014). "Long-term microbial retention of residue C is site-specific and depends on residue placement.", *Soil Biology & Biochemistry*, 68, pp. 231-240. doi : 10.1016/j.soilbio.2013.10.002

Yannikos, N., Leinweber, P., Helgason, B.L., Baum, C., Walley, F.L., and Van Rees, K. (2014). "Impact of Populus trees on the composition of organic matter and the soil microbial community in Orthic Gray Luvisols in Saskatchewan (Canada).", *Soil Biology & Biochemistry*, 70, pp. 5-11. doi : 10.1016/j.soilbio.2013.11.025

Helgason, B.L., Korschuh, H.J., Bedhard-Haughn, A., VandenBygaart, A.J., and VandenBygaart, A.J. (2014). "Microbial distribution in an eroded landscape: Buried A horizons support abundant and unique communities.", *Agriculture, Ecosystems and Environment*, 196, pp. 94-102. doi : 10.1016/j.agee.2014.06.029

## Other Science Related Publications:

2014

Gregorich, E.G., Ellert, B.H., Janzen, H.H., and Helgason, B.L. (2014). "Plant residue decay in diverse Canadian soils.", 20th World Congress of Soil Science, Jeju, South Korea, June 8-13, 2014, Presentation.

Katulanda, P., Walley, F.L., and Helgason, B.L. (2014). "Comparison of microbial communities in different soils after 21 years of transplantation to a common location.", *Soils and Crops Workshop 2014*, University of Saskatchewan, Saskatoon, SK, Canada, March 11-12, 2014.

Pearce, R., Lemke, R.L., Helgason, B.L., and Farrell, R.E. (2014). "Assessing Potential Soil Microbial "Priming Effects" on N<sub>2</sub>O Emissions as a Result of a Fertilizer Change-Over from Long-Term Manure Applications to Urea.", *Soils and Crops Workshop 2014*, University of Saskatchewan, Saskatoon, SK, Canada, March 11-12, 2014.

Gregorich, E.G., Ellert, B.H., Janzen, H.H., and Helgason, B.L. (2014). "Plant residue decay in diverse Canadian Soils.", *American Society of Agronomy Annual Meetings*, Long Beach, CA, USA, November 2014, Presentation.

Katulanda, P., Walley, F.L., and Helgason, B.L. (2014). "C substrate utilization potential of different Chernozems after 21 years transplanting to common management and climatic conditions.", *American Society of Agronomy Annual Meetings*, Long Beach, CA, USA, November 2014, Presentation.

Banerjee, S.M., Helgason, B.L., Wang, L., Winsley, T., Ferrari, B., and Siciliano, S.D. (2014). "Antecedent Moisture Controls N<sub>2</sub>O Emissions and N-Cycling Communities in Semi-Arid Agricultural Soils.", *International Society of Microbial Ecology International 13th Symposium*, Soul, South Korea, August, 2014.

Gregorich, E.G., Ellert, B.H., Helgason, B.L., and Janzen, H.H. (2014). "Soil disturbance effects on decomposition of plant residues in Canadian agricultural soils.", 20th World Congress of Soil Science, Jeju, South Korea, June, 2014, Presentation.

Helgason, B.L., Banerjee, S.M., Wang, L., Winsley, T., Ferrari, B., and Siciliano, S.D. (2014). "Antecedent Moisture Controls N<sub>2</sub>O Emissions and N-Cycling Communities in Semi-Arid Agricultural Soils.", *Canadian Society of Soil Science Annual Meetings*, Banff, AB, Canada, May 2014.



Blain, N.P., Helgason, B.L., and Germida, J.J. (2014). "Microbial communities associated with the natural vegetation at the Bitmount Provincial Historic Site, Alberta.", Canadian Society of Soil Science Annual Meetings, Banff, AB, Canada, May 2014, Presentation.

Ellert, B.H., Helgason, B.L., Janzen, H.H., and Gregorich, E.G. (2014). "Soil Disturbance Effects on Plant Residue Decay in Canadian Agricultural Soils.", Canadian Society of Soil Science Annual Meetings, Banff, AB, Canada, May 2014.

Katulanda, P., Walley, F.L., and Helgason, B.L. (2014). "Evaluation of Microbial Communities of Different Dark Brown Chernozems after 21 Years of Common Management and Climatic Conditions.", Canadian Society of Soil Science Annual Meetings, Banff, AB, Canada, May 2014.

Pearce, R., Helgason, B.L., Lemke, R.L., and Farrell, R.E. (2014). "Are N<sub>2</sub>O emissions from long-term manure applications linked to microbial abundance?", Canadian Society of Soil Science Annual Meetings, Banff, AB, Canada, May 4-7, 2014, Presentation.

Helgason, B.L., Kuzmich, S.C., Janzen, H.H., Gillespie, A.W., Hemmingsen, S.M., Yergeau, E., Greer, C.W., Germida, J.J., and Leinweber, P. (2014). "Historical Rotation ABC: microbial community structure and diversity over 100 years of wheat production.", 1st global Soil Biodiversity Conference, Dijon, France, December 2014.

Helgason, B.L., VandenBygaart, A.J., Korschuh, H.J., Bedard-Haughn, A., Gillespie, A.W., and Gregorich, E.G. (2014). "Buried C in croplands: How biologically available is it?", Soil Organic Matter 6 Workshop, Kiawah Island, SC, USA, October, 2104, Presentation.

VandenBygaart, A.J., VandenBygaart, A.J., Gregorich, E.G., and Helgason, B.L. (2014). "Carbon Dynamics in Eroded Landscapes: Is Buried Soil Organic Matter Biologically Available?", Canadian Society of Soil Science Annual Meetings, Banff, AB, Canada, May 4-7, 2014, Presentation.

Arcand, M.A., Helgason, B.L., Lemke, R.L., and Ellert, B.H. (2014). "Soil microbial communities and carbon utilization in diversified long-term conventional and organic management systems.", Ecological Society of America Annual Meeting, Sacramento, CA, USA, August, 2014, Presentation.

## 2013

Katulanda, P., Helgason, B.L., and Walley, F.L. (2013). "Assessing microbial communities in different soils after transplantation to a common location.", Soils and Crops Workshop 2013, Prairieland Park, Saskatoon, SK, Canada, March 5-6, 2013.

Kuzmich, S.C. and Helgason, B.L. (2013). "100 years of farming: long-term differences in cropping intensity and N fertilization impact microbial community structure.", Soils and Crops Workshop 2013, Prairieland Park, Saskatoon, SK, Canada, March 5-6, 2013.

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## Research Publications:

2015

Zhang, P., Hiebert, C.W., McIntosh, R.A., McCallum, B.D., Thomas, J.B., Hoxha, S., Singh, D., and Bansal, U. (2015). "The relationship of leaf rust resistance gene Lr13 and hybrid necrosis gene Ne2m on wheat chromosome 2BS.", *Theoretical and Applied Genetics (TAG)*, pp. 1-9. doi : 10.1007/s00122-015-2642-6

McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M., Pozniak, C.J., Uauy, C., Förster, R.J., Ordon, F., Sharpe, A.G., Fobert, P., Fox, S.L., You, F.M., Thomas, J., Hiebert, C.W., Jordan, M.C., and Costamagna, A. (2015). "Management of Wheat Midge with Host Genetics.", Department of Entomology Seminar Series, University of Manitoba, Winnipeg, MB, Canada, January 27, 2015, Invited presentation.

Hiebert, C.W., Spielmeyer, W., McCartney, C., Kassa, M.T., Fetch Jr., T.G., You, F.M., Menzies, J.G., Humphreys, D.G., and McCallum, B.D. (2015). "Stem rust resistance: two approaches.", in Ogihara, Y. et al. (eds.) - *Proceedings of the 12th International Wheat Genetics Symposium*, Springer, Chapter 20, pp. 183-191.

2014

Rouse, M.N., Jin, Y., Chao, S., Fetch Jr., T.G., Pretorius, Z.A., and Hiebert, C.W. (2014). "Characterization of Sr9h, a wheat stem rust resistance allele effective to Ug99.", *Theoretical and Applied Genetics (TAG)*, 127(8), pp. 1681-1688. doi : 10.1007/s00122-014-2330-y

Hiebert, C.W., McCallum, B.D., and Thomas, J.B. (2014). "Lr70, a new gene for leaf rust resistance mapped in common wheat accession KU3198.", *Theoretical and Applied Genetics (TAG)*, 127(9), pp. 2005-2009. doi : 10.1007/s00122-014-2356-1

2013

Ghazvini, H., Hiebert, C.W., Thomas, J.B., and Fetch Jr., T.G. (2013). "Development of a multiple bulked segregant analysis (MBSA) method used to locate a new stem rust resistance gene (Sr54) in the winter wheat cultivar Norin 40.", *Theoretical and Applied Genetics (TAG)*, 126(2), pp. 443-449. doi: 10.1007/s00122-012-1992-6

Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Menzies, J.G., Pozniak, C.J., Sharpe, A.G., Fobert, P., Rezac, N., and others (2013). "Fine mapping of the wheat leaf rust resistance gene Lr16.", *International Wheat Genetics Symposium*, Yokohama, Japan, September 8-14, 2013.

Boyce, M., Brule-Babel, A., Brûlé-Babel, A.L., Hiebert, C.W., and McCallum, B.D. (2013). "Identification, characterization and mapping of a new leaf rust (*Puccinia triticina*) resistance gene in spring wheat (*Triticum aestivum*).", *The American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America 2013 International Annual Meetings*, Tampa, FL, USA, November 3-6, 2013.

2012

Ghazvini, H., Hiebert, C.W., Zegeye, T., Liu, S., Dilawari, M., Tsilo, T., Anderson, J.A., Rouse, M.N., Jin, Y., and Fetch Jr., T.G. (2012). "Inheritance of resistance to Ug99 stem rust in wheat cultivar Norin 40 and genetic mapping of Sr42.", *Theoretical and Applied Genetics (TAG)*, 125(4), pp. 817-824. doi: 10.1007/s00122-012-1874-y

2011

Hiebert, C.W., Fetch Jr., T.G., Zegeye, T., Thomas, J.B., Somers, D.J., Humphreys, D.G., McCallum, B.D., Cloutier, S., Singh, D., and Knott, D.R. (2011). "Genetics and mapping of seedling resistance to Ug99 stem rust in Canadian wheat cultivars 'Peace' and 'AC Cadillac'.", *Theoretical and Applied Genetics (TAG)*, 122(1), pp. 143-149. doi : 10.1007/s00122-010-1430-6

## Other Science Related Publications:

## 2015

Kassa, M.T., You, F.M., Hiebert, C.W., McCallum, B.D., Cabral, A.L., Panwar, V., Pozniak, C.J., Fetch Jr., T.G., Zegeye, T., Menzies, J.G., Humphreys, D.G., Fobert, P., Sharpe, A.G., Jordan, M.C., and McCartney, C.A. (2015). "Targeting high impact wheat resistance genes for leaf rust, Ug99 stem rust and wheat midge.", Canadian Wheat Alliance Annual Science and Business Meeting (Invited), Saskatoon, SK, Canada, July 14-16, 2015. (Presentation)

Babel, C.M., McCallum, B.D., Fetch Jr., T.G., Hiebert, C.W., and McCartney, C.A. (2015). "Genetic mapping of stem and leaf rust resistance in the spring wheat line Kavkaz-K4500.", Manitoba Regional Meeting of the Canadian Phytopathological Society, December 7, 2015. (Presentation)

Kassa, M.T., Hiebert, C.W., You, F.M., Fobert, P., Jordan, M.C., Sharpe, A.G., Pozniak, C.J., Fetch Jr., T.G., Zegeye, T., Menzies, J.G., and McCartney, C. (2015). "Genetic mapping and marker development for high-throughput marker-assisted breeding for Ug99 stem rust resistance gene SrCad/Sr42.", Botany 2015 Joint Conference: Science and plants for people, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015.

Babel, C.M., McCallum, B.D., Fetch Jr., T.G., Hiebert, C.W., and McCartney, C.A. (2015). "Gene mapping resistance genes for stem and leaf rust resistance in wheat.", International Cereal Rusts and Powdery Mildews Conference, Helsingør, Denmark, July 6-8, 2015. (Poster)

McCartney, C.A., Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Panwar, V., Pozniak, C.J., Menzies, J.G., Humphreys, D.G., Fobert, P., Sharpe, A.G., and Jordan, M.C. (2015). "Progress towards sequencing the leaf rust resistance gene Lr16.", International Wheat Conference 2015, Sydney, Australia, September 20-25, 2015.

McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M., Pozniak, C.J., Uauy, C., Förster, R.J., Ordon, F., Sharpe, A.G., Fobert, P., Fox, S.L., You, F.M., Thomas, J., Hiebert, C.W., Jordan, M.C., and Costamagna, A. (2015). "Management of Wheat Midge with Host Genetics.", Department of Entomology Seminar Series (Invited), University of Manitoba, Winnipeg, MB, Canada, January 27, 2015. (Presentation)

Spielmeier, W., Mago, R., Tabe, L., Hiebert, C.W., Briggs, J., Kolmer, J.A., McCartney, C.A., Rouse, M.N., and Ellis, J.L. (2015). "Durable but complex: stem rust resistance from emmer wheat.", International Cereal Rusts and Powdery Mildews Conference, Helsingør, Denmark, July 6-8, 2015.

Hiebert, C.W., McCartney, C.A., Kassa, M.T., You, F.M., Pozniak, C.J., Fobert, P., and Fetch Jr., T.G. (2015). "Genetic mapping of resistance to Puccinia graminis race TTKSK in Triumph 64.", Borlaug Global Rust Initiative Workshop, Sydney, Australia, September 17-20, 2015. (Poster)

## 2014

McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M.A.H., Pozniak, C.J., Sharpe, A.G., Fobert, P., Fox, S.L., Thomas, J.B., Hiebert, C.W., Jordan, M.C., and Costamagna, A. (2014). "Managing Wheat Midge with Host Genetics.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Abstract)

Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Panwar, V., Menzies, J.G., Pozniak, C.J., Sharpe, A.G., Fobert, P., Jordan, M.C., and McCartney, C.A. (2014). "Fine Mapping of the Wheat Leaf Rust Resistance Gene Lr16.", XXII Plant & Animal Genome Conference, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014.

Zhang, B., Chi, D., Hiebert, C.W., Fetch Jr., T.G., Xue, A.G., Cao, W., and Fedak, G. (2014). "Pyramiding genes for resistance to stem rust, leaf rust and FHB.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

## 2013

Kassa, M.T., Hiebert, C.W., You, F.M., Jordan, M.C., Fobert, P., Sharpe, A.G., Pozniak, C.J., Zegeye, T., Fetch Jr., T.G., and McCartney, C.A. (2013). "Fine mapping of Ug99 stem rust resistance gene SrCad.", Canadian Phytopathological Society Annual Meeting, Edmonton, AB, Canada, June 16-19, 2013.

Kassa, M.T., Hiebert, C.W., You, F.M., Jordan, M.C., Fobert, P., Sharpe, A.G., Pozniak, C.J., Zegeye, T., Fetch Jr., T.G., Menzies, J.G., Humphreys, D.G., and McCartney, C.A. (2013). "Molecular Diagnosis of SrCad and Sr42 resistance genes.", North American Cereal Rust Workers Meeting, Winnipeg, MB, Canada, March 20, 2013.

Kassa, M.T., McCartney, C.A., You, F.M., Hiebert, C.W., Jordan, M.C., Pozniak, C.J., MacLachlan, R., McCallum, B.D., Fox, S.L., Wise, I.L., and Thomas, J.B. (2013). "Marker development for wheat leaf rust resistance gene Lr16 and wheat midge resistance gene Sm1 in Canadian wheat cultivars.", Plant & Animal Genome XXI Conference, Town & Country Convention Center, San Diego, CA, USA, January 12-16, 2013.

McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M., Fox, S.L., You, F.M., Thomas, J., Hiebert, C.W., Jordan, M.C., and Pozniak, C.J. (2013). "Efforts to manage wheat midge through host genetics.", 69th Annual Meeting of the Entomological Society of Manitoba, Winnipeg, MB, Canada, November 1-2, 2013, Invited Keynote Speech.

Hiebert, C.W., Spielmeier, W., McCartney, C.A., Kassa, M.T., Fetch Jr., T.G., You, F.M., Menzies, J.G., Humphreys, D.G., and McCallum, B.D. (2013). "Stem rust resistance - two approaches.", 12th International Wheat Genetics Symposium (IWGS), Yokohama, Japan, September 8-14, 2013, Invited presentation.

McCartney, C.A., Kassa, M.T., Cabral, A.L., Hiebert, C.W., You, F.M., Jordan, M.C., Menzies, J.G., Humphreys, D.G., Fellers, J.P., Rezac, N., Fobert, P., Sharpe, A.G., Pozniak, C.J., and McCallum, B.D. (2013). "Molecular Analysis of the Lr16 Locus.", North American Cereal Rust Workers Meeting, Winnipeg, MB, Canada, March 20, 2013.

Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Menzies, J.G., Pozniak, C.J., Sharpe, A.G., Fobert, P., Jordan, M.C., and McCartney, C.A. (2013). "Fine mapping of the wheat leaf rust resistance gene Lr16.", 12th International Wheat Genetics Symposium (IWGS), Yokohama, Japan, September 8-14, 2013. (Poster)

Zhang, B.L., Chi, D., Cao, W., Xue, A.G., Fetch Jr., T.G., Hiebert, C.W., and Fedak, G. (2013). "Pyramiding disease resistance genes in wheat.", 7th International Triticeae Symposium, Chengdu, China, June 9-14, 2013, pp. 90.

## 2012

McCallum, B.D. and Hiebert, C.W. (2012). "Characterization of the wheat leaf rust resistance gene LrCen.", XX Plant and Animal Genome Conference, San Diego, CA, USA, January 14-18, 2012. (Poster)

Kassa, M.T., McCartney, C.A., You, F.M., McCallum, B.D., Hiebert, C.W., and Jordan, M.C. (2012). "Marker development for the wheat leaf rust resistance gene Lr16 using a comparative genomic approach.", 22nd International Triticeae Mapping Initiative (ITMI) and 4th National Wheat Genomics Committee Joint Workshop, Fargo, ND, USA, June 25-29, 2012.

McCallum, B.D., Hiebert, C.W., Huerta-Espino, J., and Cloutier, S. (2012). "Wheat Leaf Rust.", in Sharma, I. (ed.) - Disease Resistance in Wheat. CABI Plant Protection Series, CABI Publishing, Wallingford, UK, Chapter 3, pp. 33-63.

Hiebert, C.W. (2012). "Association of Lr67 with nonsuppression of seedling stem rust resistance in the wheat cultivar Thatcher.", 13th International Cereal Rusts and Powdery Mildews Conference (ICRPMC), Beijing Friendship Hotel, Beijing, China, August 28-31, 2012.

Cabral, A.L., McCartney, C., McCartney, C.A., Hiebert, C.W., McCallum, B.D., and Jordan, M.C. (2012). "Utility of EMS mutants in rust resistance studies and map based cloning in wheat.", 2012 International Tritici Mapping Initiative, Fargo, ND, USA. (Poster)

## 2011

McCallum, B.D., Humphreys, D.G., DePauw, R.M., and Hiebert, C.W. (2011). "The effect of leaf rust on 'Thatcher' near-isogenic wheat lines.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011. (Poster)

Fox, S.L., DePauw, R.M., Humphreys, D.G., Hucl, P.J., Singh, A.K., Pozniak, C.J., Brown, P.D., Graf, R.J., Randhawa, H.S., Voldeng, H.D., McCartney, C.A., Hiebert, C.W., Knox, R.E., Thomas, J.B., Townley-Smith, L., and Fetch Jr., T.G. (2011). "Canadian initiatives in breeding for stem rust resistance to race Ug99 and variants.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, pp. 121-126.

Ghazvini, H., Hiebert, C.W., Zegeye, T., and Fetch Jr., T.G. (2011). "Mapping resistance to race Ug99 stem rust in Norin 40 (Sr42).", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, Poster #65. (Poster)

Ghazvini, H., Hiebert, C.W., Zegeye, T., and Fetch Jr., T.G. (2011). "Identification of a stem rust resistance gene in wheat line Tr129 with an introgression from *Aegilops triuncialis* genome.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011, Poster CPS-9. (Poster)

McCallum, B.D., Fetch Jr., T.G., Hiebert, C.W., and Thomas, J.B. (2011). "The effect of Lr34 on wheat stem rust.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, Poster #66. (Poster)

Ghazvini, H., Hiebert, C.W., Thomas, J.B., Zegeye, T., and Fetch Jr., T.G. (2011). "Linkage maps of two new stem rust resistance genes on chromosomes 2B and 6A of wheat line Tr129.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, pp. 48.

Hiebert, C.W. (2011). "An alternative approach for identifying the chromosome location of new genes.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Ghazvini, H., Hiebert, C.W., and Fetch Jr., T.G. (2011). "Mapping wheat stem rust gene Sr42 using DNA markers.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011.

Hiebert, C.W., McCallum, B.D., and Popovic, M. (2011). "Identification of introgressions carrying wheat leaf rust resistance genes in five near-isogenic lines using SSR markers.", Plant & Animal Genome XIX Conference, Town & Country Convention Center, San Diego, CA, USA, January 15-19, 2011.

Fox, S.L., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Wise, I.L., Smith, M.A.H., Thomas, J.B., Hiebert, C.W., McCartney, C.A., Lukow, O.M., and Niziol, D. (2011). "Breeding for Canada's premier wheat marker class: Canadian Western Red Spring.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

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## Research Publications:

2014

Jamieson, A.R., Hildebrand, P.D., Renderos, W.E., and Fillmore, S.A.E. (2014). "Resistance to angular leafspot disease of strawberry: Influence of seedling age.", *Acta Horticulturae (ISHS)*, 1049, pp. 187-191.

2013

Braun, P.G. and Hildebrand, P.D. (2013). "Effect of sugar alcohols, antioxidants and activators of systemically acquired resistance on severity of bacterial angular leaf spot (*Xanthomonas fragariae*) of strawberry in controlled environment conditions.", *Canadian Journal of Plant Pathology*, 35(1), pp. 20-26. doi: 10.1080/07060661.2012.751937

Jamieson, A.R., Hildebrand, P.D., and Renderos, W.E. (2013). "Breeding Strawberry Plants Resistant to Angular Leafspot Disease.", *International Journal of Fruit Science*, 13(1-2), pp. 28-35. doi: 10.1080/15538362.2012.696959

2012

Privé, J.-P., Russell, L., Hildebrand, P.D., Boyd, N., and Percival, D.C. (2012). "Intelligent Irrigation of Lowbush Blueberries in Atlantic Canada.", *Acta Horticulturae (ISHS)*, 926, pp. 471-476.

## Other Science Related Publications:

2011

Hildebrand, P.D., Renderos, W.E., Fillmore, S.A.E., and Walker, B.A. (2011). "Effect of fertilizer on components of the disease cycle of *Valdensinia heterodoxa* in lowbush blueberry.", *Wild Blueberry Producers Association of Nova Scotia Annual Meeting*, Truro, Nova Scotia, Canada, November 18, 2011.

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## Research Publications :

2015

Balasubramanian, P.M., Mündel, H.-H., Chatterton, S., Conner, R.L., and Hou, A. (2015). "AAC Burdett pinto dry bean.", *Canadian Journal of Plant Science*, 95(1), pp. 179-181. doi : 10.4141/cjps-2014-248

Balasubramanian, P.M., Mündel, H.-H., Chatterton, S., Conner, R.L., and Hou, A. (2015). "AAC Whitehorse great northern dry bean.", *Canadian Journal of Plant Science*, 95(1), pp. 175-177. doi : 10.4141/cjps-2014-247

Balasubramanian, P.M., Mündel, H.-H., Conner, R.L., Chatterton, S., and Hou, A. (2015). "AAC BlackDiamond2 dry bean.", *Canadian Journal of Plant Science*, 95(2), pp. 437-440. doi : 10.4141/cjps-2014-249

Boersma, J.G., Hou, A., Gillard, C.L., McRae, K.B., and Conner, R.L. (2015). "Impact of common bacterial blight on the yield, seed weight and seed discoloration of different market classes of dry beans (*Phaseolus vulgaris* L.)", *Canadian Journal of Plant Science*, 95(4), pp. 703-710. doi : 10.4141/cjps-2014-399

2014

Pandurangan, S., Sandercock, M., Beyaert, R.P., Conn, K.L., Hou, A., and Marsolais, F. (2014). "Differential response to sulfur nutrition of two common bean genotypes differing in storage protein composition.", *Frontiers in Plant Science*, 6(Feb: Article 92), pp. 1-11. doi : 10.3389/fpls.2015.00092

Navabi, A., Balasubramanian, P.M., Pauls, K.P., Bett, K.E., and Hou, A. (2014). "Genetic diversity of the Canadian dry bean varieties released since 1930: A pedigree analysis.", *Crop Science*, 54(3), pp. 993-1003. doi : 10.2135/cropsci2013.04.0210

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Navabi, A., Yu, K., and Hou, A. (2014). "Combining resistance to common bacterial blight, anthracnose, and bean common mosaic virus into Manitoba-adapted dry bean (*Phaseolus vulgaris* L.) cultivars.", *Canadian Journal of Plant Science*, 94(2), pp. 405-415. doi : 10.4141/CJPS2013-281

Balasubramanian, P.M., Conner, R.L., McLaren, D.L., Chatterton, S., and Hou, A. (2014). "Partial resistance to white mould in dry bean.", *Canadian Journal of Plant Science*, 94(4), pp. 683-691. doi : 10.4141/cjps2013-312

Conner, R.L., Hou, A., Balasubramanian, P.M., McLaren, D.L., Henriquez, M.A., Chang, K.F., and McRae, K.B. (2014). "Reaction of dry bean cultivars grown in western Canada to root rot inoculation.", *Canadian Journal of Plant Science*, 94(7), pp. 1219-1230. doi : 10.4141/CJPS2013-416

2013

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Yu, K., and Hou, A. (2013). "Marker-assisted dissection of anthracnose resistance in the dry bean cultivar 'Morden003'", *Canadian Journal of Plant Science*, 93(6), pp. 1115-1123. doi : 10.4141/CJPS2013-085

2012

Balasubramanian, P.M., Mündel, H.-H., Conner, R.L., and Hou, A. (2012). "AAC Tundra great northern dry bean.", *Canadian Journal of Plant Science*, 92(7), pp. 1403-1405. doi : 10.4141/cjps2012-066

2011

Saldivar, X.Y., Wang, Y.-J., Chen, P., and Hou, A. (2011). "Changes in chemical composition during soybean seed development.", *Food Chemistry*, 124(4), pp. 1369-1375. doi : 10.1016/j.foodchem.2010.07.091

Hou, A., Balasubramanian, P.M., Conner, R.L., Park, S.J., Yu, K., Kiehn, F.A., and Navabi, A. (2011). "Portage common bean.", *Canadian Journal of Plant Science*, 91(3), pp. 523-525. doi : 10.4141/cjps2010-015

Balasubramanian, P.M., Hou, A., Conner, R.L., Kiehn, F.A., and Mündel, H.-H. (2011). "Carman Black dry bean.", *Canadian Journal of Plant Science*, 91(3), pp. 519-521. doi : 10.4141/cjps2010-005

## Other Science Related Publications :

## 2015

Wang, N., Hou, A., and Santos, J. (2015). "Effects of dry bean cultivars and growing locations on seed physicochemical and cooking quality.", Bean Improvement Cooperatives 2015, Niagara Falls, ON, Canada, November 1-4, 2015. (Poster)

Sandhu, K.S. and Hou, A. (2015). "Genetic analysis of seed hardness trait in a recombinant inbred line population of common bean. Poster presentation.", Bean Improvement Cooperatives 2015, Niagara Falls, ON, Canada, November 1-4, 2015. (Abstract)

Hou, A., Sandercock, M., and Conner, R.L. (2015). Long Season Wide Row Dry Bean Cooperative Registration Trials Annual Report to PGDC. (Report)

## 2014

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Navabi, A., Yu, K., and Hou, A. (2014). "Combining resistance to common bacterial blight, anthracnose and bean common mosaic virus in dry bean.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014, Presentation. (Poster)

Pandurangan, S., Sandercock, M., Hou, A., and Marsolais, F. (2014). "Differential response to sulphur nutrition of two common bean genotypes differing in storage protein composition. Poster presentation.", 9th International Workshop on Sulfur Metabolism in Plants "Molecular Physiology and Ecophysiology of Sulfur", Freiburg, Germany, April 14-17, 2014.

Hou, A., Marsolais, F., Pajak, A., and Conner, R.L. (2014). "Genetic improvement of protein quality in edible beans with adaptation to Manitoba.", Annual Report of the Bean Improvement Cooperative (BIC), 57(129).

Conner, R.L., Hou, A., Balasubramanian, P.M., McLaren, D.L., Henriquez, M.A., Chang, K.F., and McRae, K.B. (2014). "Reactions of dry bean cultivars from western Canada to root rot.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014. (Poster)

## 2013

Hou, A., Conner, R.L., Balasubramanian, P.M., and Boersma, J.G. (2013). "Black bean (*Phaseolus vulgaris* L.) germplasm rich in anthracnose resistance.", Bean Improvement Cooperatives, Portland, OR, USA, October 28-30, 2013. (Poster)

Hou, A., Marsolais, F., Pajak, A., and Conner, R.L. (2013). "Genetic improvement of protein quality in edible beans with adaptation to Manitoba. Poster presentation.", Bean Improvement Cooperatives, Portland, OR, USA, October 28-30, 2013. (Poster)

## 2012

Balasubramanian, P.M., Conner, R.L., McLaren, D.L., Chatterton, S., and Hou, A. (2012). "Development of dry bean cultivars with resistance to white mold. Oral presentation.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, Oral presentation.

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Yu, K., and Hou, A. (2012). "Molecular marker-assisted dissection of anthracnose resistance in the common dry bean cultivar, 'morden003'.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, Poster.

Hou, A., Marsolais, F., Pajak, A., and Conner, R.L. (2012). "Genetic improvement of protein quality in edible beans with adaptation to Manitoba.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, Poster.

Balasubramanian, P.M., Chatterton, S., Hou, A., Conner, R.L., McLaren, D.L., Navabi, A., Pauls, K.P., and Bett, K.E. (2012). "Dry bean improvement on the prairies for high yield, disease resistance and seed quality.", Pulse Science Cluster Scientific Meeting 2012, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 5-6, 2012.

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Navabi, A., Yu, K., and Hou, A. (2012). "Pyramiding resistance to common bacterial blight, anthracnose and bean common mosaic virus in dry bean.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, Poster.

## 2011

Balasubramanian, P.M., Hou, A., Conner, R.L., McLaren, D.L., Navabi, A., and Pauls, K.P. (2011). "Improvement of dry bean on the prairies for high yield, disease resistance and seed quality.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011.

Yu, K., Navabi, A., Hou, A., and Balasubramanian, P.M. (2011). "An update on the molecular development and marker-assisted selection in AAFC bean breeding programs.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011.

Hou, A., Conner, R.L., and Balasubramanian, P.M. (2011). "Dry bean breeding research." , Pulse Beat, 2011(64), pp. 38.

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Gillard, C.L., and Hou, A. (2011). "Evaluation of dry bean lines for resistance to common bacterial blight." , Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.



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## Research Publications:

2015

Du, Y., Huffman, E.C., Daneshfar, B., Green, M., Feng, F., Liu, J., Liu, T., and Liu, H. (2015). "Improving the spatial resolution and ecostratification of crop yield estimates in Canada.", *Canadian Journal of Soil Science*, 95(3), pp. 287-297.

Shang, J., Liu, J., Ma, B.-L., Zhao, T., Jiao, X., Geng, X.Y., Huffman, E.C., Kovacs, J.M., and Walters, D. (2015). "Mapping spatial variability of crop growth conditions using RapidEye data in Northern Ontario, Canada.", *Remote Sensing of Environment*, 168, pp. 113-125. doi : 10.1016/j.rse.2015.06.024

Dong, T., Meng, J., Shang, J., Liu, J., Wu, B., and Huffman, E.C. (2015). "Modified vegetation indices for estimating crop fraction of absorbed photosynthetically active radiation.", *International Journal of Remote Sensing*, 36(12), pp. 3097-3113. doi : 10.1080/01431161.2015.1042122

Du, Y., Liu, T.T., Huffman, E.C., McConkey, B.G., Toure, S., Feng, F., Green, M., Liu, J., and Liu, H.J. (2015). "Integrating socio-economic and biophysical models: revision of a land use allocation model.", *Soil Use and Management*, 31(3), pp. 417-420. doi : 10.1111/sum.12193

Yemshanov, D., Koch, F.H., Riitters, K.H., McConkey, B.G., Huffman, E.C., and Smith, S. (2015). "Assessing land clearing potential in the Canadian agriculture – forestry interface with a multi-attribute frontier approach.", *Ecological Indicators*, 54(Article number 2316), pp. 71-81. doi: 10.1016/j.ecolind.2015.02.019

Jing, Q., Shang, J., Qian, B., Hoogenboom, G., Huffman, E.C., Liu, J., Ma, B.-L., Geng, X.Y., Jiao, X., Kovacs, J.M., and Walters, D. (2015). "Evaluation of the CSM-CROPGRO-Canola Model for Simulating Canola Growth and Yield at West Nipissing in Eastern Canada.", *Agronomy Journal*. doi: 10.2134/agronj2015.0401

Huffman, E.C., Liu, J., McGovern, M., McConkey, B.G., and Martin, T.J. (2015). "Carbon stock and change from woody biomass on Canada's cropland between 1990 and 2000.", *Agriculture, Ecosystems and Environment*, 205, pp. 102-111. doi : 10.1016/j.agee.2014.10.009

Huffman, E.C., Qian, B., DeJong, R., Liu, J., Wang, H., McConkey, B.G., Brierley, J.A., and Yang, J.Y. (2015). "Upscaling modelled crop yields to regional scale: A case study using DSSAT for spring wheat on the Canadian Prairies.", *Canadian Journal of Soil Science*, 95(1), pp. 49-61. doi: 10.4141/cjss-2014-076

Qian, B., DeJong, R., Huffman, E.C., Wang, H., and Yang, J.Y. (2015). "Projecting yield changes of spring wheat under future climate scenarios on the Canadian Prairies.", *Theoretical and applied climatology*. doi : 10.1007/s00704-015-1378-1

Liu, H.J., Huffman, E.C., Liu, J., Li, Z., Daneshfar, B., and Zhang, X.L. (2015). "Integration of multi-disciplinary geospatial data for delineating agroecosystem uniform management zones.", *Environmental Monitoring and Assessment*, 187(1: 4102). doi : 10.1007/s10661-014-4102-1

2014

Yemshanov, D., McKenney, D.W., Fraleigh, S., McConkey, B.G., Huffman, E.C., and Smith, S. (2014). "Cost estimates of post-harvest forest biomass supply for Canada.", *Biomass and Bioenergy*, 69, pp. 80-94. doi: 10.1016/j.biombioe.2014.07.002

Zhang, X., Huffman, E.C., Liu, J., and Liu, H. (2014). "Soil Capability as a predictor of Cropland Change in Alberta, Canada from 1998 to 2010.", *Soil Use and Management*, 30, pp. 403-413. doi : 10.1111/sum.12134

Huffman, E.C., Liu, J., Green, M., Coote, D., Li, Z., Liu, H.J., Liu, T.T., Zhang, X.L., and Du, Y. (2014). "Improving and evaluating the soil cover indicator for agricultural land in Canada.", *Ecological Indicators*, 48, pp. 272-281. doi : 10.1016/j.ecolind.2014.07.008

Zhang, S., Huffman, E.C., Zhang, X., and Liu, W. (2014). "Spatial distribution of soil nutrient at depth in black soil of Northeast China: a case study of soil available phosphorus and total phosphorus.", *Journal of Soils and Sediments*, 14(11), pp. 1775-1789. doi : 10.1007/s11368-014-0935-z

Shang, J., Liu, J., Huffman, E.C., Qian, B., Pattey, E., Wang, J., Geng, X.Y., Kroetsch, D.J., Dong, T., and Lantz, N. (2014). "Estimating plant area index for monitoring crop growth dynamics using Landsat-8 and RapidEye images.", *Journal of Applied Remote Sensing*, 8(1: Article number 14482SS). doi : 10.1117/1.JRS.8.085196

Liu, T.T., McConkey, B.G., Huffman, E.C., Smith, S., MacGregor, B., Yemshanov, D., and Kulshreshtha, S. (2014). "Potential and impacts of renewable energy production from agricultural biomass in Canada.", *Applied Energy*, 130, pp. 222-229. doi : 10.1016/j.apenergy.2014.05.044

## 2013

Qian, B., De Jong, R., Gameda, S.B., Huffman, E.C., Neilsen, D., Desjardins, R.L., Wang, H., and McConkey, B.G. (2013). "Impact of climate change scenarios on Canadian agroclimatic indices.", *Canadian Journal of Soil Science*, 93(2), pp. 243-259. doi : 10.4141/CJSS2012-053

Du, Y., Huffman, E.C., Toure, S., Feng, F., Gameda, S.B., Green, M., Liu, T.T., and Shi, X.H. (2013). "Integrating socio-economic and soil biophysical assessments using a land use allocation model.", *Soil Use and Management*, 29(1), pp. 140-149. doi : 10.1111/sum.12018

Li, Z., Huffman, E.C., McConkey, B.G., and Townley-Smith, L. (2013). "Monitoring and modeling spatial and temporal patterns of grassland dynamics using time-series MODIS NDVI with climate and stocking data.", *Remote Sensing of Environment*, 138, pp. 232-244. doi : 10.1016/j.rse.2013.07.020

Yang, J.Y., Drury, C.F., De Jong, R., Huffman, E.C., Yang, X.M., and Reid, D.K. (2013). "Sensitivity analysis for nitrogen inputs, nitrogen outputs, and changes in biofuel crop acreages for predicting residual soil nitrogen and nitrate leaching in Canadian agricultural soils.", *Ecological Modelling*, 267, pp. 26-38. doi : 10.1016/j.ecolmodel.2013.07.016

## 2012

Liu, X., Burras, C.L., Kravchenko, Y.S., Duran, A., Huffman, E.C., Morras, H., Studdert, G., Zhang, X., Cruse, R.M., and Yuan, X. (2012). "Overview of Mollisols in the world: Distribution, land use and management.", *Canadian Journal of Soil Science*, 92(3), pp. 383-402. doi : 10.4141/CJSS2010-058

Huffman, E.C., Coote, D., and Green, M. (2012). "Twenty-Five Years of Changes in Soil Cover on Canadian Grassland Soils (Mollisols), and the Impact on the Risk of Soil Degradation.", *Canadian Journal of Soil Science*, 92(3), pp. 471-479. doi : 10.4141/cjss2011-019

Xie, Y., Yang, J.Y., Du, S.L., Zhao, J., Li, Y., and Huffman, E.C. (2012). "A GIS-based fertilizer decision support system for farmers in Northeast China: a case study at Tong-le village.", *Nutrient Cycling in Agroecosystems*, 93(3), pp. 323-336. doi : 10.1007/s10705-012-9519-8

Champagne, C., Berg, A.A., McNaim, H., Drewitt, G.B., and Huffman, E.C. (2012). "Evaluation of Soil Moisture Extremes for Agricultural Productivity in the Canadian Prairies.", *Agricultural and Forest Meteorology*, 165, pp. 1-11. doi : 10.1016/j.agrformet.2012.06.003

Yang, J.Y., Huffman, E.C., Drury, C.F., Yang, X.M., DeJong, R., and Campbell, C.A. (2012). "Estimating changes of residual soil nitrogen in Chernozemic soils in Canada.", *Canadian Journal of Soil Science*, 92(3), pp. 481-491. doi : 10.4141/CJSS2010-37

Li, Z., Huffman, E.C., Zhang, A., Zhou, F., and McConkey, B.G. (2012). "Spatially locating soil classes within complex soil polygons - Mapping soil capability for agriculture in Saskatchewan Canada.", *Agriculture, Ecosystems and Environment*, 152(6), pp. 59-67. doi : 10.1016/j.agee.2012.02.007

## 2011

Yang, J.Y., Huffman, E.C., Drury, C.F., Yang, X.M., DeJong, R., Jin, J.Y., He, P., Bai, Y.L. (2011). "Estimating the impact of manure nitrogen losses on total nitrogen application on agricultural land in Canada.", *Canadian Journal of Soil Science*, 91(1), pp. 107-122. doi : 10.4141/CJSS10052

Zhang, S., Zhang, X., Huffman, E.C., Liu, X., and Yang, J.Y. (2011). "Soil Loss, Crop Growth, and Economic Margins under Different Management Systems on a Sloping Field in the Black Soil Area of Northeast China.", *Journal of Sustainable Agriculture*, 35(3), pp. 293-311. doi : 10.1080/10440046.2011.554307

Zhang, S., Zhang, X., Huffman, E.C., Liu, X., and Yang, J.Y. (2011). "Influence of topography and land management on soil nutrients variability in Northeast China.", *Nutrient Cycling in Agroecosystems*, 89(3), pp. 427-438. doi : 10.1007/s10705-010-9406-0

## Other Science Related Publications:

### 2015

Joose, P., Speranzini, D., Reid, K., Huffman, E.C., and Feisthauer, N. (2015). "Defining and analyzing agricultural production systems to determine the capacity to make soil and nutrient management improvements in the Canadian Lake Erie Basin.", 70th Soil and Water Conservation Society Conference, Greensboro, NC, USA, July 26-29, 2015.

## 2014

Liu, J., Huffman, E.C., Qian, B., Shang, J., and Dong, T. (2014). "Assessment of MODIS products for crop yield estimation in the Canadian Prairies.", 3rd International Conference on Agro-Geoinformatics, Beijing, China, August 11-14, 2014, Oral presentation.

McConkey, B.G., Smith, S., Vergé, X.P.C., Desjardins, R.L., MacGregor, B., Worth, D.E., Liu, T.T., Cerkowniak, D.D., and Huffman, E.C. (2014). "Experience using 2006 GL AFOLU methods for estimating mitigation potential for agriculture and carbon footprint of primary agricultural products.", IPCC expert meeting on application of greenhouse gas methodology for purposes other than inventory reporting, Sophia, Bulgaria, July 1-4, 2014.

Yang, J.Y., Huffman, E.C., Drury, C.F., Yang, X.M., De Jong, R., and Campbell, C.A. (2014). "Estimating Changes of Residual Soil Nitrogen in Chernozemic Soils in Canada.", CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.

McConkey, B.G., Martin, T.J., Huffman, E.C., Cerkowniak, D.D., Desjardins, R.L., Worth, D.E., and Liang, C. (2014). "Canada's Agricultural GHG Inventory Methods and Issues with their Application at the Entity and Commodity Levels.", 7th Forestry and Agriculture Greenhouse Gas Modeling Forum, National Conservation Training Centre, Shepherdstown, WV, USA, June 1-4, 2014.

Shang, J., Liu, J., Huffman, E.C., Qian, B., Pattey, E., Zhao, T., Ma, B.-L., and Wang, J.M. (2014). "Estimation of crop leaf area index using Landsat-8 and Rapideye images.", 3rd International Conference on Agro-Geoinformatics, Beijing, China, August 11-14, 2014.

Pattey, E., Jégo, G., VanderZaag, A.C., Liu, J., Qian, B., Smith, W.N., Geng, X.Y., Baret, F., Beaudoin, N., Desjardins, R.L., Fernandes, R., Jarvis, I.E., Huffman, E.C., Lacaze, R., and McNair, H. (2014). "JECAM CFIA -Ottawa.", JECAM/GEOGLAM Science Meeting, Ottawa, Canada, July 21-23, 2014, Oral presentation.

Shang, J., Huffman, E.C., Liu, J., Ma, B.-L., Zhao, T., Qian, B., McNair, H., Geng, X.Y., Lantz, N., and Wang, J. (2014). "Using Earth Observation to Monitor Corn Growth in Eastern Canada.", 68th North Eastern Corn Improvement Conference, Wooster, Ohio, USA, February 13-14, 2014.

## 2013

Liu, H.L., Zhang, X., Ding, X.D., Huffman, E.C., and Liu, J. (2013). "Delineating regional and local Uniform Management Zones for Agroecosystems using geospatial data.", Agro-Geoinformatics 2014, Fairfax, VA, USA, August 12-16, 2013, Doi:10.1109/Agro-Geoinformatics.2013.6621978.

Huffman, E.C. (2013). Land Resource Research in The Innovators – Rooted in Science; The History of Research Branch from 1986 to 2011. Martel, Y., Deschênes, J.-M. and Corbeil, N. (eds). No. 12151E, Agriculture and Agri-Food Canada. (Book)

Huffman, E.C., Liu, J., Coote, D., and Green, M. (2013). "The effect on soil quality of integrating perennial crops into cropping systems in response to demand for bioenergy feedstock.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013, Invited oral presentation.

## 2012

Yang, J.Y., Drury, C.F., De Jong, R., Huffman, E.C., Yang, X.M., and Reid, K. (2012). "Sensitivity and scenario analysis of Canadian Agricultural Nitrogen Budget model (CANB v3.0) for estimating residual soil nitrogen and N leaching across Canadian farmland.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012.

Liu, X., Si, B., Huffman, E.C., and Cruse, R.M. (2012). "Soil Quality and Management of World Mollisols (Preface).", Canadian Journal of Soil Science, 92(3), pp. 381-382.

Liu, H.L., Huffman, E.C., and Daneshfar, B. (2012). "A method of defining agricultural Uniform Management Zones using remote sensing and land use data.", 33rd Canadian Symposium on Remote Sensing, Ottawa, ON, Canada, June 11-14, 2012.

Newlands, N.K., McConkey, B.G., Townley-Smith, L., Liu, T., and Huffman, E.C. (2012). "Exploring optimal configurations of regional biorefinery systems under changes in feedstock distribution and supply logistics: implications for biomass supply from marginal land.", Growing the Bioeconomy: Social, Environmental and Economic Implications, Banff, AB, Canada, October 2-5, 2012. (Poster)

Qian, B., Huffman, E.C., and De Jong, R. (2012). "Simulated crop productivity on different soils in Canada.", in Kang, M. and Guo, Y. (eds.) - Proceedings of IEEE 4th International Symposium on Plant Growth Modeling, Simulation, Visualization and Applications, IEEE International, pp. 312-315.

Huffman, E.C., Green, M., McConkey, B.G., Liu, T., Liu, J., and Brierley, J.A. (2012). "Room to Grow? The Implications of Growing the Bioeconomy on Land Use in Canada.", Growing the Bioeconomy: Social, Environmental and Economic Implications, Banff, AB, Canada, October 2-5, 2012.

Liu, T., McConkey, B.G., Kulshreshtha, S., Huffman, E.C., Green, M., Liu, J., Du, Y., and Shang, J. (2012). "Bioenergy production potential on marginal land in Canada.", 1st International Conference on Agro-Geoinformatics, Shanghai, China, August 2-4, 2012.

Huffman, E.C., Liu, J., Green, M., Li, Z., Liu, H.L., Liu, T., Zhang, X., and Du, Y. (2012). "Incorporating earth observation technologies in spatial mapping of the soil cover indicator in Canada.", 33rd Canadian Symposium on Remote Sensing, Ottawa, ON, Canada, June 11-14, 2012. (Poster)

2011

Huffman, E.C., de Zuviria, M., and Green, M. (2011). "Identifying and classifying farmland management zones.", World Congress of Conservation Agriculture and Farming Systems Design, Brisbane, Queensland, Australia, September 26-29, 2011.

Liu, T.T., McConkey, B.G., Smith, S., McGregor, B., Huffman, E.C., Kulshreshtha, S.N., and Wang, H. (2011). "Potential Renewable Bioenergy Production from Canadian Agriculture.", World Renewable Energy Congress, Linköping, Sweden, May 8-13, 2011, Published in: Linköping Electronic Conference Proceedings, Article #027, pp. 2485-2492.

Chang, K.-H., Warland, J.S., Bartlett, P., Voroney, P.R., Huffman, E.C., McConkey, B.G., and Desjardins, R.L. (2011). "Accounting carbon and GHGs in agriculture and forest ecosystems using process-based models.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Drury, C.F., Yang, J.Y., DeJong, R., Huffman, E.C., Yang, X.M., Reynolds, W.D., and Reid, D.K. (2011). "Validating the Residual Soil Nitrogen Indicator.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Drury, C.F., Yang, J., De Jong, R., Huffman, E.C., Yang, X.Q., and Reid, D.K. (2011). "The development of environmental indicators for nitrogen: Residual Soil Nitrogen and the Indicator of Risk of Water Contamination by Nitrate.", ASA/CSSA/SSSA/CSSS International Annual Meetings 2011, San Antonio, TX, USA, October 16-19, 2011.

Yang, J.Y., Drury, C.F., DeJong, R., Huffman, E.C., and Yang, X.M. (2011). "Developing a Canadian Agricultural Nitrogen Budget (CANB v3.0) Model to Predict Residual Soil Nitrogen and Nitrate Leaching Across Canadian Farmland.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

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## Research Publications:

2015

Hiebert, C.W., Spielmeyer, W., McCartney, C., Kassa, M.T., Fetch Jr., T.G., You, F.M., Menzies, J.G., Humphreys, D.G., and McCallum, B.D. (2015). "Stem rust resistance: two approaches.", in Ogihara, Y. et al. (eds.) - Proceedings of the 12th International Wheat Genetics Symposium, Springer, Chapter 20, pp. 183-191.

Brown, P.D., Randhawa, H.S., Fetch, J.M., Fox, S.L., Humphreys, D.G., Meiklejohn, M., Green, D.A., Wise, I.L., Fetch Jr., T.G., Gilbert, J., McCallum, B.D., and Menzies, J.G. (2015). "AAC Foray red spring wheat.", Canadian Journal of Plant Science, 95(4), pp. 799-803. doi : 10.4141/cjps-2015-007

Brown, P.D., Randhawa, H.S., Fetch, J.M., Meiklejohn, M., Fox, S.L., Humphreys, D.G., Green, D.A., Wise, I.L., Fetch Jr., T.G., Gilbert, J., McCallum, B.D., and Menzies, J.G. (2015). "AAC Tenacious red spring wheat.", Canadian Journal of Plant Science, 95(4), pp. 805-810. doi : 10.4141/cjps-2015-011

2014

Cabral, A.L., Jordan, M.C., McCartney, C.A., You, F.M., Humphreys, D.G., MacLachlan, R., and Pozniak, C.J. (2014). "Identification of candidate genes, regions and markers for pre-harvest sprouting resistance in wheat (*Triticum aestivum* L.).", BMC Plant Biology, 14(340). doi : 10.1186/s12870-014-0340-1

Humphreys, D.G., Brûlé-Babel, A.L., Brule-Babel, A., DePauw, R.M., Fetch Jr., T.G., and McCallum, B.D. (2014). "Agronomic suitability of German spring wheat sources of Fusarium Head Blight resistance for western Canada.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Humphreys, D.G., Townley-Smith, T.F., Lukow, O.M., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Tkachuk, V.L., Brown, P.D., and Fox, S.L. (2014). "Peace hard red spring wheat.", Canadian Journal of Plant Science, 94(7), pp. 1297-1302. doi : 10.4141/CJPS2013-286

2013

Gao, F., Rampitsch, C., Chitnis, V.R., Humphreys, D.G., Jordan, M.C., and Ayele, B.T. (2013). "Integrated analysis of seed proteome and mRNA oxidation reveals distinct post-transcriptional features regulating dormancy in wheat (*Triticum aestivum* L.).", Plant Biotechnology Journal, 11(8), pp. 921-932. doi : 10.1111/pbi.12083

Park, S., Rampitsch, C., Humphreys, D.G., and Ayele, B.T. (2013). "Wheat seed proteins regulated by imbibition independent of dormancy status.", Plant Signaling & Behavior, 8(12): e26601.

Humphreys, D.G., Townley-Smith, T.F., Czarniecki, E.M., Lukow, O.M., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Brown, P.D., and Fox, S.L. (2013). "Snowstar hard white spring wheat.", Canadian Journal of Plant Science, 93(1), pp. 143-148. doi : 10.4141/cjps2012-146

Lukow, O.M., Adams, K., Suchy, J., DePauw, R.M., and Humphreys, D.G. (2013). "The effect of the environment on the grain colour and quality of commercially grown Canada hard white spring wheat, *Triticum aestivum* L. 'Snowbird'.", Canadian Journal of Plant Science, 93(1), pp. 1-11. doi : 10.4141/cjps2012-102

Adams, K., Lukow, O.M., Suchy, J., DePauw, R.M., and Humphreys, D.G. (2013). "Analysis of kernel colour, flour and whole wheat end-product quality of commercially grown Canada hard white spring wheat, 'Snowbird'.", Journal of Agricultural Science, 5(1), pp. 187-200. doi : 10.5539/jas.v5n1p187

Thomas, J.B., Fox, S.L., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Wise, I.L., Smith, M.A.H., Despina, T., Niziol, D., Humphreys, D.G., and Brown, P.D. (2013). "Vesper hard red spring wheat.", Canadian Journal of Plant Science, 93(2), pp. 315-321. doi : 10.4141/cjps2012-233

Fox, S.L., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Fernandez, M.R., Despina, T., and Niziol, D. (2013). "Cardale hard red spring wheat.", Canadian Journal of Plant Science, 93(2), pp. 307-313. doi : 10.4141/cjps2012-236

Fox, S.L., Wise, I.L., Smith, M.A.H., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Fernandez, M.R., Despina, T., Lukow, O.M., and Niziol, D. (2013). "Shaw hard red spring wheat.", Canadian Journal of Plant Science, 93(2), pp. 299-305. doi : 10.4141/cjps2012-137

Randhawa, H.S., Asif, M., Pozniak, C.J., Clarke, J.M., Graf, R.J., Fox, S.L., Humphreys, D.G., Knox, R.E., DePauw, R.M., Singh, A.K., Cuthbert, R.D., Hucl, P.J., and Spaner, D.M. (2013). "Application of Molecular Markers for Wheat Breeding in Canada.", *Plant Breeding*, 132(5), pp. 458-471. doi: 10.1111/pbr.12057

2012

Fox, S.L., Lamb, R.J., McKenzie, R.I.H., Wise, I.L., Smith, M.A.H., Humphreys, D.G., Brown, P.D., Townley-Smith, T.F., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Fernandez, M.R., Despins, T., Lukow, O.M., and Niziol, D. (2012). "Registration of 'Fieldstar' Hard Red Spring Wheat.", *Journal of Plant Registrations*, 6(2), pp. 161-168. doi: 10.3198/jpr2011.06.0329crc

Rasul, G., Humphreys, D.G., Wu, J., Brûlé-Babel, A.L., Fofana, B., and Glover, K.D. (2012). "Evaluation of preharvest sprouting traits in a collection of spring wheat germplasm using genotype and genotype x environment interaction model.", *Plant Breeding*, 131(2), pp. 244-251. doi: 10.1111/j.1439-0523.2011.01931.x

DePauw, R.M., Knox, R.E., Singh, A.K., Fox, S.L., Humphreys, D.G., and Hucl, P.J. (2012). "Developing standardized methods for breeding preharvest sprouting resistant wheat, challenges and successes in Canadian wheat.", *Euphytica*, 188(1), pp. 7-14. doi: 10.1007/s10681-011-0611-y

McCallum, B.D., Humphreys, D.G., Somers, D.J., Dakouri, A., and Cloutier, S. (2012). "Allelic variation for the rust resistance gene Lr34/Yr18 in Canadian wheat cultivars.", *Euphytica*, 183(2), pp. 261-274. doi: 10.1007/s10681-011-0519-6

2011

DePauw, R.M., Knox, R.E., Humphreys, D.G., Thomas, J.B., Fox, S.L., Brown, P.D., Singh, A.K., Pozniak, C.J., Randhawa, H.S., Fowler, D.B., Graf, R.J., and Hucl, P.J. (2011). "New breeding tools impact Canadian commercial farmer fields.", *Czech Journal of Genetics and Plant Breeding (CJGPB)*, 47(Spec. Issue 1), pp. S28-S34.

Hiebert, C.W., Fetch Jr., T.G., Zegeye, T., Thomas, J.B., Somers, D.J., Humphreys, D.G., McCallum, B.D., Cloutier, S., Singh, D., and Knott, D.R. (2011). "Genetics and mapping of seedling resistance to Ug99 stem rust in Canadian wheat cultivars 'Peace' and 'AC Cadillac'." *Theoretical and Applied Genetics (TAG)*, 122(1), pp. 143-149. doi: 10.1007/s00122-010-1430-6

Lukow, O.M., Suchy, J., Adams, K., Brown, P.D., DePauw, R.M., Fox, S.L., Humphreys, D.G., McCaig, T.N., and White, N.D.G. (2011). "Effect of Wheat Maturity and Post-Harvest Temperature Treatments on the Quality of Grain and End-Products.", *Journal of Agro Crop Science*, 2(2), pp. 15-22.

## Other Science Related Publications:

2015

Kassa, M.T., You, F.M., Hiebert, C.W., McCallum, B.D., Cabral, A.L., Panwar, V., Pozniak, C.J., Fetch Jr., T.G., Zegeye, T., Menzies, J.G., Humphreys, D.G., Fobert, P., Sharpe, A.G., Jordan, M.C., and McCartney, C.A. (2015). "Targeting high impact wheat resistance genes for leaf rust, Ug99 stem rust and wheat midge.", *Canadian Wheat Alliance Annual Science and Business Meeting (Invited)*, Saskatoon, SK, Canada, July 14-16, 2015. (Presentation)

McCartney, C.A., Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Panwar, V., Pozniak, C.J., Menzies, J.G., Humphreys, D.G., Fobert, P., Sharpe, A.G., and Jordan, M.C. (2015). "Progress towards sequencing the leaf rust resistance gene Lr16.", *International Wheat Conference 2015*, Sydney, Australia, September 20-25, 2015.

Humphreys, D.G., Cao, W., Kalikililo, A., Langille, L., McCartney, C.A., Blackwell, B.A., and Graf, R.J. (2015). "Enhancing Tools for Fusarium Resistance Breeding in Canadian Winter Wheat.", *National Fusarium Head Blight Forum*, St. Louis, MO, USA, December 6-8, 2015. (Poster)

2014

Brûlé-Babel, A.L., DePauw, R.M., Cuthbert, R.D., Pozniak, C.J., Hucl, P.J., Spaner, D.M., Randhawa, H.S., Graf, R.J., Kirigw, F., Humphreys, D.G., and Tamburic-Ilincic, L. (2014). "Breeding for FHB resistance: Progress and challenges.", *2nd Canadian Wheat Symposium*, Saskatoon, SK, Canada, June 8-11, 2014.

Jordan, M.C., Cabral, A.L., McCartney, C., and Humphreys, D.G. (2014). "High density SNP mapping and genome synteny to identify candidate genes underlying QTL for pre-harvest sprouting.", *2014 World Forum of Biology*, Savannah, GA, USA, May 31 - June 4, 2014. (Abstract)

Jordan, M.C., Cabral, A.L., McCartney, C., Humphreys, D.G., and Pozniak, C.J. (2014). "High density SNP mapping and genome synteny to identify candidate genes underlying QTL for pre-harvest sprouting.", *Wheat Breeding 2014*, Harpenden, UK, January 29-30, 2014, Oral presentation. (Abstract)

Jordan, M.C., Cabral, A.L., McCartney, C.A., and Humphreys, D.G. (2014). "High density SNP mapping and genome synteny to identify candidate genes underlying QTL for pre-harvest sprouting.", *2014 World Forum of Biology*, Savannah, GA, USA, May 31 - June 4, 2014. (Poster)

Humphreys, D.G., Brûlé-Babel, A.L., DePauw, R.M., Fetch Jr., T.G., and McCallum, B.D. (2014). "Agronomic suitability of German spring wheat sources of Fusarium Head Blight resistance for western Canada.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014, Abstract and Poster, pp. 88.

Humphreys, D.G., Brûlé-Babel, A.L., DePauw, R.M., Fetch Jr., T.G., and McCallum, B.D. (2014). "Field evaluation of German spring wheat sources of Fusarium Head Blight resistance in western Canada.", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014.

## 2013

McCartney, C.A., Kassa, M.T., Cabral, A.L., Hiebert, C.W., You, F.M., Jordan, M.C., Menzies, J.G., Humphreys, D.G., Fellers, J.P., Rezac, N., Fobert, P., Sharpe, A.G., Pozniak, C.J., and McCallum, B.D. (2013). "Molecular Analysis of the Lr16 Locus.", North American Cereal Rust Workers Meeting, Winnipeg, MB, Canada, March 20, 2013.

Hiebert, C.W., Spielmeyer, W., McCartney, C.A., Kassa, M.T., Fetch Jr., T.G., You, F.M., Menzies, J.G., Humphreys, D.G., and McCallum, B.D. (2013). "Stem rust resistance - two approaches.", 12th International Wheat Genetics Symposium (IWGS), Yokohama, Japan, September 8-14, 2013, Invited presentation.

Kassa, M.T., Hiebert, C.W., You, F.M., Jordan, M.C., Fobert, P., Sharpe, A.G., Pozniak, C.J., Zegeye, T., Fetch Jr., T.G., Menzies, J.G., Humphreys, D.G., and McCartney, C.A. (2013). "Molecular Diagnosis of SrCad and Sr42 resistance genes.", North American Cereal Rust Workers Meeting, Winnipeg, MB, Canada, March 20, 2013.

## 2012

Lukow, O.M., Adams, K., Brown, P.D., DePauw, R.M., Fox, S.L., Humphreys, D.G., and Suchy, J. (2012). "Measurement of Phenolics, Carotenoids and Chlorophylls During Wheat Development in Different Environments.", Pittcon 2012, Orlando, FL, USA, March 11-16, 2012. (Poster)

Humphreys, D.G., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Townley-Smith, T.F., and Lukow, O.M. (2012). "Development of hard white spring wheat for Western Canada.", 2012 American Society of Agronomy, Cincinnati, OH, USA. (Poster)

Knox, R.E., Hucl, P.J., Cuthbert, R.D., Singh, A.K., Clarke, F.R., DePauw, R.M., Pozniak, C.J., Fox, S.L., Humphreys, D.G., Clarke, J.M., Randhawa, H.S., Spaner, D.M., McCartney, C., Gaudet, D.A., Menzies, J.G., Gilbert, J.R., Fetch Jr., T.G., McCallum, B.D., and Brûlé-Babel, A.L. (2012). "Phenomics.", Canadian Triticum Advancement through Genomics (CTAG) annual meeting 2014, Saskatoon, SK, Canada.

Humphreys, D.G., DePauw, R.M., Knox, R.E., Singh, A.K., Cuthbert, R.D., Fox, S.L., and Randhawa, H.S. (2012). "Weathering and pre-harvest sprouting resistance.", Canadian Journal of Plant Science, 92, pp. 593. (Abstract)

Nilsen, K., Randhawa, H.S., McCallum, B.D., McCartney, C., MacLachlan, R., Humphreys, D.G., Martin, R.A., and Pozniak, C.J. (2012). "Application of Illumina 9K iSelect Genotyping Towards Mapping Leaf and Stripe Rust Resistance in the Spring Wheat Cross AC Domain x RL4452.", The Annual General Meeting of Canadian Triticum Advancement through Genomics (CTAG), Saskatoon, SK, Canada, November 23-24, 2012.

## 2011

Fox, S.L., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Wise, I.L., Smith, M.A.H., Thomas, J.B., Hiebert, C.W., McCartney, C.A., Lukow, O.M., and Niziol, D. (2011). "Breeding for Canada's premier wheat marker class: Canadian Western Red Spring.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Fox, S.L., DePauw, R.M., Humphreys, D.G., Hucl, P.J., Singh, A.K., Pozniak, C.J., Brown, P.D., Graf, R.J., Randhawa, H.S., Voldeng, H.D., McCartney, C.A., Hiebert, C.W., Knox, R.E., Thomas, J.B., Townley-Smith, L., and Fetch Jr., T.G. (2011). "Canadian initiatives in breeding for stem rust resistance to race Ug99 and variants.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, pp. 121-126.

Humphreys, D.G. (2011). "Weathering and pre-harvest sprouting resistance.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

McCallum, B.D., Humphreys, D.G., DePauw, R.M., and Hiebert, C.W. (2011). "The effect of leaf rust on 'Thatcher' near-isogenic wheat lines.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011. (Poster)

Humphreys, D.G., DePauw, R.M., Knox, R.E., Singh, A.K., Cuthbert, R.D., Fox, S.L., and Randhawa, H.S. (2011). "Weathering and pre-harvest sprouting resistance.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

DePauw, R.M., Knox, R.E., Singh, A.K., Humphreys, D.G., Fox, S.L., and Hucl, P.J. (2011). "Breeding for Pre-Harvest Sprouting Resistance in Canadian Wheat: Challenges & Successes.", 12th International Symposium on Pre-Harvest Sprouting in Cereals (ISPHSC), Red Deer, AB, Canada, July 24-27, 2011.

Nilsen, K., Humphreys, D.G., Randhawa, H.S., Martin, R.C., McCartney, C., McCallum, B.D., and Pozniak, C.J. (2011). "Mapping field reaction to leaf and stripe rust in the spring wheat cross RL4452 x AC Domain.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, Presentation.

DePauw, R.M., Somers, D.J., Cuthbert, R.D., McCallum, B.D., Knox, R.E., Voldeng, H.D., Humphreys, D.G., Fox, S.L., Singh, A.K., McCartney, C.A., and Fedak, G. (2011). "Are QTLs for fusarium head blight response additive?", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 70.



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## Research Publications:

2015

Cooper, S.G., Concibido, V.C., Estes, R., Hunt, D.W.A., Jiang, G., Krupke, C.H., McCormack, B., Mian, R., O'Neal, M., Poysa, V., Voldseth, D.P., Ragsdale, D., Tinsley, N., and Wang, D. (2015). "Geographic distribution of soybean aphid biotypes in the United States and Canada during 2008–2010.", *Crop Science*, 55(6), pp.2598-2608. doi : 10.2135/cropsci2014.11.0758

2013

Casler, M.D., Undersander, D.J., Papadopoulos, Y.A., Bittman, S., Hunt, D.W.A., Mathison, R.D., Min, D.H., Robins, J.G., Chemey, J.H., Acharya, S.N., Belesky, D.P., Bowley, S., Coulman, B.E., Drapeau, R., Ehlerke, N.J., Hall, M.H., Leep, R.H., Michaud, R., Rowsell, J., Shewmaker, G.E., Teutsch, C.D., and Coblenz, W.K. (2013). "Sparse-flowering orchardgrass represents an improvement in forage quality during reproductive growth.", *Crop Science*, 54(1), pp. 421-429. doi : 10.2135/cropsci2013.04.0227

Murillo, H., VanLaerhoven, S.L., and Hunt, D.W.A. (2013). "Host suitability and fitness-related parameters of *Campoletis sonorensis* (Hymenoptera: Ichneumonidae) as a parasitoid of the cabbage looper, *Trichoplusia ni* (Lepidoptera: Noctuidae).", *Biological Control*, 64(1), pp. 10-15. doi : 10.1016/j.biocontrol.2012.09.020

2012

Murillo, H., Hunt, D.W.A., and VanLaerhoven, S.L. (2012). "Fecundity and life table parameters of *Campoletis sonorensis* (Hymenoptera: Ichneumonidae), an endoparasitoid of the Cabbage Looper *Trichoplusia ni* Hübner (Lepidoptera: Noctuidae), under laboratory conditions.", *Biocontrol Science and Technology*, 22(2), pp. 125-134. doi : 10.1080/09583157.2011.643224

Bouchard, P., Gagnier, D.L., and Hunt, D.W.A. (2012). "Cercopseus schwarzi Sleeper, 1955 (Coleoptera: Curculionidae: Entiminae) new to Canada.", *Coleopterists Bulletin*, 66(2), pp. 116-117. doi : 10.1649/072.066.0204

2011

Arocha-Rosete, Y., Kent, P., Agrawal, V., Hunt, D.W.A., Hamilton, K.G.A., Bertaccini, A., Scott, J., Crosby, W.L., and Michelutti, R. (2011). "Identification of *Graminella nigrifrons* as a potential vector for phytoplasmas affecting *Prunus* and *Pyrus* species in Canada.", *Canadian Journal of Plant Pathology*, 33(4), pp. 465-474. doi : 10.1080/07060661.2011.633561

Arocha-Rosete, Y., Kent, P., Agrawal, V., Hunt, D.W.A., Hamilton, K.G.A., Bertaccini, A., Scott, J., Crosby, W.L., and Michelutti, R. (2011). "Preliminary investigations on *Graminella nigrifrons* as a potential vector for phytoplasmas identified at the Canadian Clonal Genebank", *Bulletin of Insectology*, 64(Suppl. Issue 1), pp. S133-S134.

## Other Science Related Publications:

2015

Maillard, É., Chantigny, M.H., Angers, D.A., Lévesque, G., Lafond, G.P., Pageau, D., Bittman, S., and Hunt, D.W.A. (2015). "Réduire son empreinte carbone grâce aux lisiers.", *Le Producteur de Lait Québécois*, 36(1), pp. 45-48.

2014

Chantigny, M.H., Lamey, F.J., Bittman, S., Lapen, D.R., Angers, D.A., Rochette, P., and Hunt, D.W.A. (2014). "Transformation and fate of fall-applied nitrogen as a function of winter conditions – a multi-site experiment.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30–July 3, 2014. (Poster)

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## **Other Science Related Publications:**

2013

Stobbs, L.W., Hunter, D.M., Samara, R., Lowery, T., and Sanfaçon, H. (2013). "Progress in Epidemiological Research on Plum Pox Virus", The Tender Fruit Grape Vine (for Commercial Fruit Growers), 17(5), pp. 5-6. (Newsletter)

# Hynes, Russell K., Ph.D.

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## Research Publications:

2015

Hubbard, M., Hynes, R.K., and Bailey, K.L. (2015). "Impact of macrociclins, produced by *Phoma macrostoma*, on carotenoid profiles of plants.", *Biological Control*, 89, pp. 11-22. doi: 10.1016/j.biocontrol.2015.04.017

Mupondwa, E.K., Li, X., Boyetchko, S.M., Hynes, R.K., and Geissler, H.J. (2015). "Technoeconomic analysis of large scale production of pre-emergent *Pseudomonas fluorescens* microbial bioherbicide in Canada.", *Bioresource Technology*, 175, pp. 517-528. doi: 10.1016/j.biortech.2014.10.130

2014

Keawkham, T., Siri, B., and Hynes, R.K. (2014). "Effect of polymer seed coating and seed dressing with pesticides on seed quality and storability of hybrid cucumber.", *Australian Journal of Crop Science*, 8(10), pp. 1415-1420.

Hubbard, M., Hynes, R.K., Erlandson, M.A., and Bailey, K.L. (2014). "The biochemistry behind biopesticide efficacy.", *Sustainable Chemical Processes*, 2(Article 18). doi: 10.1186/s40508-014-0018-x

Peng, G., Lahlali, R.L., Hwang, S.F., Pageau, D., Hynes, R.K., McDonald, M.R., Gossen, B.D., and Strelkov, S.E. (2014). "Crop rotation, cultivar resistance, and fungicides/biofungicides for managing clubroot (*Plasmodiophora brassicae*) on canola.", *Canadian Journal of Plant Pathology*, 36(S1), pp. 99-112. doi: 10.1080/07060661.2013.860398

2013

Lahlali, R.L., Peng, G., Gossen, B.D., McGregor, L., Yu, F.Q., Hynes, R.K., Hwang, S.F., McDonald, M.R., and Boyetchko, S.M. (2013). "Evidence that the Biofungicide Serenade® (*Bacillus subtilis*) Suppresses Clubroot on Canola via Antibiosis and Induced Host Resistance.", *Phytopathology*, 103(3), pp. 245-254. doi: 10.1094/PHYTO-06-12-0123-R

Peng, G., Pageau, D., Hwang, S.F., Lahlali, R.L., Hynes, R.K., Anderson, K., Strelkov, S.E., McDonald, M.R., Gossen, B.D., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., and McGregor, L. (2013). "Assessment of crop rotation in combination with cultivar resistance or a biofungicide seed treatment for control of clubroot on canola.", 10th International Congress of Plant Pathology, Beijing International Convention Center, Beijing, China, August 25-30, 2013.

Peng, G., Pageau, D., Strelkov, S.E., Lahlali, R.L., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Turkington, T.K., Falk, K.C., Yu, F.Q., McGregor, L., Hupka, D., and Geissler, H.J. (2013). "Assessment of crop rotation, cultivar resistance and *Bacillus subtilis* biofungicide for control of clubroot on canola.", 6th International Symposium on Brassica and 18th Crucifer Genetics Workshop, Catania, Sicily, Italy, November 12-16, 2012, Published on *Acta Hort.* 1005:591-598.

2012

Moukouri, J., Farrell, R.E., Van Rees, K., Hynes, R.K., and Bélanger, N. (2012). "Intercropping *Caragana arborescens* with *Salix miyabeana* to Satisfy Nitrogen Demand and Maximize Growth.", *BioEnergy Research*, 5(3), pp. 719-732. doi: 10.1007/s12155-012-9181-7

Pallai, R., Hynes, R.K., Verma, B., and Nelson, L.M. (2012). "Phytohormone production and colonization of canola (*Brassica napus* L.) roots by *Pseudomonas fluorescens* 6-8 under gnotobiotic conditions.", *Canadian Journal of Microbiology*, 58(2), pp. 170-178. doi: 10.1139/w11-120

Caldwell, C.J., Hynes, R.K., Boyetchko, S.M., and Korber, D.R. (2012). "Colonization and bioherbicidal activity on green foxtail by *Pseudomonas fluorescens* BRG100 in a pesto formulation.", *Canadian Journal of Microbiology*, 58(1), pp. 1-9. doi: 10.1139/W11-109

## Other Science Related Publications:

2015

Soleimani, M., Tabil, L.G., Campbell, L., Hynes, R.K., Dumonceaux, T.J., and Ketabi, L. (2015). "Densification of a fermented biomass rich in cellulolytic and hemicellulolytic enzymes.", American Society of Agricultural and Biological Engineers Annual International Meeting 2015, New Orleans, USA, July 26-29, 2015.

2014

Hynes, R.K. and Bailey, K.L. (2014). Annual Progress Report on Broadleaved Weed Control in Alfalfa Using the Bioherbicide *Phoma macrostoma*, November 30, 2014. Western Grains Research Foundation, Saskatoon, SK 45 pages. (Report)

2013

Hubbard, M., Bailey, K.L., and Hynes, R.K. (2013). "Delivering *Phoma* to control agricultural weeds.", Alfalfa Seed Commission (Alberta), Brooks, AB, Canada, March 26, 2013. (Presentation)

Peng, G., Lahlali, R.L., Hynes, R.K., Boyetchko, S.M., Gossen, B.D., Hwang, S.F., Pageau, D., McDonald, M.R., and Strelkov, S.E. (2013). "*Plasmidiophora brassicae* Woronin, Clubroot of Crucifers (Plasmidiophoraceae).", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, Wallingford, UK, Chapter 65.

Lahlali, R.L., Peng, G., McGregor, L., McDonald, M.R., Gossen, B.D., Hwang, S.F., Hynes, R.K., Boyetchko, S.M., and Geissler, H.J. (2013). "Induced host defense responses are involved in suppressing clubroot on canola with *Bacillus subtilis*, *Clonostachys rosea* and *Heteroconium chaetospira*.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: Canadian Journal of Plant Pathology, 35(1), pp.117 (Abstract).

Bailey, K.L., Hynes, R.K., Derby, J.-A., and Hupka, D. (2013). "Bioherbicides for alfalfa seed production: A voyage to the future.", Alfalfa Seed Commission (Alberta), Brooks, AB, Canada, March 26, 2013. (Presentation)

McClay, A.S., Peng, G., Bailey, K.L., Hynes, R.K., and Hinz, H.L. (2013). "*Tripeurospermum inodorum* (L.) Sch. Bip. (= *Matricaria perforata* Mérat), Scentless Chamomile (Asteraceae).", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, Wallingford, UK.

Peng, G., Hynes, R.K., Hwang, S.F., and Gossen, B.D. (2013). Synergy of biofungicides with cultivar resistance for control of clubroot on canola. Final report on ADF Project 20090359. 59 pp. (Report)

Peng, G., Pageau, D., Strelkov, S.E., Lahlali, R.L., Gossen, B.D., Anderson, K., Hwang, S.F., McDonald, M.R., Yu, F.Q., Falk, K.C., Turkington, T.K., Hynes, R.K., Boyetchko, S.M., and McGregor, L. (2013). "Management of clubroot disease on canola with crop rotation combined with host resistance or biofungicide seed dressing.", Canadian Journal of Plant Pathology, 35, pp. 519. (Abstract)

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2013). "Assessment of crop rotation, resistance and *Bacillus subtilis* for management of clubroot on canola.", Canadian Journal of Plant Pathology, 35, pp. 112. (Abstract)

Peng, G., Lahlali, R.L., Hwang, S.F., Pageau, D., Hynes, R.K., McDonald, M.R., Gossen, B.D., and Strelkov, S.E. (2013). "Integrated management of clubroot on canola with crop rotation, cultivar resistance, and fungicides/biofungicides.", International Clubroot Workshop, Edmonton, AB, Canada, June 2013, Oral presentation, pp. 7. (Workshop)

Fields, P.G., Abdelghany, A.Y., Taylor, W.G., and Hynes, R.K. (2013). "Small bin trial of pea extract to control stored-product insects.", IOBC-WPRS, Integrated Protection of Stored Products, Bordeaux, France, July 2-4, 2013.

Akhtar, J., Hynes, R.K., Taylor, W.G., Fields, P.G., and Isman, M.B. (2013). "Toxicity and feeding deterrent effects of a pea extract and pea protein against the cabbage looper, *Trichoplusia ni* (Lepidoptera: Noctuidae).", 1st International Conference on Pesticidal Plants, Nairobi, Kenya, 21-24 January, 2013.

2012

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., and McGregor, L. (2012). "Control of clubroot on canola with crop rotation in combination with biofungicide seed dressing and varietal resistance.", Joint Meeting of CPS Saskatchewan Group and Plant Pathological Society of Alberta, Canada, November, 2012, (Presentation).

Peng, G., Lahlali, R.L., Hwang, S.F., Pageau, D., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Boyetchko, S.M., and Strelkov, S.E. (2012). "Fungicides/biofungicides, cultivar resistance, crop rotation for control of clubroot on canola.", Clubroot Summit 2012, Edmonton, AB, Canada, March 6, 2012, Invited presentation.

Derby, J.-A., Bailey, K.L., Hynes, R.K., and Hupka, D. (2012). "Timing *Phoma macrostoma* applications to maximize weed control.", 4th Joint Saskatchewan-Alberta Plant Pathology Conference: Mapping and cloning of clubroot resistance genes in Brassica species, Lloydminster, SK, Canada, November 5-7, 2012. (Poster)

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2012). "Assessment of crop rotation, resistance and *Bacillus subtilis* for management of clubroot on canola.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: *Can. J. Plant Pathol.* (2013) 35(1), pp. 112.

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2012). "Crop rotation, cultivar resistance, and biofungicide seed dressing for clubroot control on canola.", 6th International Symposium on Brassica and 18th Crucifer Genetics Workshop, Catania, Sicily, Italy, November 12-16, 2012.

Bailey, K.L., Derby, J.-A., Hynes, R.K., and Hupka, D. (2012). "Bioherbicides for organic food production: a voyage to the future.", 5th Biennial Organic Connections Conference and Trade Show, Conexus Arts Centre, Regina, SK, Canada, November 2-3, 2012. (Presentation)

2011

Lahlali, R.L., Peng, G., Gossen, B.D., Hynes, R.K., Boyetchko, S.M., Hwang, S.F., and McDonald, M.R. (2011). "Investigation on modes of action for the biofungicides Serenade and Prostop in clubroot control.", *Canadian Journal of Plant Pathology*, 33, pp. 573. (Abstract)

Peng, G., Bailey, K.L., Hynes, R.K., and Boyetchko, S.M. (2011). "Bioherbicide R&D - progresses and challenges.", Chinese National Institute of Rice Research, Hongzhou, China, November 11, 2011. (Presentation)

Hynes, R.K., Bailey, K.L., Boyetchko, S.M., Erlandson, M.A., Peng, G., and Traquair, J.A. (2011). "Formulation development and delivery of biopesticides.", Canadian Society of Microbiologists (CSM) 61st Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Memorial University of Newfoundland, St. John's, NL, Canada, June 20-23, 2011.

Hynes, R.K., Bailey, K.L., Boyetchko, S.M., Erlandson, M.A., and Peng, G. (2011). "Formulation development and delivery of biopesticides.", Soils and Crops Workshop 2011, Prairieland Park, Saskatoon, SK, Canada, March 15-16, 2011. (Workshop)

Bailey, K.L., Taylor, W.G., and Hynes, R.K. (2011). "Phoma macrostoma: A bioherbicide for broadleaved weed control.", Local meeting of representatives from Saskatchewan organic farming directorates, August 4, 2011. (Presentation)

Peng, G., Lahlali, R.L., Hwang, S.F., Hynes, R.K., McDonald, M.R., Pageau, D., Gossen, B.D., Strelkov, S.E., and McGregor, L. (2011). "Control of clubroot on canola using the biofungicide Serenade plus cultivar resistance.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, pp. 1134-1137.

Peng, G., Hynes, R.K., Hwang, S.F., Pageau, D., McDonald, M.R., Gossen, B.D., and Boyetchko, S.M. (2011). "Assessment of microbial biofungicides for control of clubroot on canola.", Clubroot Summit 2011, Saskatoon, SK, Canada, March 9, 2011.

Hynes, R.K., Bailey, K.L., Boyetchko, S.M., Erlandson, M.A., Peng, G., and Traquair, J.A. (2011). "Formulation and delivery of biopesticides.", Canadian Society of Microbiologists (CSM) 61st Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Memorial University of Newfoundland, St. John's, NL, Canada, June 20-23, 2011.

Peng, G., Yu, F.Q., Hynes, R.K., Pageau, D., McDonald, M.R., and Gossen, B.D. (2011). "Managing clubroot and blackleg on canola in western Canada - current status of research.", Anhui Academy of Agricultural Science Seminar, Anhui Academy of Agricultural Science, Hefei, China, November 14, 2011. (Presentation)

Hynes, R.K. (2011). "Natural insecticides from peas.", 4th International Biofumigation & Biopesticides Symposium, Sheraton Cavalier Hotel, Saskatoon, SK, Canada, October 18-21, 2011.

Peng, G., Hynes, R.K., Boyetchko, S.M., Gossen, B.D., and Pageau, D. (2011). "Biocontrol of canola.", Clubroot Summit 2011, Saskatoon, SK, Canada, March 9, 2011, Invited presentation.

Peng, G., Boyetchko, S.M., Hynes, R.K., McGregor, L., Sawchyn, K., and Hupka, D. (2011). "Isolation and evaluation of soil microorganisms for control of clubroot on canola.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011, Published in: *Can. J. Plant Pathol.* (2012) 34:342.

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## Research Publications:

2015

Li, R., Beaudoin, F., Ammah, A.A., Bissonnette, N., Benchaar, C., Zhao, X., Lei, C., and Ibeagha-Awemu, E.M. (2015). "Deep sequencing shows microRNA involvement in bovine mammary gland adaptation to diets supplemented with linseed oil or safflower oil.", *BMC Genomics*, 16(1: Article 884), pp. 1-16. doi: 10.1186/s12864-015-1965-7

Ibeagha-Awemu, E.M. and Zhao, X. (2015). "Epigenetic marks: regulators of livestock phenotypes and conceivable sources of missing variation in livestock improvement programs.", *Frontiers in Genetics*, 6(Article 302), pp. 1-17. doi: 10.3389/fgene.2015.00302

2014

Colli, L., Joost, S., Negrini, R., Nicoloso, L., Crepaldi, P., Ajmone-Marsan, P., Ibeagha-Awemu, E.M., and others (2014). "Assessing the spatial dependence of adaptive loci in 43 European and Western Asian goat breeds using AFLP markers.", *PLoS ONE*, 9(1: Article number e86668). doi: 10.1371/journal.pone.0086668

Ibeagha-Awemu, E.M., Akwanji, K.A., Beaudoin, F., and Zhao, X. (2014). "Associations between variants of FADS genes and omega-3 and omega-6 milk fatty acids of Canadian Holstein cows.", *BMC Genetics*, 15(1), pp. 25. doi: 10.1186/1471-2156-15-25

Jin, W., Ibeagha-Awemu, E.M., Liang, G., Beaudoin, F., Zhao, X., and Guan, L.L. (2014). "Transcriptome microRNA profiling of bovine mammary epithelial cells challenged with *Escherichia coli* or *Staphylococcus aureus* bacteria reveals pathogen directed microRNA expression profiles.", *BMC Genomics*, 15(1: Article number 181). doi: 10.1186/1471-2164-15-181

2012

Ibeagha-Awemu, E.M., Ibeagha, A.E., and Zhao, X. (2012). "The influence of different anticoagulants and sample preparation methods on measurement of mCD14 on bovine monocytes and polymorphonuclear neutrophil leukocytes.", *BMC Research Notes*, 5:93. doi: 10.1186/1756-0500-5-93

Zerabruk, M., Li, M.H., Kantanen, J., Olsaker, I., Ibeagha-Awemu, E.M., Erhardt, G., and Vangen, O. (2012). "Genetic diversity and admixture of indigenous cattle from North Ethiopia: Implications of historical introgressions in the gateway region to Africa.", *Animal Genetics*, 43(3), pp. 257-266. doi: 10.1111/j.1365-2052.2011.02245.x

## Other Science Related Publications:

2015

Chiquette, J., Veilleux, L., Brochu, J., Beaudoin, F., Fomenky, B., and Ibeagha-Awemu, E.M. (2015). "Viability of the direct-fed *Saccharomyces cerevisiae* boulardii in the digestive tract of calves.", 2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council, Ottawa, Canada, May 6-8, 2015.

Ibeagha-Awemu, E.M., Dudemaine, P.-L., Chiquette, J., Talbot, G., and Bissonnette, N. (2015). "Involvement of microRNAs in calves' intestinal growth and development and probable modulatory role of *Saccharomyces cerevisiae*.", Symposium on Gut Health in Production of Food Animals, Kansas City, Missouri, USA, November 9-11, 2015. (Poster)

Ibeagha-Awemu, E.M., Beaudoin, F., Chiquette, J., Talbot, G., Bissonnette, N., and Lessard, M. (2015). "Probiotics administration enhances calves' lymphoproliferation responses to vaccination during the early weeks of growth.", 2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council, Ottawa, Canada, May 6-8, 2015.

Fomenky, B., Chiquette, J., Chouinard, P.Y., and Ibeagha-Awemu, E.M. (2015). "The effect of two direct fed microbials on calf's performance and oxidative burst capacity during the early period of growth.", 2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council, Ottawa, Canada, May 6-8, 2015.

Constant, E., Ibeagha-Awemu, E.M., Miglior, F., Robitaille, G., and Bissonnette, N. (2015). "Improving the genotyping-by-sequencing (GBS) approach for the identification of SNPs associated with Johne's disease.", ADSA-ASAS JAM (Joint Annual Meeting) 2015, Orlando, Florida, USA, July 12-16, 2015, 2-15, Poster Session.

Ibeagha-Awemu, E.M., Li, R., and Dudemaine, P.-L. (2015). "The long non-coding RNA transcriptome of the bovine mammary gland and potential regulatory roles in fatty acid synthesis.", 6th International Symposium on Animal Functional Genomics (IS FAG), Piacenza, Italy, July 27-29, 2015, #82, pp. 91. (Abstract)

Li, R., Dudemaine, P.-L., and Ibeagha-Awemu, E.M. (2015). "miRNA selection and cross detection will affect accurate quantification of miRNA expression.", 2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council, Ottawa, Canada, May 6-8, 2015.

Ammah, A.A., Beaudoin, F., Marier, L., Benchaar, C., Bissonnette, N., Gévry, G., and Ibeagha-Awemu, E.M. (2015). "Effects of dietary supplementation with safflower oil on milk components and fat acid composition of Canadian Holstein cows.", 2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council, Ottawa, Canada, May 6-8, 2015.

Ibeagha-Awemu, E.M., Li, R., Dudemaine, P.-L., Ammah, A.A., Bissonnette, N., Benchaar, C., and Zhao, X. (2015). "Mammary gland transcriptome profiling of cows fed safflower oil reveals a potential modulatory role for SREBP1 in fatty acid synthesis.", 2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council, Ottawa, Canada, May 6-8, 2015.

Ibeagha-Awemu, E.M., Peters, S.O., Imumorin, I.G., and Zhao, X. (2015). "Genome-wide association study of milk protein percent in Canadian Holstein cows.", 2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council, Ottawa, Canada, May 6-8, 2015.

Ibeagha-Awemu, E.M., Li, R., Ammah, A.A., Bissonnette, N., Benchaar, C., and Zhao, X. (2015). "Transcriptome adaptation of the bovine mammary gland to a diet supplemented with linseed oil.", ADSA-ASAS 2015 JAM (Joint Annual Meeting), Orlando, Florida, USA, July 12-16, 2-15, Invited to present at the ASAS Presidents' Picks Poster Session at JAM 2015. (Poster)

Fomenky, B., Beaudoin, F., Chiquette, J., Talbot, G., Bissonnette, N., Chouinard, P.Y., Lessard, M., and Ibeagha-Awemu, E.M. (2015). "Amélioration du développement immunitaire chez les vœux laitiers par les probiotiques.", Symposium sur les bovins laitiers 2015, Drummondville, QC, Canada, Octobre 29, 2015.

Ibeagha-Awemu, E.M., Li, R., Ammah, A.A., Bissonnette, N., Benchaar, C., and Zhao, X. (2015). "Transcriptome adaptation of the bovine mammary gland to a diet supplemented with linseed oil.", *Journal of Animal Science*, 93(Suppl. S3), pp. 410. (Abstract)

Ariel, N., Gévry, G., Fecteau, G., Ibeagha-Awemu, E.M., Karrow, N.A., and Bissonnette, N. (2015). "Genetic association of Johne's disease susceptible cows through transcriptome profiling of MAP infected macrophages.", 2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council, Ottawa, Canada, May 6-8, 2015.

## 2014

Li, R., Beaudoin, F., Zhao, X., Lei, C., and Ibeagha-Awemu, E.M. (2014). "Effect of dietary supplementation with linseed oil on the miRnome profile of the bovine mammary gland.", *Journal of Animal Science*, 92(Suppl.2). (Abstract)

Ibeagha-Awemu, E.M., Akwanji, K.A., Peters, S.O., Imumorin, I.G., and Zhao, X. (2014). "Genome-Wide Association (GWAS) Analysis of Bovine Milk Fatty Acids of Canadian Holstein Cows Using Genotyping-By-Sequencing (GBS) Markers.", XXII International Plant and Animal Genome Conference, San Diego, CA, USA, January 11-15, 2014, 538. (Presentation)

Li, R., Beaudoin, F., Zhao, X., Lei, C., and Ibeagha-Awemu, E.M. (2014). "MicroRNAs are involved in bovine mammary gland response to dietary supplementation with safflower oil.", 10th World Congress on Genetics Applied to Livestock Production (WCGALP), Vancouver, Canada, August 17-22, 2014.

Ibeagha-Awemu, E.M., Peters, S.O., Imumorin, I.G., and Zhao, X. (2014). "Genome-wide genotyping-by-sequencing (GBS) and association analysis of saturated and monounsaturated fatty acids in bovine milk identifies novel markers in Canadian Holstein cows.", *Journal of Animal Science*, 92(E-Suppl.1), pp. 473. (Abstract)

## 2013

Ibeagha-Awemu, E.M., Ammah, A.A., Beaudoin, F., Bissonnette, N., and Benchaar, C. (2013). "Effects of Diets Rich in Unsaturated Fatty Acids on Milk Urea Nitrogen (MUN) Levels and Potential for Genetic Selection of MUN.", 31st Western Canadian Dairy Seminar (WCDS), Capri Centre, Red Deer, AB, Canada, March 5-8, 2013, Published in: *Advances in Dairy Technology (Western Canadian Dairy Seminar Proceedings)* 25, pp. 388. (Poster)

Li, R., Beaudoin, F., Zhao, X., Bissonnette, N., and Ibeagha-Awemu, E.M. (2013). "Possible involvement of epigenetic modifying enzymes in the regulation of nutrient effect on bovine milk fat synthesis.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013. (Poster)

## 2012

Ibeagha-Awemu, E.M., Akwanji, K.A., Wang, Z., Ammah, A.A., and Zhao, X. (2012). "SNPs in the regulatory and coding regions of bovine GPAM gene are associated with increased milk polyunsaturated fatty acid content of Canadian Holstein cows.", 2ème symposium du Centre de Recherche et de Développement sur le Bovin Laitier et le Porc / 2nd Annual DSRDC / CRDBLP Symposium on Animal Production, Sherbrooke, QC, Canada, November 28, 2012, pp. 25.

Ibeagha-Awemu, E.M. (2012). "Race to boost milk beneficial fatty acid components: the role of genetics and nutrition.", 2ème symposium du Centre de Recherche et de Développement sur le Bovin Laitier et le Porc / 2nd Annual DSRDC/ CRDBLP Symposium on Animal Production, Sherbrooke, QC, Canada, November 28, 2012, pp. 15.

Ibeagha-Awemu, E.M., Akwanji, K.A., Wang, Z., and Zhao, X. (2012). "SNPs that affect microRNA binding sites in the bovine ACACA gene are associated with polyunsaturated fatty acid (PUFA) content of Canadian Holstein cows.", *Journal of Dairy Science (JDS)*, 95(Suppl. 2), pp. 522 (#W62). (Abstract)

Ibeagha-Awemu, E.M. (2012). "MicroRNA: Mechanism of gene regulation and application to cow health.", 2ème symposium du Centre de Recherche et de Développement sur le Bovin Laitier et le Porc / 2nd Annual DSRDC/ CRDBLP Symposium on Animal Production, Sherbrooke, QC, Canada, November 28, 2012, pp. 15.

Ibeagha-Awemu, E.M., Wang, X., Bhattacharya, T.K., Capuco, A.V., and Zhao, X. (2012). "Identification of DNA methylation at the bovine kappa-casein gene (CSN3) promoter and possible effects on gene expression in the Mammary Gland.", 55th Annual Conference of the Canadian Society of Molecular Biosciences: Epigenetics and Genome Stability, The Whistler Conference Centre, Whistler, BC, Canada, March 14-18, 2012, Poster #008, pp. 30.

2011

Jin, W., Ibeagha-Awemu, E.M., Stothard, P., Zhao, X., and Guan, L.L. (2011). "Differential expression of miRNAs in bovine mammary epithelial cells challenged with *Escherichia coli* and *Staphylococcus aureus*.", 4th International Symposium on Animal Functional Genomics, Burlington Conference Venue, Dublin, Ireland, October 10-12, 2011, Book of Abstracts, pp. 21. (Abstract)



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## Research Publications:

2015

Brassard, J., Gagné, M.-J., Leblanc, D., Poitras, E., Houde, A., Boras, V.F., and Inglis, G.D. (2015). "Association of age and gender with Torque teno virus detection in stools from diarrheic and non-diarrheic people.", *Journal of Clinical Virology*, 72, pp. 55-59. doi : 10.1016/j.jcv.2015.08.020

Jiminez, J.A., Uwiera, T.C., Inglis, G.D., and Uwiera, R.R.E. (2015). "Animal models to study acute and chronic intestinal inflammation in mammals.", *Gut Pathogens*. doi : 10.1186/s13099-015-0076-y

2014

Thomas, D.K., Lone, A.G., Selinger, L.B., Taboada, E.N., Uwiera, R.R.E., Abbott, D.W., and Inglis, G.D. (2014). "Comparative Variation within the Genome of *Campylobacter jejuni* NCTC 11168 in Human and Murine Hosts.", *PLoS ONE*, 9(2:e88229). doi : 10.1371/journal.pone.0088229

2013

Reti, K.L., Thomas, M.C., Yanke, L.J., Selinger, L.B., and Inglis, G.D. (2013). "Effect of antimicrobial growth promoter administration on the intestinal microbiota of beef cattle.", *Gut Pathogens*, 5:8. doi : 10.1186/1757-4749-5-8

2012

Puhl, N.J., Uwiera, R.R.E., Yanke, L.J., Selinger, L.B., and Inglis, G.D. (2012). "Antibiotics conspicuously affect community profiles and richness, but not the density of bacterial cells associated with mucosa in the large and small intestines of mice.", *Anaerobe*, 18(1), pp. 67-75. doi : 10.1016/j.anaerobe.2011.12.007

Thomas, M.C., Selinger, L.B., and Inglis, G.D. (2012). "Seasonal Diversity of Planktonic Protists in Southwestern Alberta Rivers over a One Year Period Revealed by T-RFLP and 18S rRNA Gene Libraries.", *Applied and Environmental Microbiology*, 78(16), pp. 5653-5660. doi : 10.1128/AEM.00237-12

Inglis, G.D., Thomas, M.C., Thomas, D.K., Kalmokoff, M.L., Brooks, S.P.J., and Selinger, L.B. (2012). "Molecular Methods to Measure Intestinal Bacteria: A Review.", *Journal of AOAC International*, 95(1), pp. 2-23. doi : 10.5740/jaoacint.SGE\_Inglis

2011

Inglis, G.D., Boras, V.F., and Houde, A. (2011). "Enteric *Campylobacter* and RNA viruses associated with healthy and diarrheic humans in the Chinook Health Region of Southwestern Alberta, Canada.", *Journal of Clinical Microbiology*, 49(1), pp. 209-219. doi : 10.1128/JCM.01220-10

Inglis, G.D., Yanke, L.J., and Selinger, L.B. (2011). "Cutinolytic esterase activity of bacteria isolated from mixed-plant compost and characterization of a cutinase gene from *Pseudomonas pseudoalcaligenes*.", *Canadian Journal of Microbiology*, 57(11), pp. 902-913. doi : 10.1139/W11-083

Costa, E., Uwiera, R.R.E., Kastelic, J.P., Selinger, L.B., and Inglis, G.D. (2011). "Non-therapeutic administration of a model antimicrobial growth promoter modulates intestinal immune responses.", *Gut Pathogens*, 3:14. doi : 10.1186/1757-4749-3-14

Thomas, M.C., Thomas, D.K., Selinger, L.B., and Inglis, G.D. (2011). "Spyder, a new method for in silico design and assessment of 16S rDNA primers for molecular microbial ecology.", *FEMS Microbiology Letters*, 320(2), pp. 152-159. doi : 10.1111/j.1574-6968.2011.02302.x

Xu, S., Inglis, G.D., Reuter, T.R., Clark, G.O., Belosevic, M., Leonard, J.J., and McAllister, T.A. (2011). "Biodegradation of specified risk material and characterization of actinobacterial communities in laboratory-scale composters.", *Biodegradation*, 22(5), pp. 1029-1043. doi : 10.1007/s10532-011-9461-5

Kalischuk, L.D. and Inglis, G.D. (2011). "Comparative genotypic and pathogenic examination of *Campylobacter concisus* isolates from diarrheic and non-diarrheic humans.", *BMC Microbiology*, 11:53. doi : 10.1186/1471-2180-11-53

## Other Science Related Publications:

2014

Brassard, J., Gagné, M.-J., Leblanc, D., Poitras, E., Houde, A., Boras, V.F., and Inglis, G.D. (2014). "Association of age and gender with Torque teno virus detection in fecal material of patients with enteritis.", International Union of Microbiology Societies, Montréal, Québec, Canada, 29-31 juillet 2014, Presentation. (Poster)

2012

Inglis, G.D., Enkerli, J., and Goettel, M.S. (2012). "Laboratory Techniques Used for Entomopathogenic Fungi: Hypocreales.", in Lacey, L. (ed.) - A Manual of Techniques in Insect Pathology. 2nd Edition, Academic Press, Chapter 7.

Inglis, G.D. and Uwiera, R.R.E. (2012). "Enhancing intestinal health in Alberta: a system-based, multidisciplinary, and integrated approach.", Alberta Livestock and Meat Agency Ltd., Edmonton, AB, Canada, January 2012. (Presentation)

Inglis, G.D. and Uwiera, R.R.E. (2012). "Development of biorational-based alternatives to antimicrobial growth promoters.", Alberta Livestock and Meat Agency, Edmonton, AB, Canada, 2012. (Presentation)

Inglis, G.D. and Uwiera, R.R.E. (2012). "Enhancing intestinal health in Alberta: a system-based, multidisciplinary, and integrated approach.", Lecture to Alberta Livestock and Meat Agency Ltd. And Alberta Innovates Bio Solutions, Edmonton, AB, Canada, January 2012. (Presentation)

Inglis, G.D. (2012). "Rationale for intestinal health research: hypothesis and mechanistic directed research.", Lecture to Alberta Livestock and Meat Agency and to Alberta Innovates Bio Solutions, Edmonton, AB, Canada, January 2012. (Presentation)

Inglis, G.D. (2012). "The campylobacteriosis enigma: a One Health approach.", Alberta Health Services Medical Officers of Health (Alberta Health Services InfoShare), Lethbridge AB, Canada, June 2012. (Presentation)

Inglis, G.D., Uwiera, R.R.E., Boras, V.F., Suttorp, V.V., Taboada, E.N., Koegler, D.P., and Kastelic, J.P. (2012). "The campylobacteriosis enigma: a 'One Health' approach.", Future Fare meeting, Alberta Livestock and Meat Agency Ltd., Calgary, AB, Canada, June 2012. (Presentation)

Inglis, G.D. (2012). "Antimicrobial Resistance in Campylobacter.", published by Beef Cattle Research Council I, Calgary, AB, Canada. (Factsheet)

Inglis, G.D., Taboada, E.N., Boras, V.F., Suttorp, V.V., and Koegler, D.P. (2012). "The campylobacteriosis enigma: a 'One Health' approach.", Canadian Campylobacter Workshop: Reducing public health impact of campylobacteriosis in Canada, Ottawa, ON, Canada, October 24-26, 2012, Invited presentation, pp. 15-16.

2011

Reti, K.L., Thomas, M.C., Costa, E., Yanke, L.J., Selinger, L.B., and Inglis, G.D. (2011). "Administration of antimicrobial growth promoters does not alter the intestinal microbiota of beef cattle.", Plant Bioactives Research in Canada. Canada-United Kingdom Gut and Health Workshop, AAFC-FRDC / AAC-CRDA, Saint-Hyacinthe, QC, Canada, February 24-25, 2011. (Poster)

Inglis, G.D. and Selinger, L.B. (2011). "ALIDF Campylobacter Antimicrobial Resistance Project.", n, Okotoks, AB, Cameroon, January 2011. (Presentation)

Inglis, G.D. (2011). "Intestinal health research at LRC: an integrated approach.", n, Lethbridge, AB, August 2011. (Presentation)

Brooks, S.P.J., Green-Johnson, J.M., Inglis, G.D., Uwiera, R.R.E., and Kalmokoff, M.L. (2011). "Gut microbiology – a relatively unexplored domain.", in Moo-Young, M. et al. (eds.) - Comprehensive Biotechnology, 2nd Edition. Vol. 4, Pergamon Press, Oxford, UK & New York, USA, pp. 575-590.

Inglis, G.D. and Selinger, L.B. (2011). "ALIDF Campylobacter Antimicrobial Resistance Project.", Feedlot Health Meeting, Okotoks, AB, Canada, January 2011. (Presentation)

Costa, E., Uwiera, R.R.E., Kastelic, J.P., Selinger, L.B., and Inglis, G.D. (2011). "Non-therapeutic administration of chlortetracycline modulates immune responses to Citrobacter rodentium in mice.", Plant Bioactives Research in Canada. Canada-United Kingdom Gut and Health Workshop, AAFC-FRDC / AAC-CRDA, Saint-Hyacinthe, QC, Canada, February 24-25, 2011.

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## Research Publications:

2015

Storlien, T.M., Prestløkken, E., Beauchemin, K.A., McAllister, T.A., Iwaasa, A.D., and Harstad, O.M. (2015). "Supplementation with crushed rapeseed causes reduction of methane emissions from lactating dairy cows on pasture.", *Animal Production Science*. doi: 10.1071/AN15287

Khakbazan, M., Durunna, O.N., Sirski, T.K., Brewin, D.G., Huang, J., Berry, N., Iwaasa, A.D., Scott, S.L., Robins, C.D., Block, H.C., and Lardner, H.A. (2015). "The effects of spring versus summer calving on beef cattle economic performance in western Canada.", *Canadian Journal of Animal Science*, 95(3), pp. 475-486. doi: 10.4141/CJAS-2015-046

Jin, L., Wang, Y., Iwaasa, A.D., Li, Y., Xu, Z.J., Schellenberg, M.P., Liu, X.-L., McAllister, T.A., and Stanford, K.I.M. (2015). "Purple prairie clover (*Dalea purpurea* Vent) reduces fecal shedding of *Escherichia coli* in pastured cattle.", *Journal of Food Protection*, 78(8), pp. 1434-1441. doi: 10.4315/0362-028X.JFP-14-426

2014

Durunna, O.N., Block, H.C., Iwaasa, A.D., Thompson, L.C., Scott, S.L., Robins, C.D., Khakbazan, M., and Lardner, H.A. (2014). "Impact of calving seasons and feeding systems in western Canada. I. Postweaning growth performance and carcass characteristics of crossbred steers.", *Canadian Journal of Animal Science*, 94(4), pp. 571-582. doi: 10.4141/CJAS-2014-033

Iwaasa, A.D., Jefferson, P.G., and Birkedal, E. (2014). "Beef cattle grazing behaviour differs among diploid and tetraploid crested wheat grasses (*Agropyron cristatum* and *A. desertorum*).", *Canadian Journal of Plant Science*, 94(5), pp. 851-855. doi: 10.4141/CJPS2013-373

Klabi, R., Hamel, C., Schellenberg, M.P., Iwaasa, A.D., Raies, A., and St-Arnaud, M. (2014). "Interaction between legume and arbuscular mycorrhizal fungi identity alters the competitive ability of warm-season grass species in a grassland community.", *Soil Biology & Biochemistry*, 70, pp. 176-182. doi: 10.1016/j.soilbio.2013.12.019

Meale, S.J., Chaves, A.V., McAllister, T.A., Iwaasa, A.D., Yang, W.-Z., and Benchaar, C. (2014). "Including essential oils in lactating dairy cow diets: effects on methane emissions.", *Animal Production Science*, 54(9), pp. 1215-1218. doi: 10.1071/AN14152

Sottie, E.T., Acharya, S.N., McAllister, T.A., Thomas, J.E., Wang, Y., and Iwaasa, A.D. (2014). "Alfalfa pasture bloat can be eliminated by intermixing with newly-developed sainfoin population.", *Agronomy Journal*, 106(4), pp. 1470-1478. doi: 10.2134/agnonj13.0378

Durunna, O.N., Girardin, L.C., Scott, S.L., Robins, C.D., Block, H.C., Iwaasa, A.D., Khakbazan, M., and Lardner, H.A. (2014). "The effects of spring versus summer calving on beef cattle reproductive and growth performance in western Canada.", *Canadian Journal of Animal Science*, 94(2), pp. 259-271. doi: 10.4141/CJAS2013-180

Li, Y., Iwaasa, A.D., Wang, Y., Jin, L., Han, G.D., and Zhao, M.G. (2014). "Condensed tannin concentration of selected prairie legume forages as affected by phenological stages during two consecutive growth seasons in western Canada.", *Canadian Journal of Plant Science*, 94(5), pp. 817-826. doi: 10.4141/CJPS2013-234

Durunna, O.N., Block, H.C., Iwaasa, A.D., Scott, S.L., Robins, C.D., Khakbazan, M., Dugan, M.E.R., Aalhus, J.L., Aliani, M., and Lardner, H.A. (2014). "Impact of calving seasons and feeding systems in western Canada. II. Meat composition and organoleptic quality of steaks.", *Canadian Journal of Animal Science*, 94(4), pp. 583-593. doi: 10.4141/CJAS-2014-034

Klabi, R., Bell, T.H., Hamel, C., Iwaasa, A.D., Schellenberg, M.P., Raies, A., and St. Arnaud, M. (2014). "Plant assemblage composition and soil P concentration differentially affect communities of AM and total fungi in a semi-arid grassland.", *FEMS Microbiology Ecology*, 91(1: Article number fii015). doi: 10.1093/femsec/fii015

Haisan, J., Sun, Y., Guan, L.L., Beauchemin, K.A., Iwaasa, A.D., Duval, S., Barreda, D.R., and Oba, M. (2014). "The effects of feeding 3-nitrooxypropanol on methane emissions and productivity of Holstein cows in mid lactation.", *Journal of Dairy Science (JDS)*, 97(5), pp. 3110-3119. doi: 10.3168/jds.2013-7834

2013

Jin, L., Wang, Y., Iwaasa, A.D., Xu, Z., Schellenberg, M.P., Zhang, Y.G., and McAllister, T.A. (2013). "Effect of condensed tannin on in vitro ruminal fermentation of purple prairie clover (*Dalea purpurea* Vent)-cool season grass mixture.", *Canadian Journal of Animal Science*, 93(1), pp. 155-158. doi: 10.4141/CJAS2012-109

Acharya, S.N., Sottie, E.T., Coulman, B., Iwaasa, A.D., McAllister, T.A., Wang, Y., and Liu, J.-H. (2013). "New Sainfoin Populations for Bloat-free Alfalfa Pasture Mixtures in Western Canada.", *Crop Science*, 53(5), pp. 2283-2293. doi : 10.2135/cropsci2012.10.0591

2012

Iwaasa, A.D., Schellenberg, M.P., and McConkey, B.G. (2012). "Re-establishment of Native Mixed Grassland Species into Annual Cropping Land.", *Prairie Soils and Crops*, 5, pp. 85-95.

Jin, L., Wang, Y., Iwaasa, A.D., Xu, Z.J., Schellenberg, M.P., Zhang, Y.G., Liu, X.-L., and McAllister, T.A. (2012). "Effect of condensed tannins on ruminal degradability of purple prairie clover (*Dalea purpurea* Vent.) harvested at two growth stages.", *Animal Feed Science and Technology*, 176(1-4), pp. 17-25. doi : 10.1016/j.anifeedsci.2012.07.003

Schellenberg, M.P., Biligetu, B., and Iwaasa, A.D. (2012). "Species dynamic, forage yield, and nutritive value of seeded native plant mixtures following grazing.", *Canadian Journal of Plant Science*, 92(4), pp. 699-706. doi : 10.4141/CJPS2011-273

Steppuhn, H., Acharya, S.N., Iwaasa, A.D., Gruber, M.Y., and Miller, D.R. (2012). "Inherent responses to root-zone salinity in nine alfalfa populations.", *Canadian Journal of Plant Science*, 92(2), pp. 235-248. doi : 10.4141/CJPS2011-174

2011

Patel, M., Wredle, E., Börjesson, G., Danielsson, R., Iwaasa, A.D., Spömdly, E., and Bertilsson, J. (2011). "Enteric methane emissions from dairy cows fed different proportions of highly digestible grass silage.", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 61(3), pp. 128-136. doi: 10.1080/09064702.2011.616216

## **Other Science Related Publications:**

2015

Alemu, A.W., Little, S.M., Hao, X., Iwaasa, A.D., Baron, V.S., Chai, L.L., Janzen, H.H., Beauchemin, K.A., Thompson, D., and Kröbel, R. (2015). "Application of life cycle assessment approach to beef production systems in the Canadian prairies with regard to environmental impact and energy use efficiency.", *LCA Conference XV - A bright green future*, Vancouver, Canada, October 6-8, 2015, Presentation.

2014

Iwaasa, A.D., Baron, V.S., Lemke, R.L., Wang, H., Kröbel, R., Schellenberg, M.P., and McConkey, B.G. (2014). "AGGP Cropping System-Grassland Research and Extension: Semiarid Ecoregion.", *AGGP cropping system – grassland research and extension: Semiarid Ecoregion*, AAFC-Saskatoon, Saskatoon, Canada, March 20, 2014.

Iwaasa, A.D. and Schellenberg, M.P. (2014). "Native and tame forage research opportunities at the Semiarid Prairie Research Centre (SPARC).", *2014 Native Prairie Restoration and Reclamation Workshop*, Regina, SK, Canada, January 28-30, 2014.

Iwaasa, A.D., Wang, Y., Muri, R., and Schellenberg, M.P. (2014). "AAFC-SPARC Forage, grazing, ecology evaluations of purple prairie clover (*Dalea purpurea* Vent.) and white prairie clover (*D. candida* Michx. Ex Willd.).", *2014 Native Prairie Restoration and Reclamation Workshop*, Regina, SK, Canada, January 28-30, 2014.

2013

Iwaasa, A.D., Li, Y., and Wang, Y. (2013). "Forage and grazing evaluations of purple prairie clover (*Dalea purpurea* Vent.) and white prairie clover (*Dalea candida* Michx. ex Willd) at AAFC-SPARC.", *Intermountain native plant summit VII*, Boise State University, March 26-27, 2013.

Cade-Menun, B.J., McConkey, B.G., Iwaasa, A.D., and Lardner, H.A. (2013). "The effect of in-field winter bale grazing on soil nutrients in pastures in Saskatchewan.", *ASA/CSSA/SSSA International annual meeting*, Tampa, Florida, USA, November 3-6, 2013.

## 2012

Iwaasa, A.D., McLeod, G.J., Schellenberg, M.P., Muri, R., and Biligetu, B. (2012). "Opportunities await for native and tame forage research at the Semiarid Prairie Agricultural Research Centre (SPARC) - Agriculture and Agri-Food Canada (AAFC).", 2012 Native Prairie Restoration/Reclamation Workshop, TCU Place, Saskatoon, SK, Canada, February 8-9, 2012. (Poster)

Iwaasa, A.D., Li, Y., Muri, R., Jin, Y., Schellenberg, M.P., and Biligetu, B. (2012). "Evaluation of the forage and seed characteristics of purple prairie clover (*Dalea purpurea* Vent.) and white prairie clover (*Dalea candida* Michx. Ex. Willd.).", 2012 Native Prairie Restoration/Reclamation Workshop, TCU Place, Saskatoon, SK, Canada, February 8-9, 2012. (Poster)

Iwaasa, A.D. and Schellenberg, M.P. (2012). "AAFC-SPARC long term grazing and forage production on re-established native grasslands in Southern Saskatchewan.", 2012 Native Prairie Restoration/Reclamation Workshop, TCU Place, Saskatoon, SK, Canada, February 8-9, 2012.

Jin, L., Xu, Z., Iwaasa, A.D., Zhang, Y.G., Schellenberg, M.P., and Wang, Y. (2012). "Mixing purple prairie clover with alfalfa reduced alfalfa N transforming to ammonia-N.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, W118. (Abstract)

Steppuhn, H., Iwaasa, A.D., Holzer, J., Johnson, D.W., and Ulmer, M. (2012). "Increasing the salinity tolerance of alfalfa to improve the effectiveness of agronomic-hydrologic practices for controlling root-zone salinization.", 2012 ASABE Annual International Meeting, Hilton Anatole Dallas, Dallas, TX, USA, July 29-August 1, 2012, Paper Number: 12-1338231, pp. 3306-3322.

Jin, L., Xu, Z.J., Iwaasa, A.D., Zhang, Y.G., Schellenberg, M.P., McAllister, T.A., and Wang, Y. (2012). "Mixing purple prairie clover with alfalfa reduced alfalfa N transforming to ammonia-N.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

Badea, A., Block, H.C., Iwaasa, A.D., McLeod, G.J., and Therrien, M.C. (2012). "An innovative approach in extended swath-grazing waxy forage barley.", 7th Canadian Barley Symposium, Calgary, AB, Canada, July 8-10, 2012, pp. 32. (Poster)

## 2011

Jin, L., Zhang, Y.G., Iwaasa, A.D., Schellenberg, M.P., Xu, Z.J., McAllister, T.A., and Wang, Y. (2011). "Fecal shedding of *Escherichia coli* of cattle grazing pastures with and without purple prairie clover (*Petalostemon purpureum*).", Canadian Journal of Animal Science, 91(3), pp. 503. (Abstract)

Jin, L., Xu, Z.J., Iwaasa, A.D., Zhang, Y.G., Schellenberg, M.P., McAllister, T.A., and Wang, Y. (2011). "Effect of tannin on in vitro ruminal degradability of purple prairie clover (*Petalostemon purpureum*) harvested at two growth stages in the Daisy II Fermentation System.", ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 11-14, 2011, T356. (Poster)

Jin, L., Xu, Z.J., Iwaasa, A.D., Zhang, Y.G., Schellenberg, M.P., McAllister, T.A., and Wang, Y. (2011). "Effect of tannin on in vitro ruminal degradability of purple prairie clover (*Petalostemon purpureum*) harvested at two growth stages in the Daisy II Fermentation System.", Journal of Animal Science, 89(E-Suppl. 1), pp. 387. (Abstract)

Jin, L., Xu, Z.J., Iwaasa, A.D., Schellenberg, M.P., Zhang, Y.G., McAllister, T.A., and Wang, Y. (2011). "Nutrient and tannin contents of purple prairie clover (*Petalostemon purpureum*) harvested at different growth stages.", Journal of Animal Science, 89(E-Suppl. 1), pp. 48. (Abstract)

Jin, L., Xu, Z.J., Iwaasa, A.D., Zhang, Y.G., Schellenberg, M.P., McAllister, T.A., and Wang, Y. (2011). "Nutrient and tannin contents of purple prairie clover (*Petalostemon purpureum*) harvested at different growth stages.", ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 11-14, 2011, M#127. (Poster)

Jin, L., Zhang, Y.G., Iwaasa, A.D., Schellenberg, M.P., Xu, Z.J., McAllister, T.A., and Wang, Y. (2011). "Effect of incorporation of purple prairie clover (*Petalostemon purpureum*) into cool season grasses mixture on in vitro ruminal fermentation.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011, FPE-3. (Poster)

Iwaasa, A.D. (2011). "Sainfoin.", Saskatchewan Stock Growers Association (SSGA) magazine.

Jin, L., Zhang, Y.G., Iwaasa, A.D., Schellenberg, M.P., Xu, Z.J., McAllister, T.A., and Wang, Y. (2011). "Fecal shedding of *Escherichia coli* of cattle grazing pastures with and without purple prairie clover (*Petalostemon purpureum*).", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011, TDC-2. (Poster)

Schellenberg, M.P., Biligetu, B., and Iwaasa, A.D. (2011). "Effects of grazing disturbance on re-established native forage stands for a semiarid climate.", IX International Rangeland Congress - IRC2011: Diverse Rangelands for a Sustainable Society, Rosario, Argentina, April 2-8, 2011, pp. 179.

Jin, L., Zhang, Y.G., Iwaasa, A.D., Schellenberg, M.P., Xu, Z.J., McAllister, T.A., and Wang, Y. (2011). "Effect of incorporation of purple prairie clover (*Petalostemon purpureum*) into cool season grasses mixture on in vitro ruminal fermentation.", *Canadian Journal of Animal Science*, 91(3), pp. 476. (Abstract)

Acharya, S.N., Iwaasa, A.D., McAllister, T.A., Wang, Y., and Thomas, J. (2011). "Animal performance and incidence of bloat in mixed alfalfa/sainfoin grazing.", *Plant Canada 2011*, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

Acharya, S.N., Iwaasa, A.D., Coulman, B., Jefferson, P.G., McAllister, T.A., and Wang, Y. (2011). "New sainfoin keepspace with alfalfa for safe grazing.", *Plant Canada 2011*, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

Iwaasa, A.D. (2011). "Pasture management and productivity.", *Canadian Cattleman Association Action News*.

Iwaasa, A.D., Feist, M., Christensen, D.A., Doig, B., Peiqiang, Y., and Benot, A. (2011). "2011 Saskatchewan Advisory Council on Forage Crop: Feed and Forage Quality Sub-Committee Report.", *SACFC Annual Meeting*, Saskatoon, SK, Canada, December 12, 2011, 11 pages. (Presentation)

Cade-Menun, B.J., McConkey, B.G., Iwaasa, A.D., and Lardner, H.A. (2011). "Cattle winter bale-grazing in SW Saskatchewan: the SPARC research project.", *Extensive cattle wintering systems workshop*, Saskatoon, SK, Canada, February 8-9, 2011. (Workshop)

Cade-Menun, B.J., McConkey, B.G., Iwaasa, A.D., and Lardner, H.A. (2011). "Nutrient loss in snowmelt runoff from cattle winter bale-grazing in SW Saskatchewan.", *2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences*, San Antonio, TX, USA, October 16-19, 2011.

Lemke, R.L., Iwaasa, A.D., Baron, V.S., Farrell, R.E., and Schoenau, J.J. (2011). "Quantifying nitrous oxide emissions resulting from beef cattle urine and dung on semiarid pasture.", *2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences*, San Antonio, TX, USA, October 16-19, 2011.

Baron, V.S., Lemke, R.L., Basarab, J.A., and Iwaasa, A.D. (2011). "Root, residue and removal-C and -N pools compared to above ground production for forage-based management practices.", *2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences*, San Antonio, TX, USA, October 16-19, 2011, Abstract 67442. (Abstract)

Schellenberg, J.J., Biliget, B., and Iwaasa, A.D. (2011). "Botanical composition change of seeded simple and complex native forage mixtures following grazing.", *IX International Rangeland Congress - IRC2011: Diverse Rangelands for a Sustainable Society*, Rosario, Argentina, April 2-8, 2011, pp. 393.

Iwaasa, A.D. (2011). "Purple prairie clover may reduce *E. coli* in cattle.", *Western Producer*.

Schellenberg, M.P., Biliget, B., and Iwaasa, A.D. (2011). "Botanical composition of seeded simple and complex native forage mixtures following grazing.", *IX International Rangeland Congress - IRC2011: Diverse Rangelands for a Sustainable Society*, Rosario, Argentina, April 2-8, 2011, pp. 393.

Iwaasa, A.D., Steppuhn, H., Schellenberg, M.P., Acharya, S.N., and Wang, Y. (2011). "A forage and grazing research update.", *SWFA Annual General Meeting*, Swift Current, SK, Canada, March 1, 2011.

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## Research Publications:

2015

Reynolds, A.G., Fisher, H., and Jamieson, A.R. (2015). "Grapevine breeding in Canada.", in Reynolds, A.G. (ed.) - Grapevine breeding programs for the wine industry, Elsevier, pp. 311-344.

Vining, K.J., Davis, T.M., Jamieson, A.R., and Mahoney, L.L. (2015). "Germplasm resources for verticillium wilt resistance breeding and genetics in strawberry (*Fragaria*).", *Journal of Berry Research*, 5(4), pp. 183-195. doi : 10.3233/JBR-150096

Fomey, C.F., Jamieson, A.R., Munro Pennell, K.D., Jordan, M.A., and Fillmore, S.A.E. (2015). "Relationships between fruit composition and storage life in air or controlled atmosphere of red raspberry.", *Postharvest Biology and Technology*, 110, pp. 121-130. doi : 10.1016/j.postharvbio.2015.07.017

Rupasinghe, H.P.V., Boehm, M.M., Sekhon-Loodu, S., Parmar, I., Bors, B., and Jamieson, A.R. (2015). "Anti-inflammatory activity of haskap cultivars is polyphenol-dependent.", *Biomolecules*, 5(2), pp. 1079-1098. doi : 10.3390/biom5021079

2014

Finn, C.E., Strik, B.C., Yorgey, B.M., Mackey, T.A., Moore, P.P., Dossett, M.P., Kempler, C., Martin, R.R., Jamieson, A.R., and Galletta, G.J. (2014). "'Sweet Sunrise' strawberry.", *HortScience*, 49(8), pp. 1088-1092.

Jamieson, A.R., Hildebrand, P.D., Renderos, W.E., and Fillmore, S.A.E. (2014). "Resistance to angular leafspot disease of strawberry: Influence of seedling age.", *Acta Horticulturae (ISHS)*, 1049, pp. 187-191.

Mathey, M.M., Mookerjee, S., Mahoney, L., Finn, C.E., Hancock, J.F., Serçe, S., Davis, T., Stewart, P., Whitaker, V., Jamieson, A.R., Bassil, N.V., Amaya, I., Denoyes, B., Hummer, K.E., Sargent, D., van de Weg, E., and Iezzoni, A.F. (2014). "Using general and specific combining ability to further advance strawberry (*Fragaria* sp.) breeding.", *Acta Horticulturae (ISHS)*, 1049, pp. 193-200.

Jamieson, A.R. (2014). "'AAC Lila' Strawberry.", *HortScience*, 49(6), pp. 833-834.

2013

Hughes, B.R., Fisher, P., and Jamieson, A.R. (2013). "Comparison of Nine Clones of 'Jewel' Strawberry in Ontario and Nova Scotia.", *International Journal of Fruit Science*, 13(1-2), pp. 175-183. doi : 10.1080/15538362.2012.698155

Jamieson, A.R., Hildebrand, P.D., and Renderos, W.E. (2013). "Breeding Strawberry Plants Resistant to Angular Leafspot Disease.", *International Journal of Fruit Science*, 13(1-2), pp. 28-35. doi : 10.1080/15538362.2012.696959

2012

Hummer, K.E., Jamieson, A.R., and Newell, R.E. (2012). "Beyond botany to genetic resource preservation: the S.P. Vander Kloet *Vaccinium* collections.", *Botany*, 90(5), pp. 337-346. doi : 10.1139/B11-102

Jamieson, A.R., Sanderson, K.R., and Tremblay, R.J.A. (2012). "'Laurel' strawberry.", *HortScience*, 47(3), pp. 431-433.

2011

Kempler, C., Daubeny, H.A., Harding, B., Frey, L., Baumann, T., Finn, C.E., Khanizadeh, S., Jamieson, A.R., MacKenzie, K.C., Moore, P.P., and Sweeney, M.E. (2011). "'Stolo' Strawberry.", *HortScience*, 46(7), pp. 1046-1048.

## Other Science Related Publications:

2015

Speranzini, D., Li, V., Joosse, P., Feisthauer, N., Reid, K., Jamieson, A.R., and Handyside, P. (2015). "Calculating Environmental Sustainability Metrics for Ontario Horticultural Production Systems.", Ontario Fruit and Vegetable Growers Association, Niagara Falls, ON, Canada. (Poster)

Fomey, C.F., Jamieson, A.R., Munro Pennell, K.D., Jordan, M.A., and Fillmore, S.A.E. (2015). "Impact of atmosphere modification on red raspberry fruit quality.", *HortScience*, 90(9), pp. S181. (Abstract)

Fomey, C.F., Jamieson, A.R., Munro Pennell, K.D., Jordan, M.A., and Fillmore, S.A.E. (2015). "Atmosphere Modification Effects on Red Raspberry Fruit Market Life.", United Fresh 2015, Chicago, IL, USA, June 9-11, 2015. (Poster)

2014

Fomey, C.F., Jamieson, A.R., Munro Pennell, K.D., and Jordan, M.A. (2014). "Response of raspberry cultivars and selections to controlled atmosphere storage.", 29th International Horticultural Congress Symposium on Physiology of Perennial Fruit Crops & Production Systems, Brisbane, Australia, August 17-24, 2014.

2012

Debnath, S.C., Kempler, C., Jamieson, A.R., and Khanizadeh, S. (2012). "Growth and development of raspberry as affected by in vitro and ex vitro propagation methods.", Plant Canada 2012 (joint meeting of the Canadian Society of Agronomy (CSA), Canadian Society for Horticultural Science (CSHS), Certified Crop Advisors (CCA), North American Fruit Explorers (NAFEX)): Adapting Crops to Change, University of Saskatchewan, Saskatoon, SK, Canada, July 16-19, 2012, E2.4 Abstract Id 3832, pp. 43. (Abstract)

Mathey, M.M., Jamieson, A.R., van de Weg, E., Bassil, N.V., Finn, C.E., and Hancock, J.F. (2012). "Marker validation for Rpf1 red stele resistance in *Fragaria* for use in marker assisted selection.", 6th Rosaceous Genomics Conference (RGC6), Mezzocorona, Trento, Italy, September 30-October 4 2012.

Mathey, M.M., Jamieson, A.R., van de Weg, E., Bassil, N.V., Finn, C.E., and Hancock, J.F. (2012). "Marker validation for Rpf1 red stele (*Phytophthora fragariae*) resistance in *Fragaria* for use in marker assisted selection.", 109th Annual Conference of the American Society for Horticultural Science (ASHS), InterContinental Miami Hotel, Miami, FL, USA, July 31 -August 3, 2012, *HortScience* 47(9):S144. (Abstract).

Mathey, M.M., Mookerjee, S., Mahoney, L., Finn, C.E., Hancock, J.F., Davis, T., Stewart, P., Whitaker, V., Jamieson, A.R., Bassil, N.V., Amaya, I., Denoyes-Rothan, B., Sargent, D., van de Weg, E., and Iezzoni, A.F. (2012). "Phenotyping *Fragaria* sp. and Using GCA and SCA to Further Advance Strawberry Breeding.", II International Symposium on Biotechnology of Fruit Species, Nelson, New Zealand, March 25-29, 2012.



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## Research Publications:

2016

Chai, L.L., Kröbel, R., Macdonald, D.J., Bittman, S., Beauchemin, K.A., Janzen, H.H., McGinn, S.M., and VanderZaag, A.C. (2016). "An ecoregion-specific ammonia emissions inventory of Ontario dairy farming: Mitigation potential of diet and manure management practices.", *Atmospheric Environment*, 126, pp. 1-14. doi: 10.1016/j.atmosenv.2015.11.030

Kröbel, R., Bolinder, M.A., Janzen, H.H., Little, S.M., VandenBygaart, A.J., and Kätterer, T. (2016). "Canadian farm-level soil carbon change assessment by merging the greenhouse gas model Holos with the Introductory Carbon Balance Model (ICBM).", *Agricultural Systems*, 143, pp. 76-85. doi: 10.1016/j.agsy.2015.12.010

2015

Gregorich, E.G., Janzen, H.H., Helgason, B.L., and Ellert, B.H. (2015). "Nitrogenous gas emissions from soils and greenhouse gas effects.", *Advances in Agronomy (Book series)*, 132, pp. 39-74. doi: 10.1016/bs.agron.2015.02.004

Janzen, H.H. (2015). "Beyond carbon sequestration: Soil as conduit of solar energy.", *European Journal of Soil Science*, 66(1), pp. 19-32. doi: 10.1111/ejss.12194

Smith, E.G., Janzen, H.H., and Lamey, F.J. (2015). "Long-term cropping system impact on quality and productivity of a Dark Brown Chernozem in southern Alberta.", *Canadian Journal of Soil Science*, 95(2), pp. 177-186. doi: 10.4141/CJSS-2014-104

Smith, E.G., Janzen, H.H., and Kröbel, R. (2015). "Yield and profitability of fallow and fertilizer inputs in long-term wheat rotation plots at Lethbridge, Alberta.", *Canadian Journal of Plant Science*, 95(3), pp. 579-587. doi: 10.4141/CJPS-2014-356

2014

Chai, L.L., Kröbel, R., Janzen, H.H., Beauchemin, K.A., McGinn, S.M., Bittman, S., Atia, A., Edeogu, I., MacDonald, D., and Dong, R.L. (2014). "A regional mass balance model based on total ammoniacal nitrogen for estimating ammonia emissions from beef cattle in Alberta Canada.", *Atmospheric Environment*, 92, pp. 292-302. doi: 10.1016/j.atmosenv.2014.04.037

Stewart, A.A., Alemu, A.W., Ominski, K.H., Wilson, C.H., Tremorin, D.G., Wittenberg, K.M., Tenuta, M., and Janzen, H.H. (2014). "Whole-farm greenhouse gas emissions from a backgrounding beef production system using an observation-based and model-based approach.", *Canadian Journal of Animal Science*, 94(3), pp. 463-477. doi: 10.4141/CJAS2013-193

Whalen, J.K., Gul, S., Poirier, V., Yanni, S.F., Simpson, M.J., Clemente, J.S., Feng, X.-J., Grayston, S.J., Barker, J., Ishimaru, K., Gregorich, E.G., Angers, D.A., Rochette, P., and Janzen, H.H. (2014). "Transforming plant carbon into soil carbon: process-level controls on carbon sequestration.", *Canadian Journal of Plant Science*, 94(6), pp. 1065-1073. doi: 10.4141/CJPS2013-145

Helgason, B.L., Gregorich, E.G., Janzen, H.H., Ellert, B.H., Lorenz, N., and Dick, R.P. (2014). "Long-term microbial retention of residue C is site-specific and depends on residue placement.", *Soil Biology & Biochemistry*, 68, pp. 231-240. doi: 10.1016/j.soilbio.2013.10.002

2013

Greenfield, L.G., Gregorich, E.G., Van Kessel, C., Baldock, J.A., Beare, M.H., Billings, S.A., Clinton, P., Condon, L.M., Hill, S., Hopkins, D.W., and Janzen, H.H. (2013). "Acid hydrolysis to define a biologically-resistant pool is compromised by carbon loss and transformation. Short communication.", *Soil Biology & Biochemistry*, 64, pp. 122-126. doi: 10.1016/j.soilbio.2013.04.009

Kröbel, R., Janzen, H.H., Beauchemin, K.A., Bonesmo, H., Little, S.M., and McAllister, T.A. (2013). "A proposed approach to estimate and reduce the environmental impact from whole farms.", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 62(4), pp. 225-232. doi: 10.1080/09064702.2013.770912

2012

Smith, E.G., Janzen, H.H., Ellert, B.H., and Nakonechny, D.J. (2012). "Rotation 120 – Lethbridge Alberta.", *Prairie Soils and Crops*, 5, pp. 155-164.

Lamey, F.J. and Janzen, H.H. (2012). "Long-Term Erosion-Productivity Relationships: The Lethbridge Soil Scalping Studies.", *Prairie Soils and Crops*, 5, pp. 139-146.

McGeough, E.J., Little, S.M., Janzen, H.H., McAllister, T.A., McGinn, S.M., and Beauchemin, K.A. (2012). "Life-cycle assessment of greenhouse gas emissions from dairy production in eastern Canada: A case study.", *Journal of Dairy Science (JDS)*, 95(9), pp. 5164-5175. doi : 10.3168/jds.2011-5229

Bonesmo, H., Skjelvåg, A.O., Janzen, H.H., Klakegg, O., and Tveito, O.E. (2012). "Greenhouse gas emission intensities and economic efficiency in crop production: A systems analysis of 95 farms.", *Agricultural Systems*, 110, pp. 142-151. doi : 10.1016/j.agsy.2012.04.001

Dai, M., Hamel, C., St. Arnaud, M., He, Y., Grant, C.A., Lupwayi, N.Z., Janzen, H.H., Malhi, S.S., Yang, X., and Zhou, Z. (2012). "Arbuscular mycorrhizal fungi assemblages in Chernozem great groups revealed by massively parallel pyrosequencing.", *Canadian Journal of Microbiology*, 58(1), pp. 81-92. doi : 10.1139/W11-111

Campbell, C.A., Juma, N.G., Zentner, R.P., Smith, E.G., Izaurralde, R.C., Robertson, J.A., Dyck, M.F., and Janzen, H.H. (2012). "A Bibliography of Scientific Publications Based on Long-Term Crop Rotation Studies in the Canadian Prairies.", *Prairie Soils and Crops*, 5, pp. 7-29.

Janzen, H.H., Olson, B.M., Zvomuya, F., Lamey, F.J., and Ellert, B.H. (2012). "Long-term Field Bioassay of Soil Quality.", *Prairie Soils and Crops*, 5, pp. 165-168.

Smith, E.G., Ellert, B.H., Janzen, H.H., and Nakonechny, E.M. (2012). "Rotation ABC – Lethbridge, Alberta.", *Prairie Soils and Crops*, 5, pp. 147-154.

2011

Lamey, F.J., Janzen, H.H., and Olson, A.F. (2011). "Residual effects of one-time manure, crop residue and fertilizer amendments on a desurfaced soil.", *Canadian Journal of Soil Science*, 91(6), pp. 1029-1043. doi : 10.4141/CJSS10065

Richter, D.D.B., Bacon, A.R., Mobley, M.L., Richardson, C.J., Andrews, S.S., West, L., Wills, S., Billings, S.A., Cambardella, C.A., Cavallaro, N., DeMeester, J.E., Franzluebbers, A.J., Grandy, A.S., Grunwald, S., Gruver, J., Hartshorn, A.S., Janzen, H.H., Kramer, M.G., Ladha, J.K., Lajtha, K., Liles, G.C., Markewitz, D., Megonigal, P.J., Mermut, A.R., Rasmussen, C., Robinson, D.A., Smith, P., Stiles, C.A., Tate III, R.L., Thompson, A., Tugel, A.J., van Es, H., Yaalon, D., and Zobeck, T.M. (2011). "Human-soil relations are changing rapidly: Proposals from SSSA's cross-divisional soil change working group.", *Soil Science Society of America Journal*, 75(6), pp. 2079-2084. doi : 10.2136/sssaj2011.0124

Bremer, E., Janzen, H.H., Ellert, B.H., and McKenzie, R.H. (2011). "Carbon, nitrogen, and greenhouse gas balances in an 18-year cropping system study on the northern Great Plains.", *Soil Science Society of America Journal*, 75(4), pp. 1493-1502. doi : 10.2136/sssaj2010.0326

Janzen, H.H. (2011). "What place for livestock on a re-greening earth?.", *Animal Feed Science and Technology*, 166-167, pp. 783-796. doi : 10.1016/j.anifeedsci.2011.04.055

Beauchemin, K.A., Janzen, H.H., McAllister, T.A., and McGinn, S.M. (2011). "Mitigation of greenhouse gas emissions from beef production in western Canada - Evaluation using farm-based life cycle assessment.", *Animal Feed Science and Technology*, 166-167, pp. 663-677. doi : 10.1016/j.anifeedsci.2011.04.047

Janzen, H.H., Fixen, P.E., Franzluebbers, A.J., Hattey, J., Izaurralde, R.C., Ketterings, Q.M., Lobb, D.A., and Schlesinger, W.H. (2011). "Global Prospects Rooted in Soil Science.", *Soil Science Society of America Journal*, 75(1), pp. 1-8. doi : 10.2136/sssaj2009.0216

VandenBygaart, A.J., Bremer, E., McConkey, B.G., Ellert, B.H., and Janzen, H.H. (2011). "Impact of sampling depth on differences in soil carbon stocks in long-term agroecosystem experiments.", *Soil Science Society of America Journal*, 75(1), pp. 226-234. doi : 10.2136/sssaj2010.0099

## Other Science Related Publications:

2015

Little, S.M., Beauchemin, K.A., Benchaar, C., Chai, L.L., Janzen, H.H., Kröbel, R., McGeough, E.J., and VanderZaag, A.C. (2015). "Demonstrating the effect of diet on the carbon footprint of a Canadian dairy scenario using whole-systems analysis and the Holos model: corn silage vs. alfalfa silage.", *LCA Conference XV - A bright green future*, Vancouver, Canada, October 6-8, 2015, Presentation.

Alemu, A.W., Little, S.M., Hao, X., Iwaasa, A.D., Baron, V.S., Chai, L.L., Janzen, H.H., Beauchemin, K.A., Thompson, D., and Kröbel, R. (2015). "Application of life cycle assessment approach to beef production systems in the Canadian prairies with regard to environmental impact and energy use efficiency.", LCA Conference XV - A bright green future, Vancouver, Canada, October 6-8, 2015, Presentation.

Chai, L.L., Kröbel, R., Beauchemin, K.A., Macdonald, D.J., Janzen, H.H., McGinn, S.M., and Bittman, S. (2015). "Greenhouse gases and ammonia emissions from grazing beef cattle in Alberta and Ontario Canada.", Canadian Society for Bioengineering Conference/CSBE/SCGAB 2015 Annual Conference, Edmonton, AB, Canada, July 5-8, 2015, Presentation.

Chai, L.L., Kröbel, R., Macdonald, D.J., Bittman, S., Beauchemin, K.A., Janzen, H.H., and McGinn, S.M. (2015). "Developing nitrogen loss fractions for beef and dairy cattle manure storage systems in Canadian ecoregions: a comparison between West and East.", Canadian Society for Bioengineering Conference/CSBE/SCGAB 2015 Annual Conference, Edmonton, AB, Canada, July 5-8, 2015.

Kröbel, R., Janzen, H.H., Ellert, B.H., Beauchemin, K.A., and McAllister, T.A. (2015). "Agriculture is neither the culprit nor the solution to Climate Change.", "Our Common Future under Climate Change" Conference, Paris, France, July 7-10, 2015. (Poster)

Kröbel, R., Li, S., Little, S.M., Vanin, C., and Janzen, H.H. (2015). "Calculating greenhouse gases from the Black-Brook watershed, New Brunswick, using the Holos model.", Conference "On Sustainability 2015", Copenhagen, Denmark

Martel, M., Kröbel, R., Hrapovic, L., Janzen, H.H., McConkey, B.G., Glenn, A.J., and Wilson, H.F. (2015). "A Canadian water budget model for water footprint assessment of crop production.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015. (Poster)

## 2014

Gregorich, E.G., Ellert, B.H., Janzen, H.H., and Helgason, B.L. (2014). "Plant residue decay in diverse Canadian soils.", 20th World Congress of Soil Science, Jeju, South Korea, June 8-13, 2014, Presentation.

Gregorich, E.G., Ellert, B.H., Janzen, H.H., and Helgason, B.L. (2014). "Plant residue decay in diverse Canadian Soils.", American Society of Agronomy Annual Meetings, Long Beach, CA, USA, November 2014, Presentation.

Gregorich, E.G., Ellert, B.H., Helgason, B.L., and Janzen, H.H. (2014). "Soil disturbance effects on decomposition of plant residues in Canadian agricultural soils.", 20th World Congress of Soil Science, Jeju, South Korea, June, 2014, Presentation.

Ellert, B.H., Helgason, B.L., Janzen, H.H., and Gregorich, E.G. (2014). "Soil Disturbance Effects on Plant Residue Decay in Canadian Agricultural Soils.", Canadian Society of Soil Science Annual Meetings, Banff, AB, Canada, May 2014.

Desjardins, R.L., Worth, D.E., Vergé, X.P.C., VanderZaag, A.C., Kröbel, R., Janzen, H.H., Maxime, D., and Dyer, J.A. (2014). "The carbon footprint of agricultural products: A measure of the impact of agricultural production on climate change.", International Conference on Promoting Weather and Climate Information for Agriculture and Food Security, Antalya, Turkey, April 7-9, 2014.

Helgason, B.L., Kuzmicz, S.C., Janzen, H.H., Gillespie, A.W., Hemmingsen, S.M., Yergeau, E., Greer, C.W., Germida, J.J., and Leinweber, P. (2014). "Historical Rotation ABC: microbial community structure and diversity over 100 years of wheat production.", 1st global Soil Biodiversity Conference, Dijon, France, December 2014.

Gillespie, A.W., Sanei, H., Diochon, A., Tamocai, C., Janzen, H.H., Regier, T.Z., Chevrier, D., Dynes, J.J., and Gregorich, E.G. (2014). "Biological stability of soil organic matter is related to thermal and chemical properties.", Complex Soil Systems SSSA/Bouyoucos Funds, Berkeley Lab, DOE, Berkeley, CA, USA, September 3-5, 2014.

Gillespie, A.W., Sanei, H., Diochon, A., Tamocai, C., Janzen, H.H., Regier, T.Z., and Gregorich, E.G. (2014). "Using thermal and spectroscopic (XANES) indices to understand the biological stability of soil organic matter.", American Geophysical Union (AGU) Fall Meeting, San Francisco, CA, USA, December 15-19, 2014.

Smith, E.G. and Janzen, H.H. (2014). "The value of soil quality indices in crop production for western Canada.", 2014 Canadian Economics Association and the Canadian Agricultural Economics Society annual joint meeting, Simon Fraser University, Vancouver, BC, Canada, May 29 - June 1, 2014.

## 2013

McGeough, E.J., Little, S.M., Janzen, H.H., McAllister, T.A., McGinn, S.M., and Beauchemin, K.A. (2013). "Greenhouse gas emissions from dairying in Eastern Canada – Effects of varying dairy cow replacement rate.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P42, pp. 42. (Poster)

Li, L., Janzen, H.H., Lamey, F.J., and Angers, D.A. (2013). "Long-term recovery of soil organic matter and aggregate stability in an artificially eroded soil under various one-time amendments.", Canadian Society of Soil Science-Manitoba Soil Science Soc.-Can. Soc. Agric. Forest Meteorology Joint Ann. Meeting, Winnipeg, MB, Canada, July 22-25, 2013, pp. 111. (Abstract)

Janzen, H.H. (2013). "Agricultural sustainability: some thoughts from a Canadian (science) perspective.", T2013 Tetrapartite meetings, Norwich, UK, June 2-5, 2013.

Janzen, H.H. (2013). "Managing soil carbon for manifold benefits.", STAP/GEF Special Session, Washington DC, USA, October 10, 2013, Oral presentation.

Flaten, D.N., Janzen, H.H., Ominski, K.H., and Taylor, A.A. (2013). "Video-conferencing to deliver a graduate course on agricultural sustainability.", Joint annual meetings of the Canadian Society of Soil Science, Manitoba Soil Science Society, and Canadian Society of Agricultural and Forest Meteorology, Fort Garry Hotel, Winnipeg, MB, Canada, July 22-25, 2013, Oral presentation.

Janzen, H.H. (2013). "Earth's malleable membrane.", Joint Annual Meetings of the Canadian Society of Soil Science, Manitoba Soil Science Society, Canadian Society of Agricultural and Forest Meteorology, Winnipeg, MB, Canada, July 22-25, 2013, Oral presentation.

Ellert, B.H., Gregorich, E.G., and Janzen, H.H. (2013). "Measuring and Monitoring Soil Carbon Storage.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013, Oral presentation.

Li, L., Janzen, H.H., Lamey, F.J., and Angers, D.A. (2013). "Long-term recovery of soil organic matter and aggregate stability in an artificially eroded soil under various one-time amendments.", Joint Annual Meetings of the Canadian Society of Soil Science, Manitoba Soil Science Society, Canadian Society of Agricultural and Forest Meteorology, Winnipeg, MB, Canada, July 22-25, 2013. (Poster)

Little, S.M., Beauchemin, K.A., Janzen, H.H., Kröbel, R., and Maclean, K. (2013). "Holos - Methodology & Algorithms for Version 2.0.", AAFC Lethbridge, Lethbridge, AB, March 21, 2013. (Presentation)

Kröbel, R., Janzen, H.H., Little, S.M., and Li, S. (2013). "Preliminary Holos model assessment of GHG emissions from crop production in the Black-Brook watershed, NB, during the years 1988 – 1997.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Chai, L.L., Kröbel, R., Janzen, H.H., Beauchemin, K.A., McGinn, S.M., Bittman, S., Atia, A., and Edeogu, I. (2013). "A mass balance model based on total ammoniacal nitrogen for estimating ammonia volatilization from beef cattle manure management in Alberta in Canada.", ASABE Annual International Meeting, Kansas City, MO, USA, July 21-24, 2013, paper #:1596572.

## 2012

McGeough, E.J., Little, S.M., Janzen, H.H., McAllister, T.A., McGinn, S.M., and Beauchemin, K.A. (2012). "Life-cycle assessment of greenhouse gas emissions from dairy production in Eastern Canada: A case study.", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012, Oral Presentation.

## 2011

Lamey, F.J. and Janzen, H.H. (2011). "Use of manure for restoring soil productivity.", Manure Management Update 2011, Lethbridge, AB, Canada, January 17, 2011, pp. 9-16.

Beauchemin, K.A., McGeough, E.J., Little, S.M., Janzen, H.H., McAllister, T.A., McGinn, S.M., and Maclean, K. (2011). "The Holos Model: reflections on progress and future plans.", Norway, June 2011. (Presentation)

Janzen, H.H. (2011). "Changes in cropping and tillage practices in Alberta: A recent revolution.", No-till and Crop Diversification as Base for Soil Conservation and Achieving National Food Security, Shortlandy, Kazakhstan, July 23-24, 2011, pp. 78-84.

Dai, M., Hamel, C., St. Arnaud, M., Grant, C.A., Lupwayi, N.Z., Janzen, H.H., Yang, X.Q., and Zhou, Z. (2011). "Composition and diversity of arbuscular mycorrhizal fungi in cropping system associated with different soil zones using pyrosequencing.", Soils Ecology Society Meeting 2011, University of British Columbia - Okanagan, Kelowna, BC, Canada, May 24-27, 2011, pp. 43.

Janzen, H.H. and Ellert, B.H. (2011). "Rotations ABC and U: A centennial tribute.", Lethbridge Historical Plots Centennial Workshop, Lethbridge, AB, Canada, June 21-22, 2011. (Presentation)

Janzen, H.H. (2011). "After 100 years, what is left to learn?", Lethbridge Historical Plots Centennial Workshop, Lethbridge, AB, Canada, June 21-22, 2011. (Presentation)

Janzen, H.H. (2011). "Listening to the land, from one century to the next.", Dr. Alex Johnston Lecture, Galt Museum, Lethbridge, AB, Canada, November 10, 2011. (Presentation)

Lamey, F.J., Wilms, W.D., Smith, E.G., Janzen, H.H., Ellert, B.H., and Miller, J.J. (2011). "Other long-term experiments at Lethbridge Research Centre.", Historical Rotations Workshop, Lethbridge, AB, Canada, June 21-22, 2011. (Presentation)

Janzen, H.H. (2011). "Trial plots have stories to tell.", Western Producer, September 22, 2011, pp. 18-19.

Beauchemin, K.A., McGeough, E.J., Little, S.M., Janzen, H.H., McAllister, T.A., McGinn, S.M., and Maclean, K. (2011). "GHG modelling activities: an overview.", Seminar on Greenhouse Gases from Agriculture, Norwegian University of Life Sciences, Norway, June 29, 2011. (Presentation)

Beauchemin, K.A., McGeough, E.J., and Janzen, H.H. (2011). "Life cycle assessment - A holistic approach to assessing greenhouse gas emissions from beef and dairy production.", 1st Joint meeting of the American Society of Animal Science and the Association Argentina de Production Animal, Mar del Plata, Argentina, October 4-7, 2011. (Presentation)

DePauw, R.M., Malhi, S.S., Bullock, P.R., Gan, Y.T., McKenzie, R.H., Lamey, F.J., Janzen, H.H., Cutforth, H.W., and Wang, H. (2011). "Wheat Production in Northern High Latitudes – Canadian example.", in Bonjean, A., Angus, W., and Van Ginkel, M. (eds.) - The World Wheat Book A History of Wheat Breeding. Vol. 2, Lavoisier Techet Doc, Paris, France, pp. 607-651.

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## Research Publications:

2015

Ostaf, D.P., Mosseler, A., Johns, R.C., Javorek, S.K., Klymko, J., and Ascher, J.S. (2015). "Willows (*Salix* spp.) as pollen and nectar sources for sustaining fruit and berry pollinating insects.", *Canadian Journal of Plant Science*, 95(3), pp. 505-516. doi: 10.4141/CJPS-2014-339

Fahrig, L., Girard, J., Duro, D., Pasher, J., Smith, A., Javorek, S.K., King, D., Lindsay, K.F., Mitchell, S.W., and Tischendorf, L. (2015). "Farmlands with smaller crop fields have higher within-field biodiversity.", *Agriculture, Ecosystems and Environment*, 200, pp. 219-234. doi: 10.1016/j.agee.2014.11.018

2013

Kennedy, C.M., Lonsdorf, E., Neel, M.C., Williams, N.M., Ricketts, T.H., Winfree, R., Bommarco, R., Brittain, C., Burley, A.L., Cariveau, D., Carvalheiro, L.G., Chacoff, N.P., Cunningham, S.A., Danforth, B.N., Dudenhöffer, J.-H., Elle, E., Gaines, H.R., Garibaldi, L.A., Gratton, C., Holzschuh, A., Isaacs, R., Javorek, S.K., Jha, S., Klein, A.M., Krewenka, K.M., Mandelik, Y., Mayfield, M.M., Morandin, L., Neame, L.A., Otieno, M., Park, M., Potts, S.G., Rundlöf, M., Saez, A., Steffan-Dewenter, I., Taki, H., Viana, B.F., Westphal, C., Wilson, J.K., Greenleaf, S., and Kremen, C. (2013). "A global quantitative synthesis of local and landscape effects on wild bee pollinators in agroecosystems.", *Ecology Letters*, 16(5), pp. 584-599. doi: 10.1111/ele.12082

Garibaldi, L.A., Steffan-Dewenter, I., Winfree, R., Aizen, M.A., Bommarco, R., Cunningham, S.A., Kremen, C., Carvalheiro, L.G., Harder, L.D., Afik, O., Bartomeus, I., Benjamin, F., Boreux, V., Cariveau, D., Chacoff, N.P., Dudenhöffer, J.-H., Freitas, B.M., Ghazoul, J., Greenleaf, S., Hipólito, J., Holzschuh, A., Howlett, B., Isaacs, R., Javorek, S.K., Kennedy, C.M., Krewenka, K.M., Krishnan, S., Mandelik, Y., Mayfield, M.M., Motzke, I., Munyuli, T., Nault, B.A., Otieno, M., Petersen, J., Pisanty, G., Potts, S.G., Rader, R., Ricketts, T.H., Rundlöf, M., Seymour, C.L., Schüepp, C., Szentgyörgyi, H., Taki, H., Tschamtké, T., Vergara, C.H., Viana, B.F., Wanger, T.C., Westphal, C., Williams, N.M., and Klein, A.M. (2013). "Wild pollinators enhance fruit set of crops regardless of honey bee abundance.", *Science*, 340(6127), pp. 1608-1611. doi: 10.1126/science.1230200

2012

Fomey, C.F., Javorek, S.K., Jordan, M.A., and Vander Kloet, S.P. (2012). "Floral volatile composition of four species of *Vaccinium*.", *Botany*, 90(5), pp. 365-371. doi: 10.1139/B2012-008

## Other Science Related Publications:

2012

Javorek, S.K. (2012). "The Relationship between Landscape Pattern and Native Bees in PEI.", PEI Blueberry Growers Association Annual Meeting, Charlottetown, PEI, Canada, April 12, 2012.

Pernal, S.F., Cardinal, S., and Javorek, S.K. (2012). "The Importance, Diversity and Status of Canada's Pollinator Resources: A Synthesis of Current AAFC Research.", *Agriculture and Agri-Food Canada (AAFC) Research Branch Speaker Series, National Headquarters Complex for the Agriculture Portfolio (NHCAP), Ottawa, ON, Canada, June 26, 2012. (Presentation)*

2011

Javorek, S.K. and Grant, M.C. (2011). Trends in wildlife habitat capacity on agricultural land in Canada, 1986-2006. *Canadian Biodiversity: Ecosystem Status and Trends 2010, Technical Thematic Report No. 14., Canadian Councils of Resource Ministers, Ottawa. (Report)*

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## Research Publications:

2015

Jégo, G., Pattey, E., Mesbah, S.M., Liu, J., and Duchesne, I. (2015). "Impact of the spatial resolution of climatic data and soil physical properties on regional corn yield predictions using the STICS crop model.", *International Journal of Applied Earth Observation and Geoinformation*, 41, pp. 11-22. doi: 10.1016/j.jag.2015.04.013

Jégo, G., Rotz, C.A., Bélanger, G., Tremblay, G.F., Charbonneau, É., and Pellerin, D. (2015). "Simulating forage crop production in a northern climate with the Integrated Farm System Model.", *Canadian Journal of Plant Science*, 95(4), pp. 745-757. doi: 10.4141/cjps-2014-375

2014

Jégo, G., Chantigny, M.H., Pattey, E., Bélanger, G., Rochette, P., Vanasse, A., and Goyer, C. (2014). "Improved snow-cover model for multi-annual simulations with the STICS crop model under cold, humid continental climates.", *Agricultural and Forest Meteorology*, 195-196, pp. 38-51. doi: 10.1016/j.agrformet.2014.05.002

Sansoulet, J.B., Pattey, E., Kröbel, R., Grant, B.B., Smith, W.N., Jégo, G., Desjardins, R.L., Tremblay, N., and Tremblay, G. (2014). "Comparing the performance of STICS, DNDC and DayCent models for predicting N uptake and biomass of spring wheat in Eastern Canada.", *Field Crops Research*, 156, pp. 135-150. doi: 10.1016/j.fcr.2013.11.010

Niang, M.A., Nolin, M.C., Jégo, G., and Perron, I. (2014). "Digital mapping of soil texture using Radarsat-2 polarimetric synthetic aperture radar data.", *Soil Science Society of America Journal*, 78(2), pp. 673-684. doi: 10.2136/sssaj2013.07.0307

2013

Jégo, G., Bélanger, G., Tremblay, G.F., Jing, Q., and Baron, V.S. (2013). "Calibration and performance evaluation of the STICS crop model for simulating timothy growth and nutritive value.", *Field Crops Research*, 151, pp. 65-77. doi: 10.1016/j.fcr.2013.07.003

2012

Jégo, G., Pattey, E., and Liu, J. (2012). "Using Leaf Area Index, retrieved from optical imagery, in the STICS crop model for predicting yield and biomass of field crops.", *Field Crops Research*, 131, pp. 63-74. doi: 10.1016/j.fcr.2012.02.012

Jégo, G., Sánchez-Pérez, J.M., and Justes, E. (2012). "Predicting soil water and mineral nitrogen contents with the STICS model for estimating nitrate leaching under agricultural fields.", *Agricultural Water Management*, 107, pp. 54-65. doi: 10.1016/j.agwat.2012.01.007

Liu, J., Pattey, E., and Jégo, G. (2012). "Assessment of vegetation indices for regional crop green LAI estimation from Landsat images over multiple growing seasons.", *Remote Sensing of Environment*, 123, pp. 347-358. doi: 10.1016/j.rse.2012.04.002

2011

Jégo, G., Pattey, E., Bourgeois, G., Tremblay, N., and Drury, C.F. (2011). "Evaluation of the STICS crop growth model with maize cultivar parameters calibrated for Eastern Canada.", *Agronomy for Sustainable Development*, 31(3), pp. 557-570. doi: 10.1007/s13593-011-0014-4

## Other Science Related Publications:

2015

Jégo, G., Chantigny, M.H., Pattey, E., Bélanger, G., Rochette, P., Vanasse, A., and Goyer, C. (2015). "Improved snow-cover model for multi-annual simulations with the STICS crop model under northern climates.", *STICS workshop 2015, Rennes, France, March 24-26, 2015*, pp. 2 pages.

Pattey, E., Jégo, G., Mesbah, S.M., Liu, J., and Duchesne, I. (2015). "Impact of spatial resolution of soil and climatic data on regional corn yield predictions using OptimiSTICS package.", STICS workshop 2015, Rennes, France, March 24-26, 2015, pp. 2 pages.

Beaudoin, N., Bertuzzi, P., Buis, S., Casellas, E., Chabrier, P., Constantin, J., Dumont, B., Durand, J., Garcia de Cortazar-Atauria, I., Jégo, G., Justes, E., Launay, M., Le Bas, C., Lecharpentier, P., Leonard, J., Louam, G., Mary, B., Poupas, J.C., Ripoche, D., and Ruget, F. (2015). "Modular STICS, under construction.", 5th AgMIP Global Workshop, Gainesville, FL, USA, February 25-28, 2015, Oral presentation.

Jégo, G., Thivierge, M.-N., Rotz, A., Bélanger, G., Tremblay, G.F., Morissette, R., Charbonneau, É., and Pellerin, D. (2015). "Adaptation du modèle IFSM (Integrated Farm System Model) pour simuler le fonctionnement des fermes laitières du Canada. (<http://www.craaq.qc.ca/bovplf>)", Journée d'information scientifique sur les bovins laitiers et les plantes fourragères, Drummondville, QC, Canada, 25 février 2015. (Presentation)

Beaudoin, N., Buis, S., Ripoche, D., Justes, E., Bertuzzi, P., Casellas, E., Constantin, J., Dumont, B., Durand, J., Garcia de Cortazar-Atauria, I., Jégo, G., Launay, M., Le Bas, C., Lecharpentier, P., Leonard, J., Mary, B., Poupas, J.C., Ruget, F., Louam, G., and Coucheney, E. (2015). "STICS: a generic and robust soil-crop model for modelling agrosystems response in various climatic conditions.", Climate-Smart Agriculture Global Science Conference 2015, Montpellier, France, March 16-18, 2015. (Poster)

Jégo, G., Pattey, E., Chantigny, M.H., Brin, L., Goyer, C., and Léonard, J. (2015). "Coupling the STICS soil-crop model with a snow-cover model for improving simulation of agricultural soil nitrogen processes under northern climates.", ASA-CSSA-SSSA International Annual Meeting: Synergy in Science. Partnering for Solutions, Minneapolis, MN, USA, November 15-18, 2015.

Morissette, R., Jégo, G., Bélanger, G., Cambouris, A.N., Nyiraneza, J., and Zebarth, B.J. (2015). "Simulating potato growth and nitrogen uptake in eastern Canada with the STICS crop model.", SSSA 2015.

## 2014

Pattey, E., Jégo, G., Mesbah, S.M., Liu, J., and Hagolle, O. (2014). "Impact of LAI Assimilation Approach on STICS Crop Model Performance to Predict Yield and Biomass of Field Crops.", SENTINEL -2 for Science Workshop, Frascati, Italy, May 20-22, 2014. (Poster)

Pattey, E., Jégo, G., VanderZaag, A.C., Liu, J., Qian, B., Smith, W.N., Geng, X.Y., Baret, F., Beaudoin, N., Desjardins, R.L., Fernandes, R., Jarvis, I.E., Huffman, E.C., Lacaze, R., and McNairn, H. (2014). "JECAM CFIA-Ottawa.", JECAM/GEOGLAM Science Meeting, Ottawa, Canada, July 21-23, 2014, Oral presentation.

Jégo, G., Chantigny, M.H., and Pattey, E. (2014). "Simulation du couvert de neige et des processus du sol en conditions hivernales.", Séminaires du Centre de recherche et de développement sur les sols et les grandes cultures, Québec, QC, Canada, 30 octobre 2014. (Presentation)

Jégo, G., Morissette, R., Thibodeau, F., Claessens, A., and Savoie, P. (2014). "Simulation of yield potential of short rotation willow in Eastern Canada.", Advancing Woody Biomass - Options & Opportunities in Nova Scotia, Sydney, NS, Canada, October 21-23, 2014.

## 2013

Jégo, G., Pattey, E., and Liu, J. (2013). "Yield predictions from field to region in response to pedo-climatic variations in Eastern Canada.", AGU Fall Meeting, San Francisco, CA, USA, December 9-13, 2013.

Jégo, G., Savoie, P., and Claessens, A. (2013). "Modeling growth of short rotation willow.", Atelier de chercheurs fédéraux sur la biomasse-bioénergie, Montréal, QC, Canada, 20-21 mars 2013.

Nyiraneza, J., Peters, R.D., Rodd, A.V., Grimmer, M.G., Zebarth, B.J., Ziadi, N., Bélanger, G., and Jégo, G. (2013). "Soil N supply and potato yield as affected by Crop Rotations and N sources.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013, #038.

Bélanger, G., Tremblay, G.F., Jégo, G., and Lajeunesse, J. (2013). "Forage management research.", 2013 CFGA Conference & AGM, December 9-11, 2013, Oral presentation.

Nyiraneza, J., Peters, R.D., Rodd, A.V., Grimmer, M.G., Zebarth, B.J., Ziadi, N., Bélanger, G., and Jégo, G. (2013). "Impact of Crop Rotations, and Mineral and Organic N fertilizer on Soil Nitrogen Availability and Potato Yield.", Northeast Potato Technology Forum 2013, Delta Prince Edward, Charlottetown, PEI, Canada, March 5-6, 2013.

Jégo, G., Bélanger, G., Tremblay, G.F., Jing, Q., and Baron, V.S. (2013). "Performance du modèle STICS pour simuler la croissance et la valeur nutritive de la fléole des prés.", Demi-journée d'information scientifique sur les fourrages 2013, Victoriaville, QC, Canada, February 14, 2013, pp. 27-31.

## 2012

Liu, J., Pattey, E., and Jégo, G. (2012). "Assessment of vegetation indices for mapping and monitoring crop green LAI over multiple growing seasons.", 33rd Canadian Symposium on Remote Sensing, Ottawa, ON, Canada, June 11-14, 2012. (Poster)



Jégo, G., Pattey, E., and Liu, J. (2012). "Using Leaf Area Index, retrieved from optical imagery, in the STICS crop model for predicting yield and biomass of field crops.", 30th Conference on Agricultural and Forest Meteorology and 1st Conference on Atmospheric Biogeosciences, Boston, MA, USA, May 31-June 1, 2012. (Presentation)

Pattey, E., Jégo, G., Sansoulet, J.B., Liu, J., Duchesne, I., Tremblay, N., and Beaudoin, N. (2012). "Performance de STICS à prédire la productivité du maïs grain en réponse aux variations climatiques dans l'est du Canada. 1) Réinitialisation à l'aide du LAI extrait de LANDSAT pour prédire des rendements spatialisés; 2) simulation de la réponse à la fertilisation azotée.", IXe Séminaire du modèle de culture STICS, Sainte-Montaine, France, October 16-19, 2012.

Jégo, G., Bélanger, G., Tremblay, G.F., Pattey, E., and Jing, Q. (2012). "Calibration et évaluation de la performance du modèle STICS pour simuler la croissance et la valeur nutritive de la fléole des prés.", IXe Séminaire du modèle de culture STICS, Sainte-Montaine, France, October 16-19, 2012. (Poster)

Pattey, E., Jégo, G., Liu, J., Desjardins, R.L., Worth, D.E., and Srinivasan, R. (2012). "Importance of spatially distributed rainfall for agriculture models - Regional crop biomass and yield predictions and other environmental applications.", 5th International Workshop for Global Precipitation Management Ground Validation, Toronto, ON, Canada, July 10-12, 2012. (Poster)

Sansoulet, J.B., Pattey, E., Jégo, G., Kröbel, R., Grant, B.B., Smith, W.N., Tremblay, N., and Tremblay, G.F. (2012). "Comparing STICS, DNDC and DAYCENT model simulations to assess the impacts of fertilization and climate variations on N uptake and biomass production from spring wheat in Eastern Canada.", IXe Séminaire du modèle de culture STICS, Sainte-Montaine, France, October 16-19, 2012.

Sansoulet, J.B., Pattey, E., Jégo, G., Tremblay, N., Drury, C.F., and Ma, C. (2012). "Performance evaluation of STICS crop model to simulate corn growth attributes in response to N rate and climate variations.", 11th International Conference on Precision Agriculture (ICPA), Indianapolis, IN, USA, July 15-18, 2012, pp. 12.

## 2011

Sansoulet, J.B., Pattey, E., Jégo, G., Bourgeois, G., Tremblay, N., and Tremblay, G.F. (2011). "Performance of STICS Model to Predict Biomass and N Uptake of Corn and Spring Wheat in Eastern Canada.", 2011 ASA, CSSA, and SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011, Session: Soil-Plant-Water Relations: Modeling and Measurements. (Presentation)

Liu, J., Pattey, E., and Jégo, G. (2011). "Evaluation of MTVI2 to estimate crop green LAI over the growing season from Landsat images.", 32nd Canadian Symposium on Remote Sensing/14e Congrès de l'association québécoise de télédétection, Bishop's University, Lennoxville, QC, Canada, June 13-16, 2011. (Poster)

Pattey, E., Jégo, G., Liu, J., and Duschene, I. (2011). "Assimilation of earth observation data for predicting crop biomass over a small region.", 3rd Integrated Land Ecosystem - Atmosphere Processes Study (iLEAPS) Science Conference, Garmisch-Partenkirchen, Germany, September 17-23, 2011. (Poster)

Pattey, E., Jégo, G., and Liu, J. (2011). "Toward assimilation of hyperspectral reflectance data into field crop models: case of Monteith (RUE) and STICS models.", FLUXNET and Remote sensing open workshop: Towards upscaling Flux Information from Towers to the Globe, Berkeley, CA, USA, June 7-9, 2011. (Poster)

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## Research Publications:

2015

Zebarth, B.J., Danieleescu, S., Nyiraneza, J., Ryan, M.C., Jiang, Y., Grimmett, M.G., and Burton, D.L. (2015). "Controls on nitrate loading and implications for BMPs under intensive potato production systems in Prince Edward Island, Canada.", *Ground Water Monitoring and Remediation*, 35(1), pp.30-42. doi : 10.1111/gwrm.12088

Jiang, Y., Nishimura, P., van den Heuvel, M.R., MacQuarrie, K.T.B., Crane, C., Xing, Z.S., Raymond, B., and Thompson, B. (2015). "Modeling land-based nitrogen loads from groundwater-dominated agricultural watersheds to estuaries to inform nutrient reduction planning.", *Journal of Hydrology*, 529(P1), pp. 213-230. doi : 10.1016/j.jhydrol.2015.07.033

Nyiraneza, J., Peters, R.D., Rodd, A.V., Grimmett, M.G., and Jiang, Y. (2015). "Improving productivity of managed potato crop ping systems in Eastern Canada: Crop rotation and nitrogen source effects.", *Agronomy Journal*, 107(4), pp. 1447-1457. doi : 10.2134/agronj14.0430

Chapman, S., Parker, B., Cherry, J., Munn, J., Malenica, A., Ingleton, R., Jiang, Y., Padusenko, G., and Piersol, J. (2015). "Hybrid multilevel system for monitoring groundwater flow and agricultural impacts in fractured sedimentary bedrock", *Ground Water Monitoring and Remediation*, 35(1), pp.55-67. doi : 10.1111/gwrm.12084

Jiang, Y., Jamieson, T., Nyiraneza, J., Somers, G.H., Thompson, B., Murray, B., Grimmett, M.G., and Geng, X.Y. (2015). "Effects of fall versus spring plowing forages on nitrate leaching losses to groundwater.", *Ground Water Monitoring and Remediation*, 35(1), pp. 43-54. doi : 10.1111/gwrm.12083

2014

Li, Q., Xing, Z.S., Danieleescu, S., Li, S., Jiang, Y., and Meng, F. (2014). "Data requirements for using combined conductivity mass balance and recursive digital filter method to estimate groundwater recharge in a small watershed New Brunswick, Canada.", *Journal of Hydrology*, 511, pp. 658-664. doi : 10.1016/j.jhydrol.2014.01.073

Li, Q., Qi, J., Xing, Z.S., Li, S., Jiang, Y., Danieleescu, S., Zhu, H., Wei, X.H., and Meng, F. (2014). "An approach for assessing impact of land use and biophysical conditions across landscape on recharge rate and nitrogen loading of groundwater.", *Agriculture, Ecosystems and Environment*, 196, pp. 114-124. doi : 10.1016/j.agee.2014.06.028

2012

Jiang, Y., Zebarth, B.J., Somers, G.H., MacLeod, J.A., and Savard, M.M. (2012). "Nitrate Leaching from Potato Production in Eastern Canada.", in He, Z., Larkin, R.P. and Honeycutt, C.W. (eds.) - *Sustainable Potato Production: Global Case Studies*, Springer New York, Chapter 13, pp. 233-250.

2011

Jiang, Y., Zebarth, B.J., and Love, J. (2011). "Long-term simulations of nitrate leaching from potato production systems in Prince Edward Island, Canada.", *Nutrient Cycling in Agroecosystems*, 91(3), pp. 307-325. doi : 10.1007/s10705-011-9463-z

Jiang, Y. and Woodbury, A.D. (2011). "Full-Bayesian, simple zoned inversion and transmissivity assessment of the Edwards Aquifer, Texas, USA.", in Wang, Y., Ge, S., Hill, M.C. and Zheng, C. (eds.) - *Calibration and Reliability in Groundwater Modelling: Managing Groundwater and the Environment. Proceedings of a Conference held in Wuhan, China, September 20-23, 2009*. IAHS Publ. 341, International Association of Hydrological Sciences (IAHS), pp. 21-26.

Chow, T.L., Xing, Z.S., Benoy, G.A., Rees, H.W., Meng, F., Jiang, Y., and Daigle, J.-L. (2011). "Hydrology and water quality across gradients of agricultural intensity in the Little River watershed area, New Brunswick, Canada.", *Journal of Soil and Water Conservation*, 66(1), pp. 71-84. doi : 10.2489/jswc.66.1.71

## Other Science Related Publications:

## 2015

Jiang, Y., Nyiraneza, J., and Zebarth, B.J. (2015). "Challenges and BMP opportunities for improving water quality and economic resiliency of potato production in Eastern Canada.", 2015 World Potato Congress, Beijing, China, July 28 -30, 2015.

Jiang, Y. (2015). "Advancing knowledge for improving water quality and economic resiliency of crop production.", Invited presentation to AAFC PEI all-branch staff meeting at Charlottetown, January 20, 2015. (Presentation)

## 2014

Fuller, K.D., Burton, D.L., Rodd, A.V., Smith, E., Grimmett, M.G., Nyiraneza, J., Jiang, Y., Khakbazan, M., and Van Roestel, J. (2014). "Improving Hayfield for Forage Quality while Minimizing Nitrate Loading of Tile Drainage in Atlantic Canada.", ASA - CSSA-SSSA International Annual Meeting: Grand Challenges – Great Solutions, Long Beach, CA, USA, November 2-6, 2014.

Nyiraneza, J., Thompson, B., Fuller, K.D., Bizimungu, B., Bishop, G.A., Jiang, Y., Grimmett, M.G., Khiari, L., Rodd, A.V., and Anderson, S. (2014). "Potato response to phosphorus fertilization in Atlantic Canada and assessment of the degree of soil phosphorus saturation.", Northeast Potato Technology Forum 2014, Fredericton, NB, Canada, March 12-13, 2014.

Rodd, A.V., Smith, E., Burton, D.L., Grimmett, M.G., Fuller, K.D., Jiang, Y., Jenkins, S., Janes, D.E., Jolliemore, L., Murray, B., Power, I., and others (2014). "Effect of Temperature Based Fall Plowing on Soil N Dynamics in Potato Production.", Open house organized by AAFC, Crop and Livestock Research Centre. (Presentation)

Rodd, A.V., Smith, E., Burton, D.L., Grimmett, M.G., Fuller, K.D., Jiang, Y., Jenkins, S., Janes, D.E., Jolliemore, L., Murray, B., Power, I., and others (2014). "Effect of Temperature Based Fall Plowing on Soil N Dynamics in Potato Production.", Sustainable Water Footprint. Joint meeting NS Institute of Agrologists and PEI Institute of Agrologist, Stanley Bridge, PEI, Canada, July 20-22, 2014.

Fuller, K.D., Burton, D.L., Rodd, A.V., Smith, E., Grimmett, M.G., Nyiraneza, J., Jiang, Y., Khakbazan, M., and Van Roestel, J. (2014). "Nitrogen dynamics in twin row versus conventional row silage corn in Atlantic Canada.", ASA-CSSA-SSSA International Annual Meeting: Grand Challenges – Great Solutions, Long Beach, CA, USA, November 2-6, 2014.

Malenica, A., Chapman, S., Parker, B., Cherry, J., and Jiang, Y. (2014). "Insights from comparison of groundwater and rock core nitrate concentrations in a sedimentary bedrock aquifer.", Geological Society of America Conference, Vancouver, British Columbia, Canada, October 19-22, 2014, abstract/poster.

Nyiraneza, J., Mills, A.A.S., Rodd, A.V., Grimmett, M.G., and Jiang, Y. (2014). "The effects of different cover crops and their managements on subsequent potato growth.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014, Abstract/poster.

Nyiraneza, J., Peters, R.D., Grimmett, M.G., Jiang, Y., and Rodd, A.V. (2014). "Canola response to N fertilizer sources and rotation systems in Prince Edward Island.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014, Abstract/poster.

Jiang, Y., Chapman, S., Nyiraneza, J., Malenica, A., Li, Q., Murray, B., Grimmett, M.G., and Rodd, A.V. (2014). "Groundwater quality under a retired potato field evidences significant contribution of soil N to nitrate leaching.", 13th congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014.

Jiang, Y. (2014). "Advancing knowledge for improving water quality and economic resiliency of crop production in Atlantic Canada.", Invited presentation to the graduate students and faculty members of the Department of Biology at the University of Prince Edward Island, September 12, 2014. (Presentation)

Jiang, Y. (2014). "Scientific insights on emerging groundwater concerns in Prince Edward Island.", Invited presentation to Atlantic Agrology Workshop, Stanley Bridge Resort, PEI, July 21, 2014. (Presentation)

Fuller, K.D., Burton, D.L., Rodd, A.V., Smith, E., Grimmett, M.G., Nyiraneza, J., Jiang, Y., Khakbazan, M., and Van Roestel, J. (2014). "Improving Hayfield for Forage Quality while Minimizing Nitrate Loading of Tile Drainage in Atlantic Canada.", ASA - CSSA-SSSA International Annual Meeting: Grand Challenges – Great Solutions, Long Beach, CA, USA, November 2-6, 2014.

Fuller, K.D., Burton, D.L., Rodd, A.V., Smith, E., Grimmett, M.G., Nyiraneza, J., Jiang, Y., Khakbazan, M., and Van Roestel, J. (2014). "Nitrogen dynamics in twin row versus conventional row silage corn in Atlantic Canada.", ASA-CSSA-SSSA International Annual Meeting: Grand Challenges – Great Solutions, Long Beach, CA, USA, November 2-6, 2014.

Fuller, K.D., Nyiraneza, J., Thompson, B., Bizimungu, B., Bishop, G.A., Jiang, Y., Grimmett, M.G., Khiari, L., Rodd, A.V., and Anderson, S. (2014). "Optimum rates of phosphorus for potato production in soils of varying P status in Atlantic Canada... an AAFC Science & Technology Branch Project", Scotia Horticultural Congress 2014, Kentville, NS, Canada, January 27-28, 2014.

## 2013

Jiang, Y. (2013). "Evaluation of fall vs. spring plowing of forages on nitrate leaching in Souris, PEI.", Atlantic WEBS Project Closing Meeting, Fredericton, NB, Canada. (Presentation)

Malenica, A., Parker, B., Chapman, S., Cherry, J., Ryan, M.C., Jiang, Y., Grimmett, M.G., and Danielescu, S. (2013). "Detailed Field Investigations of Nitrate Origin, Fate and Transport in the Sedimentary Bedrock Aquifer in Prince Edward Island.", Connecting Water Resources (CWR): Changing the Water Paradigm, Ottawa, ON, Canada, March 18-21, 2013.

Bugden, G., Jiang, Y., van den Heuve, M.R., Vandermeulen, H., MacQuarrie, K.T.B., Crane, C., and Raymond, B. (2013). Nitrogen loading criteria for estuaries in Prince Edward Island, Canadian Technical Report of Fisheries and Aquatic Sciences 3066, DFO. (Report)

Jiang, Y., Nyiraneza, J., Jamieson, T., Murray, B., Grimmett, M.G., Somers, G.H., and Thompson, B. (2013). "Delayed plowing of forages within potato rotation reduces nitrate leaching.", American Geophysical Union 2013 Fall Meeting, San Francisco, USA, December 9-13, 2013. (Abstract)

Jiang, Y. (2013). "Modeling impacts of groundwater extractions for irrigation on stream flow in PEI.", Groundwater Extractions for Irrigation Workshop, PEI, Canada, November 30, 2013. (Presentation)

Jiang, Y. (2013). "Nitrate reduction BMPs vs. groundwater quality in PEI.", 2013 Canadian Water Network Project Workshop, Wolfville, NS, Canada. (Presentation)

Nyiraneza, J., Fuller, K.D., Bizimungu, B., Bishop, G.A., Grimmett, M.G., Rodd, A.V., Jiang, Y., Mills, A.A.S., Gregory, D., Enman, B., and others (2013). "Increasing phosphorus use efficiency in potato production in Atlantic Canada.", Open houses organized by AAFC, Crop and Livestock Research Centre, August 16, 2013. (Presentation)

Jamieson, T. and Jiang, Y. (2013). "Effects of fall vs. spring plowing of forages on nitrate leaching in Souris, PEI.", WEBS Technical Transfer Meeting, Souris, PEI, Canada. (Presentation)

Jiang, Y. (2013). "Effects of nitrate reduction BMPs on groundwater quality.", 7th Canadian River Heritage Conference, Charlottetown, PEI, Canada.

## 2011

Jiang, Y. and Somers, G.H. (2011). "Watershed Evaluation of Beneficial Management Practices (WEBS) in the Souris River Watershed, Prince Edward Island: Site Hydrogeology.", Joint Meeting of the Canadian Quaternary Association and the Canadian Chapter of the International Association of Hydrogeologists (CANQUA-IAH), Québec City, QC, Canada, August 28-31, 2011. (Presentation)

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## Research Publications:

2015

Harker, K.N., O'Donovan, J.T., Smith, E.G., Johnson, E.N., Peng, G., Willenborg, C.J., Gulden, R.H., Mohr, R.M., Gill, K.S., and Grenkow, L.A. (2015). "Seed size and seeding rate effects on canola emergence, development, yield and seed weight.", *Canadian Journal of Plant Science*, 95(1), pp. 1-8. doi: 10.4141/cjps-2014-222

Harker, K.N., Yu, A.Z., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Johnson, E.N., Gan, Y.T., Kutcher, H.R., Dossall, L.M., Peng, G. (2015). "Canola rotation frequency impacts canola yield and associated pest species.", *Canadian Journal of Plant Science*, 95(1), pp. 9-20. doi: 10.4141/cjps-2014-289

St. Luce, M., Grant, C.A., Zebarth, B.J., Ziadi, N., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Khakbazan, M., and Smith, E.G. (2015). "Legumes can reduce economic optimum nitrogen rates and increase yields in a wheat-canola cropping sequence in western Canada.", *Field Crops Research*, 179, pp. 12-25. doi: 10.1016/j.fcr.2015.04.003

Duddu, H.S., Johnson, E.N., Blackshaw, R.E., and Shirliffe, S.J. (2015). "Evaluation of seed persistence in cow cockle.", *Crop Science*, 55(2), pp. 899-909. doi: 10.2135/cropsci2014.04.0334

O'Donovan, J.T., Anbessa, Y., Grant, C.A., MacLeod, A., Edney, M.J., Izydorczyk, M.S., Turkington, T.K., Juskiw, P.E., Lafond, G.P., May, W.E., Harker, K.N., Johnson, E.N., Beres, B.L., McAllister, T.A., Smith, E.G., and Chapman, W. (2015). "Relative responses of new malting barley cultivars to increasing nitrogen rates in western Canada.", *Canadian Journal of Plant Science*, 95(5), pp. 831-839. doi: 10.4141/cjps-2014-415

Turkington, T.K., O'Donovan, J.T., Harker, K.N., Xi, K., Blackshaw, R.E., Johnson, E.N., Peng, G., Kutcher, H.R., May, W.E., Lafond, G.P., Mohr, R.M., Irvine, R.B., and Stevenson, C. (2015). "The impact of fungicide and herbicide timing on foliar disease severity, and barley productivity and quality.", *Canadian Journal of Plant Science*, 95(3), pp. 525-537. doi: 10.4141/CJPS-2014-364

Beckie, H.J., Gulden, R.H., Shaikh, N., Johnson, E.N., Willenborg, C.J., Brenzil, C.A., Shirriff, S.W., Lozinski, C., and Ford, G. (2015). "Glyphosate-resistant kochia (*Kochia scoparia* L. Schrad.) in Saskatchewan and Manitoba.", *Canadian Journal of Plant Science*, 95(2), pp. 345-349. doi: 10.4141/CJPS-2014-328

2014

Beckie, H.J., Sikkema, P.H., Soltani, N., Blackshaw, R.E., and Johnson, E.N. (2014). "Environmental impact of glyphosate-resistant weeds in Canada.", *Weed Science*, 62(2), pp. 385-392. doi: 10.1614/WS-D-13-00093.1

Tidemann, B.D., Hall, L.M., Johnson, E.N., Beckie, H.J., Sapsford, K.L., Willenborg, C.J., and Raatz, L.L. (2014). "Additive efficacy of soil-applied pyoxasulfone and sulfentrazone combinations.", *Canadian Journal of Plant Science*, 94(7), pp. 1245-1253. doi: 10.4141/CJPS-2014-124

Szmigielski, A.M., Johnson, E.N., and Schoenau, J.J. (2014). "A bioassay evaluation of pyroxasulfone behavior in prairie soils.", *Journal of Pesticide Science*, 39(1), pp. 22-28. doi: 10.1584/jpestics.D13-073

Khakbazan, M., Grant, C.A., Huang, J., Smith, E.G., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Lafond, G.P., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., and Lupwayi, N.Z. (2014). "Economic effects of preceding crops and nitrogen application on canola and subsequent barley.", *Agronomy Journal*, 106(6), pp. 2055-2066. doi: 10.2134/agronj14.0253

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Turkington, T.K., Lupwayi, N.Z., Stevenson, F.C., McLaren, D.L., Khakbazan, M., and Smith, E.G. (2014). "Rotational effects of legumes and non-legumes on hybrid canola and malting barley.", *Agronomy Journal*, 106(6), pp. 1921-1932. doi: 10.2134/agronj14.0236

Tidemann, B.D., Hall, L.M., Johnson, E.N., Beckie, H.J., Sapsford, K.L., and Raatz, L.L. (2014). "Efficacy of fall- and spring-applied pyroxasulfone for herbicide-resistant weeds in field pea.", *Weed Technology*, 28(2), pp. 351-360. doi: 10.1614/WT-D-13-00140.1

Beckie, H.J., Johnson, E.N., Leeson, J.Y., Shirriff, S., and Kapiniak, A. (2014). "Selection and evolution of Acetyl-CoA carboxylase (ACC)-inhibitor resistance in wild oat (*Avena fatua* L.) in a long-term alternative cropping systems study.", *Canadian Journal of Plant Science*, 94(4), pp. 727-731. doi: 10.4141/CJPS2013-361

Malhi, S.S., Johnson, E.N., Hall, L.M., May, W.E., Phelps, S.M., and Nybo, B.X. (2014). "Effect of nitrogen fertilizer application on seed yield, N uptake, and seed quality of *Camelina sativa*.", *Canadian Journal of Soil Science*, 94(1), pp. 35-47. doi : 10.4141/CJSS2012-086

## 2013

Séguin-Swartz, G.T., Beckie, H.J., Warwick, S.I., Roslinsky, V., Nettleton, J.A., Johnson, E.N., and Falk, K.C. (2013). "Pollen-mediated gene flow between glyphosate-resistant *Brassica napus* canola and *B. juncea* and *B. carinata* (mustard) crops under large-scale field conditions in Saskatchewan.", *Canadian Journal of Plant Science*, 93(6), pp. 1083-1087. doi : 10.4141/cjps2013-129

St. Luce, M., Ziadi, N., Zebbarth, B.J., Whalen, J.K., Grant, C.A., Gregorich, E.G., Lafond, G.P., Blackshaw, R.E., Johnson, E.N., O'Donovan, J.T., and Harker, K.N. (2013). "Particulate organic matter and soil mineral nitrogen concentrations are good predictors of the soil nitrogen supply to canola following legume and non-legume crops in western Canada.", *Canadian Journal of Soil Science*, 93(5), pp. 607-620. doi : 10.4141/cjss2013-005

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Johnson, E.N., Brandt, S.A., Kutcher, H.R., and Clayton, G.W. (2013). "Weed interference impacts and yield recovery after four years of variable crop inputs in no-till barley and canola.", *Weed Technology*, 27(2), pp. 281-290. doi : 10.1614/WT-D-12-00115.1

Légère, A., Stevenson, F.C., Beckie, H.J., Warwick, S.I., Johnson, E.N., Hrynewich, B.L., and Lozinski, C. (2013). "Growth characterization of *kochia* (*Kochia scoparia*) with substitutions at Pro<sub>197</sub> or Trp<sub>574</sub> conferring resistance to acetolactate synthase-inhibiting herbicides.", *Weed Science*, 61(2), pp. 267-276. doi : 10.1614/WS-D-12-00116.1

## 2012

Lemke, R.L., Malhi, S.S., Johnson, E.N., Brandt, S.A., Zentner, R.P., and Olfert, O.O. (2012). "Alternative Cropping Systems Study - Scott, Saskatchewan.", *Prairie Soils and Crops*, 5, pp. 74-84.

Smith, E.G., O'Donovan, J.T., Henderson, W.J., Turkington, T.K., McKenzie, R.H., Harker, K.N., Clayton, G.W., Juskiw, P.E., Lafond, G.P., Brandt, S.A., Edney, M.J., Johnson, E.N., and May, W.E. (2012). "Net return risk for malting barley production in Western Canada as influenced by production strategies.", *Agronomy Journal*, 104(5), pp. 1374-1382. doi : 10.2134/agronj2011.0416

Beckie, H.J., Johnson, E.N., and Légère, A. (2012). "Negative cross-resistance of acetolactate synthase inhibitor resistant *kochia* (*Kochia scoparia*) to protoporphyrinogen oxidase and hydroxyphenylpyruvate dioxygenase inhibiting herbicides.", *Weed Technology*, 26(3), pp. 570-574. doi : 10.1614/WT-D-12-00020.1

Szmigielski, A.M., Schoenau, J.J., Johnson, E.N., Holm, F.A., and Sapsford, K.L. (2012). "Determination of thien carbazonone in soil by oriental mustard root length bioassay.", *Weed Science*, 60(3), pp. 468-473. doi : 10.1614/WS-D-11-00054.1

Dosdall, L.M., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Kutcher, H.R., Gan, Y.T., and Johnson, E.N. (2012). "Crop Sequence Effects on Root Maggot (Diptera: Anthomyiidae: *Delia* spp.) Infestations in Canola.", *Journal of Economic Entomology*, 105(4), pp. 1261-1267. doi : 10.1603/EC11440

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Johnson, E.N., Lafond, G.P., and May, W.E. (2012). "Seeding depth and seeding speed effects on no-till canola emergence, maturity, yield and seed quality.", *Canadian Journal of Plant Science*, 92(4), pp. 795-802. doi : 10.4141/CJPS2011-189

O'Donovan, J.T., Turkington, T.K., Edney, M.J., Juskiw, P.E., McKenzie, R.H., Harker, K.N., Clayton, G.W., Lafond, G.P., Grant, C.A., Brandt, S.A., Johnson, E.N., May, W.E., and Smith, E.G. (2012). "Effect of seeding date and seeding rate on malting barley production in western Canada.", *Canadian Journal of Plant Science*, 92(2), pp. 321-330. doi : 10.4141/cjps2011-130

Edney, M.J., O'Donovan, J.T., Turkington, T.K., Clayton, G.W., McKenzie, R.H., Juskiw, P.E., Lafond, G.P., Brandt, S.A., Grant, C.A., Harker, K.N., Johnson, E.N., and May, W.E. (2012). "Effects of seeding rate, nitrogen rate and cultivar on barley malt quality.", *Journal of the Science of Food and Agriculture*, 92(13), pp. 2672-2678. doi : 10.1002/jsfa.5687

Turkington, T.K., O'Donovan, J.T., Edney, M.J., Juskiw, P.E., McKenzie, R.H., Harker, K.N., Clayton, G.W., Xi, K., Lafond, G.P., Irvine, R.B., Brandt, S.A., Johnson, E.N., May, W.E., and Smith, E.G. (2012). "Effect of crop residue, nitrogen rate and fungicide application on malting barley productivity, quality, and foliar disease severity.", *Canadian Journal of Plant Science*, 92(3), pp. 577-588. doi : 10.4141/CJPS2011-216

Szmigielski, A.M., Schoenau, J.J., Johnson, E.N., Holm, F.A., Sapsford, K.L., and Liu, J. (2012). "Effects of Soil Factors on Phytotoxicity and Dissipation of Sulfentrazone in Canadian Prairie Soils.", *Communications in Soil Science and Plant Analysis*, 43(6), pp. 896-904. doi : 10.1080/00103624.2012.653025

Shirliffe, S.J. and Johnson, E.N. (2012). "Progress towards no-till organic weed control in western Canada.", *Renewable Agriculture and Food Systems*, 27(1), pp. 60-67. doi : 10.1017/S1742170511000500

2011

Blackshaw, R.E., Johnson, E.N., Gan, Y.T., May, W.E., McAndrew, D.W., Barthet, V., McDonald, T., and Wisniewski, D. (2011). "Alternative oilseed crops for biodiesel feedstock on the Canadian prairies.", *Canadian Journal of Plant Science*, 91(5), pp. 889-896. doi: 10.4141/cjps2011-002

O'Donovan, J.T., Turkington, T.K., Edney, M.J., Clayton, G.W., McKenzie, R.H., Juskiw, P.E., Lafond, G.P., Grant, C.A., Brandt, S.A., Harker, K.N., Johnson, E.N., and May, W.E. (2011). "Seeding Rate, Nitrogen Rate, and Cultivar Effects on Malting Barley Production.", *Agronomy Journal*, 103(3), pp. 709-716. doi: 10.2134/agronj2010.0490

Fedoruk, L.K., Johnson, E.N., and Shirliffe, S.J. (2011). "The critical period of weed control for lentil in Western Canada.", *Weed Science*, 59(4), pp. 517-526. doi: 10.1614/WS-D-11-00051.1

Blackshaw, R.E., Hao, X., Brandt, R.N., Clayton, G.W., Harker, K.N., O'Donovan, J.T., Johnson, E.N., and Vera, C.L. (2011). "Canola response to ESN and urea in a four-year no-till cropping system.", *Agronomy Journal*, 103(1), pp. 92-99. doi: 10.2134/agronj2010.0299

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Johnson, E.N., Holm, F.A., and Clayton, G.W. (2011). "Environmental effects on the relative competitive ability of canola and small-grain cereals in a direct-seeded system.", *Weed Science*, 59(3), pp. 404-415. doi: 10.1614/WS-D-10-00121.1

Blackshaw, R.E., Hao, X., Harker, K.N., O'Donovan, J.T., Johnson, E.N., and Vera, C.L. (2011). "Barley productivity response to polymer-coated urea in a no-till production system.", *Agronomy Journal*, 103(4), pp. 1100-1105. doi: 10.2134/agronj2010.0494

## Other Science Related Publications:

2015

Turkington, T.K., O'Donovan, J.T., Harker, K.N., Xi, K., Blackshaw, R.E., Johnson, E.N., Peng, G., Kutcher, H.R., May, W.E., Lafond, G.P., Mohr, R.M., and Irvine, R.B. (2015). "The impact of fungicide and herbicide timing on foliar disease severity, and barley productivity and quality.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015, ID: P HERBI 7. (Poster)

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Johnson, E.N., Kutcher, H.R., Willenborg, C.J., Gan, Y.T., Dossdall, L.M., Hall, L.M., Peng, G., Irvine, R.B., and Mohr, R.M. (2015). "Sustainable canola production increases with cropping system diversity.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. (Poster)

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Johnson, E.N., Pageau, D., Shirliffe, S.J., Gulden, R.H., Rowsell, J., Hall, L.M., and Willenborg, C.J. (2015). "Cultural techniques for integrated wild oat management.", Canadian Weed Science Society Meeting, Edmonton, AB, Canada, November 23-26, 2015, Oral presentation. (Abstract)

O'Donovan, J.T., Turkington, T.K., Harker, K.N., Oatway, L., Grant, C.A., Beres, B.L., Johnson, E.N., May, W.E., Izydorczyk, M.S., MacLeod, A., Anbessa, Y., and Vera, C.L. (2015). "Malting barley cultivar responses to increasing nitrogen rates in western Canada.", ASA-CSSA-SSSA International Annual Meeting: Synergy in Science. Partnering for Solutions, Minneapolis, MN, USA, November 15-18, 2015. (Poster)

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2015). "Legumes in rotation affect hybrid canola and malting barley.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015, Keynote Theme D oral presentation.

2014

Séguin-Swartz, G.T., Beckie, H.J., Warwick, S.I., Roslinsky, V., Nettleton, J.A., Johnson, E.N., and Falk, K.C. (2014). "Pollen-mediated gene flow between glyphosate-resistant *Brassica napus* canola and *B. juncea* and *B. carinata* mustard crops under large-scale field conditions in Saskatchewan.", 2014 WSSA/CWSS Annual Meeting, Vancouver, B.C., Canada, February 3-6, 2014. (Abstract)

O'Donovan, J.T., Blackshaw, R.E., Grant, C.A., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., and Turkington, T.K. (2014). "Legume crops grown in rotation enhance canola and barley productivity in western Canada.", 13th Congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014, pp. 357-358.

Johnson, E.N., Leeson, J.Y., Lemke, R.L., Olfert, O.O., and Moulin, A.P. (2014). "Effect of Cropping Diversity and Input System on Weed Populations in an 18-Year Cropping System Study.", 10th European Weed Research WRS Workshop on Physical and Cultural Weed Control, Alnarp, Sweden, March 16-19, 2014. (Abstract)

Beckie, H.J., Johnson, E.N., Leeson, J.Y., Shirriff, S.W., and Kapiniak, A. (2014). "Evolution of acetyl-CoA carboxylase (ACC)-inhibitor resistance in wild oat (*Avena fatua*) in a long-term alternative cropping systems study.", 2014 Weed Science Society of America (WSSA) and the Canadian Weed Science Society (CWSS) Annual Meeting, Vancouver, B.C., Canada, February 3-6, 2014. (Abstract)

Blackshaw, R.E., Harker, K.N., O'Donovan, J.T., Johnson, E.N., Gan, Y.T., and Peng, G. (2014). "How frequently can oilseed rape be grown in sustainable cropping systems.", 13th Congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014, Available online at <http://www.esa2014.hu/news/post-conference-updates-8.html>, pp. 331-332. (Poster)

Beckie, H.J., Gulden, R.H., Shaikh, N., Johnson, E.N., Willenborg, C.J., Brenzil, C.A., Shirriff, S.W., Lozinski, C., and Ford, G. (2014). "Glyphosate-resistant kochia in Saskatchewan and Manitoba.", 68th Annual Meeting of the Canadian Weed Science Society - Société canadienne de malherbiologie, Montreal, QC, Canada, November 17-20, 2014. (Abstract)

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Lafond, G.P., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2014). "Rotational Effects of Legumes and Non-Legumes on Hybrid Canola, and Malting Barley.", American Society of Agronomy Annual Meeting 2014, Long Beach, CA, USA, November 3-5, 2014.

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Baron, V.S., Blackshaw, R.E., Hall, L.M., Johnson, E.N., Willenborg, C.J., Shirliffe, S.J., Gulden, R.H., Kobler, J.F., and Pageau, D. (2014). "Delaying herbicide resistance with integrated wild oat (*Avena fatua*) management.", 2014 Weed Science Society of America (WSSA) and the Canadian Weed Science Society (CWSS) Annual Meeting, Vancouver, B.C., Canada, February 3-6, 2014. (Abstract)

O'Donovan, J.T., Edney, M.J., MacLeod, A., Turkington, T.K., Grant, C.A., Harker, K.N., Johnson, E.N., Lafond, G.P., May, W.E., Beres, B.L., Kabeta, Y., and Juskiw, P.E. (2014). "Response of new malting barley cultivars to increasing nitrogen rates in western Canada.", 13th Congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014, pp. 141-142. (Poster)

## 2013

Johnson, E.N. (2013). "Weed management.", published in *Carinata: A Guide to Best Management Practices*, 14 pages.

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Turkington, T.K., Johnson, E.N., Lafond, G.P., May, W.E., Gan, Y.T., Edney, M., and Juskiw, P.E. (2013). "Effect of legume crops grown two years prior to barley on malting barley yield and quality.", ASA/CSSA/SSSA International annual meeting: Water, Food, Energy and Innovation for a Sustainable World, Tampa, Florida, USA, November 3-6, 2013.

O'Donovan, J.T., Turkington, T.K., Edney, M., Juskiw, P.E., May, W.E., Grant, C.A., Smith, E.G., Harker, K.N., Johnson, E.N., Beres, B.L., Kadeta, Y., and Chapman, B. (2013). "Relative responses of malting barley varieties to increasing nitrogen rates.", 16th Australian Barley Technical Symposium, Melbourne, Australia, September 8-11, 2013, pp. 58.

Johnson, E.N. (2013). "Mustard weed control: Are we making progress?", Saskatchewan Mustard Development Commission Annual Meeting, Saskatoon, SK, Canada, January 9, 2013. (Presentation)

Johnson, E.N. (2013). "Carinata agronomy and production research in Saskatchewan.", Carinata Day Producer Meeting, Swift Current, SK, Canada, March 26, 2013. (Presentation)

McAllister, T.A., He, M.L., McKinnon, J.J., Nair, J., Johnson, E.N., and Cheng, B.F. (2013). "Canola juncea - new meal in town.", Saskatchewan Beef and Forage Symposium, Saskatoon, SK, Canada, January 24, 2013. (Presentation)

O'Donovan, J.T., Turkington, T.K., Edney, M., Smith, E.G., Harker, K.N., Beres, B.L., Clayton, G.W., Brandt, S.A., Johnson, E.N., Lafond, G.P., May, W.E., Grant, C.A., McKenzie, R., Juskiw, P.E., Kadeta, Y., Stonehouse, K., and Chapman, B. (2013). "Varietal and agronomic impacts on malting barley yield and quality.", FarmTech 2013, Westin Hotel, Edmonton, AB, Canada, January 29-31, 2013.

Szmigielski, A.M., Schoenau, J.J., and Johnson, E.N. (2013). "Bioactivity and dissipation of pyroxasulfone herbicide in Saskatchewan soils.", 66th Annual Meeting of the Western Society of Weed Science, Catamaran Resort, San Diego, CA, USA, March 11-14, 2013. (Poster)

## 2012

Johnson, E.N. (Ed.) (2012). "Managing Herbicide-Resistant Weeds in Pulses.", *PulsePoint*, 12(1), pp. 8-9.

Johnson, E.N., Beckie, H.J., Willenborg, C.J., Sapsford, K.L., Vandenberg, A., Schoenau, J.J., Hall, L.M., and Latumus, B.D. (2012). "Progress in managing herbicide resistance in pulse crops.", Pulse Science Cluster Scientific Meeting 2012, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 5, 2012. (Presentation)

Latumus, B.D., Hall, L.M., Johnson, E.N., Beckie, H.J., Sapsford, K.L., Willenborg, C.J., and Raatz, L.L. (2012). "Pyroxasulfone and sulfentrazone efficacy on cleavers (*Galium aparine*) and wild oats (*Avena fatua*).", Pulse Science Cluster Scientific Meeting 2012, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 5, 2012. (Presentation)

Johnson, E.N., Beckie, H.J., Hall, L.M., Latumus, B.D., Willenborg, C.J., Sapsford, K.L., Schoenau, G.J., and Szmigielski, A.M. (2012). "The potential for Group 15 herbicides in managing herbicide resistant weeds in pulses.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, pp. 30.



Pajic, V., Holm, F.A., Sapsford, K.L., Johnson, E.N., and Vandenberg, A. (2012). "Developing sulfentrazone and fluthiacet-methyl tolerance in lentil.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, pp. 41. (Poster)

Johnson, E.N. (2012). "Efficacy of fall and spring applications of pyroxasulfone.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, pp. 57. (Poster)

Sapsford, K.L., Willenborg, C.J., Johnson, E.N., and Beckie, H.J. (2012). "Group 2 (ALS) resistant cleavers (*Galium aparine* / *Galium spurium*) control in field peas (*Pisum sp.*).", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, pp. 57. (Poster)

Johnson, E.N., Hall, L.M., Laturmus, B.D., Beckie, H.J., Sapsford, K.L., and Willenborg, C.J. (2012). "Pyroxasulfone application timing and efficacy on cleavers (*Galium aparine*) and wild oats (*Avena fatua*).", Canadian Weed Science Society 66th Annual Meeting, Fairmont Hotel, Winnipeg, MB, Canada, November 12-15, 2012, pp. 18. (Abstract)

Peng, G., Fernando, W.G.D., Kirkham, C.L., Lange, R., Kutcher, H.R., McLaren, D.L., Johnson, E.N., and Turkington, T.K. (2012). "Mitigating the risk of blackleg disease of canola using fungicide strategies.", Soils and Crops Workshop 2012, University of Saskatchewan, Saskatoon, SK, Canada, March 13-14, 2012, [CD], 7 pages.

Sapsford, K.L., Johnson, E.N., and Vandenberg, A. (2012). "Searching for improved lentil tolerance to PPO inhibitor herbicides.", 2012 Western Society of Weed Science Annual Meeting, Reno, NV, USA, March 12-14, 2012. (Abstract)

Johnson, E.N., Beckie, H.J., Hall, L.M., Schoenau, J.J., Willenborg, C.J., Sapsford, K.L., and Vandenberg, A. (2012). "Minor Use and New Herbicides.", FarmTech 2012, Edmonton, AB, Canada, January 24-26, 2012. (Presentation)

Johnson, E.N., Beckie, H.J., Hall, L.M., Schoenau, J.J., Willenborg, C.J., Sapsford, K.L., and Vandenberg, A. (2012). "Progress in managing herbicide resistant weeds in pulses.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011. (Abstract)

Johnson, E.N., Sapsford, K.L., Willenborg, C.J., Hall, L.M., Topinka, A.K., Juras, L.T., Degenhardt, R.F., Hamman, W.M., and Nybo, B.X. (2012). "Broadleaf herbicide tolerance in *Brassica carinata*.", 2012 Western Society of Weed Science Annual Meeting, Reno, NV, USA, March 12-14, 2012. (Poster)

Johnson, E.N., Beckie, H.J., Willenborg, C.J., and Sapsford, K.L. (2012). "Progress in managing herbicide resistant weed in lentil.", 65th Annual Meeting of the Western Society of Weed Science, Peppermill Resort, Reno, NV, USA, March 12-15, 2012. (Abstract)

Johnson, E.N., Falk, K.C., and Cote, J. (2012). "Opportunities for Ethiopian Mustard.", Western Canadian Crop Production Show 2012, Saskatoon, SK, Canada, January 9, 2012. (Poster)

Beaudoin, N., Sansoulet, J.B., Pattey, E., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., O'Donovan, J.T., and Gervois, S. (2012). "Adaptation de STICS à la culture de canola au Canada à partir du module colza en vue de simuler les émissions de N<sub>2</sub>O par ModuloSTICS.", IXe Séminaire du modèle de culture STICS, Sainte-Montaine, France, October 16-19, 2012. (Poster)

Johnson, E.N., Beckie, H.J., Hall, L.M., Schoenau, J.J., Willenborg, C.J., Sapsford, K.L., and Vandenberg, A. (2012). "Progress in Managing Herbicide Resistant Weeds in Pulse Crops.", Pulse Days 2012, Saskatoon, SK, Canada, January 10, 2012. (Presentation)

## 2011

Sapsford, K.L., Johnson, E.N., and Vandenberg, A. (2011). "Searching for improved lentil tolerance to PPO Inhibitor (Group 14) herbicides.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 48. (Abstract)

Beckie, H.J., Warwick, S.I., Johnson, E.N., and Falk, K.C. (2011). "Gene flow between canola and mustard in Saskatchewan, Canada.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 58. (Poster)

Johnson, E.N., Beckie, H.J., Hall, L.M., Schoenau, J.J., Willenborg, C.J., and Sapsford, K.L. (2011). "Progress in Managing Herbicide Resistant Weeds in Pulse Crops.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 48-49. (Abstract)

Harker, K.N., Turkington, T.K., O'Donovan, J.T., Kutcher, H.R., and Johnson, E.N. (2011). "Barley Herbicide and Fungicide Tank Mixtures?", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 24, 2011. (Presentation)

Johnson, E.N. (2011). "Breeders excited with performance of new mustard.", Western Producer (Sept. 15).

Johnson, E.N., Brandt, S.A., Hall, L.M., and Smith, E.G. (2011). "Agronomic challenges and opportunities for second generation crops with novel traits and new crops.", in Beckie, H.J. and Hall, L.M. (eds.) - Topics in Canadian Weed Science, Vol. 8. New Crops and Crops with Second-Generation Traits: Weed Management Challenges, Canadian Weed Science Society – Société canadienne de malherbiologie, Pinawa, MB, pp. 31-48.

Johnson, E.N., Falk, K.C., and Ramsey, S. (2011). "Oilseeds of the future.", Crop Production Show, Saskatoon, SK, Canada, January 10, 2011. (Poster)

Johnson, E.N. (2011). "Controlling Weeds in Pulses in 2011.", *PulsePoint*, 11(1), pp. 3-4.

Johnson, E.N., Beckie, H.J., Holm, F.A., Sapsford, K.L., and Vandenberg, A. (2011). "Weed control challenges in pulses in 2011.", *Pulse Days 2011*, Saskatoon, SK, Canada, January 11, 2011. (Presentation)

Johnson, E.N., Beckie, H.J., Hall, L.M., Schoenau, J.J., Willenborg, C.J., Sapsford, K.L., and Vandenberg, A. (2011). "Progress in managing herbicide resistant weeds in pulses.", *Canadian Weed Science Society 65th Annual Meeting*, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011.

Blackshaw, R.E., Hao, X., Clayton, G.W., Harker, K.N., O'Donovan, J.T., Johnson, E.N., and Vera, C.L. (2011). "Canola response to polymer-coated urea versus urea in a four-year zero-tillage cropping system on the Canadian prairies.", *13th International Rapeseed Congress*, Prague, Czech Republic, June 5-9, 2011, pp. 61-64.

Harker, K.N., Turkington, T.K., O'Donovan, J.T., Kutcher, H.R., and Johnson, E.N. (2011). "Barley Herbicide and Fungicide Tank-Mixtures?", *Canadian Weed Science Society 65th Annual Meeting*, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 46. (Abstract)

Turkington, T.K., Kutcher, H.R., Xi, K., Harker, K.N., O'Donovan, J.T., and Johnson, E.N. (2011). "The impact of fungicide and herbicide timing on barley leaf disease severity, weed management and crop productivity.", *The Western Producer*, 101(6), pp. S180. (Abstract)

Johnson, E.N. (2011). "Breeders excited with performance of new mustard.", *SaskMustard*, Mustard Field Day, Swift Current, SK, Canada, July 12, 2011. (Presentation)

Isidro, J., Singh, A.K., Wang, H., DePauw, R.M., Pozniak, C.J., Knox, R.E., Cuthbert, R.D., Beres, B.L., and Johnson, E.N. (2011). "Effects of plant density on durum crop production.", *1st Canadian Wheat Symposium*, Winnipeg, MB, Canada, November 30 - December 2, 2011.

Harker, K.N., Brandt, S.A., O'Donovan, J.T., Blackshaw, R.E., Johnson, E.N., and Kutcher, H.R. (2011). "The Impact of Two Years of Wild Oat Management After Four Years of Low Crop Inputs in Barley and Canola.", *51st Meeting Weed Science Society of America*, Hilton Portland & Executive Tower Hotel, Portland, OR, USA, February 7-10, 2011, pp. 62. (Presentation)

Fedoruk, L.K., Shirliffe, S.J., and Johnson, E.N. (2011). "Utilizing the Critical Period of Weed Control Concept to Optimize Herbicide Timing in Lentil.", *51st Meeting Weed Science Society of America*, Hilton Portland & Executive Tower Hotel, Portland, OR, USA, February 7-10, 2011. (Presentation)

Légère, A., Beckie, H.J., Hrynewich, B.L., Lozinski, C., Johnson, E.N., Warwick, S.I., and Stevenson, C. (2011). "Kochia with ALS (AHAS) Mutations: More on the Manitoba Conundrum.", *51st Meeting Weed Science Society of America*, Hilton Portland & Executive Tower Hotel, Portland, OR, USA, February 7-10, 2011. (Presentation)

O'Donovan, J.T., Blackshaw, R.E., Grant, C.A., Harker, K.N., Lafond, G.P., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., and Lupwayi, N.Z. (2011). "Legume Crops to Improve Soil Fertility for Enhanced Canola Production.", *2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences*, San Antonio, TX, USA, October 16-19, 2011. (Poster)

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## Research Publications:

2015

Jones, T.H. and Muehlhauser, V. (2015). "Survival of Porcine teschovirus as a surrogate virus on pork chops during storage at 2°C.", *International Journal of Food Microbiology*, 194, pp. 21-24. doi: 10.1016/j.ijfoodmicro.2014.11.003

2014

Leblanc, D., Houde, A., Gagné, M.-J., Plante, D., Bellon-Gagnon, P., Jones, T.H., Muehlhauser, V., Wilhelm, B.J., Avery, B., Janecko, N., and Brassard, J. (2014). "Presence, viral load and characterization of Torque teno sus viruses in liver and pork chop samples at retail.", *International Journal of Food Microbiology*, 178, pp. 60-64. doi: 10.1016/j.ijfoodmicro.2014.03.005

Wilhelm, B., Leblanc, D., Houde, A., Brassard, J., Gagné, M.-J., Plante, D., Bellon-Gagnon, P., Jones, T.H., Muehlhauser, V., Janecko, N., Avery, B., Rajic, A., and McEwen, S.A. (2014). "Survey of Canadian retail pork chops and pork livers for detection of hepatitis E virus, norovirus, and rotavirus using real time RT-PCR.", *International Journal of Food Microbiology*, 185, pp. 33-40. doi: 10.1016/j.ijfoodmicro.2014.05.006

Jones, T.H. (2014). "Microbiological safety of meat: Prions.", - *Encyclopedia of Meat Sciences 2e*, Volume 2, Elsevier, Chapter 44, pp. 362-366.

Jones, T.H. (2014). "Microbiological safety of meat: Viruses.", - *Encyclopedia of Meat Sciences*, Volume 2, Elsevier, Chapter 48, pp. 389-394.

Jones, T.H., Muehlhauser, V., and Thériault, G. (2014). "Comparison of ZetaPlus 60S and nitrocellulose membrane filters for the simultaneous concentration of F-RNA coliphages, porcine teschovirus and porcine adenovirus from river water.", *Journal of Virological Methods*, 206, pp. 5-11. doi: 10.1016/j.jviromet.2014.05.012

Wilkes, G.A., Brassard, J., Edge, T.A., Gannon, V.P.J., Gottschall, N., Jokinen, C.C., Jones, T.H., Khan, I.U.H., Marti, R., Sunohara, M., Topp, E., and Lapen, D.R. (2014). "Long-term monitoring of waterborne pathogens and microbial source tracking markers in paired-agricultural watersheds under controlled and conventional tile drainage management.", *Applied and Environmental Microbiology*, 80(12), pp. 3708-3720. doi: 10.1128/AEM.00254-14

Jones, T.H. and Muehlhauser, V. (2014). "Effect of Handling and Storage Conditions and Stabilizing Agent on the Recovery of Viral RNA from Oral Fluid of Pigs.", *Journal of Virological Methods*, 198, pp. 26-31. doi: 10.1016/j.jviromet.2013.12.011

Jones, T.H., Nattress, F.M., Dilts, B.D., Olsen, D., and Muehlhauser, V. (2014). "Numbers of coliforms, Escherichia coli, F-RNA coliphage, rotavirus, bovine enteric calicivirus and presence of non-O157 STEC on commercial vacuum packaged beef.", *Food Microbiology*, 42, pp. 225-231. doi: 10.1016/j.fm.2014.04.001

2013

Wilkes, G.A., Brassard, J., Edge, T.A., Gannon, V.P.J., Jokinen, C.C., Jones, T.H., Neumann, N.F., Pintar, K.D.M., Ruecker, N.J., Schmidt, P.J., Sunohara, M., and Lapen, D.R. (2013). "Bacteria, viruses, and parasites in an intermittent stream protected from and exposed to pasturing cattle: Prevalence, densities, and quantitative microbial risk assessment.", *Water Research*. doi: 10.1016/j.watres.2013.07.041

Wilkes, G.A., Brassard, J., Edge, T.A., Gannon, V.P.J., Jokinen, C.C., Jones, T.H., Marti, R., Neumann, N.F., Ruecker, N.J., Sunohara, M., Topp, E., and Lapen, D.R. (2013). "Coherence among different microbial source tracking markers in a small agricultural stream with and without livestock exclusion practices.", *Applied and Environmental Microbiology*, 79(20), pp. 6207-6219. doi: 10.1128/AEM.01626-13

Jones, T.H., Vail, K.M., and McMullen, L.M. (2013). "Filament formation by foodborne bacteria under sublethal stress.", *International Journal of Food Microbiology*, 165(2), pp. 97-110. doi: 10.1016/j.ijfoodmicro.2013.05.001

Wilkes, G.A., Brassard, J., Edge, T.A., Gannon, V.P.J., Jokinen, C.C., Jones, T.H., Neumann, N.F., Pintar, K.D.M., Ruecker, N.J., Schmidt, P.J., Sunohara, M., Topp, E., and Lapen, D.R. (2013). "Bacteria, viruses, and parasites in an intermittent stream protected from and exposed to pasturing cattle: prevalence, densities, and quantitative microbial risk assessment.", *Water Research*, 47(16), pp. 6244-6257.

2012

Brandsma, S.R., Muehlhauser, V., and Jones, T.H. (2012). "Survival of Murine Norovirus and F-RNA Coliphage MS2 on Pork during Storage and Retail Display.", *International Journal of Food Microbiology*, 159(3), pp. 193-197. doi : 10.1016/j.ijfoodmicro.2012.09.015

Jones, T.H. and Johns, M.W. (2012). "Assessment of F-RNA Coliphage as a Potential Indicator of Enteric Virus Contamination of Hog Carcasses.", *Journal of Food Protection*, 75(8), pp. 1492-1500. doi: 10.4315/0362-028X.JFP-11-547

Vail, K.M., McMullen, L.M., and Jones, T.H. (2012). "Growth and Filamentation of Cold-Adapted, Log-Phase *Listeria monocytogenes* Exposed to Salt, Acid, or Alkali Stress at 3°C.", *Journal of Food Protection*, 75(12), pp. 2142-2150. doi : 10.4315/0362-028X.JFP-12-199

Sunohara, M., Topp, E., Wilkes, G.A., Gottschall, N., Neumann, N.F., Ruecker, N.J., Jones, T.H., Edge, T.A., Marti, R., and Lapen, D.R. (2012). "Impact of Riparian Zone Protection From Cattle on Nutrient, Bacteria, F5 coliphage, *Cryptosporidium*, and *Giardia* Loading of an Intermittent Stream.", *Journal of Environmental Quality*, 41(4), pp. 1301-1314. doi : 10.2134/jeq2011.0407

Jones, T.H., Muehlhauser, V., and Croken, G. (2012). "Development of an optimized method for the recovery of infectious F-RNA coliphage MS2 from meat.", *Journal of Virological Methods*, 185(1), pp. 69-73. doi: 10.1016/j.jviromet.2012.06.003

2011

Mattison, K., Grudeski, E., Auk, B., Brassard, J., Charest, H., Dust, K., Gubbay, J., Hatchette, T.F., Houde, A., Jean, J., Jones, T.H., Lee, B.E., Mamiya, H., McDonald, R., Mykytchuk, O., Pang, X.L., Petrich, A., Plante, D., Ritchie, G., and Booth, T.F. (2011). "Analytical performance of norovirus real-time RT-PCR detection protocols in Canadian laboratories.", *Journal of Clinical Virology*, 59(1), pp. 109-113. doi: 10.1016/j.jcv.2010.10.008

## Other Science Related Publications:

2014

Jones, T.H. (2014). "Fate of indicator viruses on pork carcasses during commercial processing.", *International Society for Food and Environmental Virology*, Corfu, Greece, September 2-5, 2014. (Presentation)

Holley, R.A., Jones, T.H., and McMullen, L.M. (2014). "Food Inspection Analyses -- Safety in Numbers?", *Canadian Food Insights*, 2014(Spring), pp. 44-46.

2013

Jones, T.H. and Muehlhauser, V. (2013). "Prevalence of Rotavirus, Bovine Enteric Calicivirus and F-RNA Coliphages on Commercial Vacuum Packaged Beef.", 58th Annual Meeting of the International Association of Food Protection (IAFP 2013), Charlotte Convention Center, Charlotte, NC, USA, July 28-31, 2013.

Wilhelm, B., Leblanc, D., Brassard, J., Gagné, M.-J., Plante, D., Bellon-Gagnon, P., Jones, T.H., Muehlhauser, V., Janecko, N., Avery, B., Friendship, R.M., McEwen, S.A., Rajic, A., and Houde, A. (2013). "A survey of prevalence and viral load of hepatitis E virus, Norovirus, and rotavirus on Canadian retail pork chops and pork livers.", *Canadian Association of Veterinary Epidemiology and Preventive Medicine (CAVEPM) and the Western College of Veterinary Medicine (WCVM) Conference (ACAVEPM 2013)*, University of Saskatchewan, Saskatoon, SK, Canada, May 27-28, 2013.

Jones, T.H., Nattress, F.M., Dilts, B.D., Olsen, D., and Muehlhauser, V. (2013). "Numbers of *E. coli*, non-O157 STEC, F-RNA Coliphage, Rotavirus, Bovine Enteric Calicivirus on Commercial Vacuum Packaged Beef.", 93rd Annual Conference of the Canadian Meat Council, Banff, AB, Canada, May 29-31, 2013, pp. 13.

Wilhelm, B., Leblanc, D., Brassard, J., Gagné, M.-J., Plante, D., Bellon-Gagnon, P., Jones, T.H., Muehlhauser, V., Janecko, N., Avery, B., Friendship, R.M., McEwen, S.A., Rajic, A., and Houde, A. (2013). "Emerging viruses project: a survey of Canadian retail pork chops and liver for hepatitis E virus, Norovirus and Rotavirus.", *Canadian Association of Veterinary Epidemiology and Preventive Medicine (CAVEPM) and the Western College of Veterinary Medicine (WCVM) Conference (ACAVEPM 2013)*, University of Saskatchewan, Saskatoon, SK, Canada, May 27-28, 2013.

Jones, T.H. (2013). "Norovirus: A major challenge in the food chain.", Keynote speaker at 2nd International Conference on Clinical Microbiology and Microbial Genomics, Las Vegas, NV, USA, September 16-17, 2013.

Jones, T.H. (2013). "Transmission of enteric viruses through meat products?", 2nd International Conference on Clinical Microbiology and Microbial Genomics, Las Vegas, NV, USA, September 16-17, 2013, pp. 33 (presentation).

## 2012

Brandsma, S.R., Muehlhauser, V., and Jones, T.H. (2012). "Survival of Murine Norovirus and F-RNA Coliphage MS2 on Pork during Storage and Retail Display", 3rd Food and Environmental Virology Conference of the European Network for Food and Environmental Virology, Lisbon, Portugal, October 16-17, 2012.

Jones, T.H. (2012). "Response of Escherichia coli to Environmental Stress.", in Wong, H.C. (ed.) - Stress Response of Foodborne Microorganisms. Series: Advances in Food Safety and Food Microbiology, Nova Science Publishers Inc, Chapter 11, pp. 293-330.

## 2011

Vail, K.M., McMullen, L.M., and Jones, T.H. (2011). "Filamentation characteristics of cold-adapted log phase Listeria monocytogenes under conditions of salt and temperature stress.", Annual Meeting of the International Association of Food Protection (IAFP 2011), Milwaukee, WI, USA, July 31 -August 3, 2011. (Poster)

Vail, K.M., McMullen, L.M., and Jones, T.H. (2011). "Filamentation of Listeria monocytogenes.", Canadian Meat Science Association 60th Annual Meeting / Canadian Meat Council Technical Symposium 91st Annual Conference, Halifax, NS, Canada, May 4-7, 2011. (Poster)

Jones, T.H. and Whittaker, V. (2011). "Development of an optimized method for the recovery of viable F-RNA coliphage MS2 from meat.", Annual Meeting of the International Association of Food Protection (IAFP 2011), Milwaukee, WI, USA, July 31 -August 3, 2011. (Poster)

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## Research Publications:

2015

McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M., Pozniak, C.J., Uauy, C., Förster, R.J., Ordon, F., Sharpe, A.G., Fobert, P., Fox, S.L., You, F.M., Thomas, J., Hiebert, C.W., Jordan, M.C., and Costamagna, A. (2015). "Management of Wheat Midge with Host Genetics.", Department of Entomology Seminar Series, University of Manitoba, Winnipeg, MB, Canada, January 27, 2015, Invited presentation.

Ladics, G.S., Bartholomaeus, A., Bregitzer, P., Doerrer, N.G., Gray, A., Holzhauser, T., Jordan, M.C., Keese, P., Kok, E., MacDonald, P., Parrott, W., Privalle, L., Raybould, A., Rhee, S.Y., Rice, E., Romeis, J., Vaughn, J., Wal, J-M., and Glenn, K. (2015). "Genetic basis and detection of unintended effects in genetically modified crop plants.", *Transgenic Research*, 24(4), pp. 587-603. doi: 10.1007/s11248-015-9867-7

2014

Cabral, A.L., Jordan, M.C., McCartney, C.A., You, F.M., Humphreys, D.G., MacLachlan, R., and Pozniak, C.J. (2014). "Identification of candidate genes, regions and markers for pre-harvest sprouting resistance in wheat (*Triticum aestivum* L.).", *BMC Plant Biology*, 14(340). doi: 10.1186/s12870-014-0340-1

Chitnis, V.R., Gao, F., Yao, Z., Jordan, M.C., Park, S., and Ayele, B.T. (2014). "After-Ripening Induced Transcriptional Changes of Hormonal Genes in Wheat Seeds: The Cases of Brassinosteroids, Ethylene, Cytokinin and Salicylic Acid.", *PLoS ONE*, 9(1): e87543. doi: 10.1371/journal.pone.0087543

Kumar, S., Wang, Z.N., Banks, T.W., Jordan, M.C., McCallum, B.D., and Cloutier, S. (2014). "Lr1-mediated leaf rust resistance pathways of transgenic wheat lines revealed by a gene expression study using the Affymetrix GeneChip® Wheat Genome Array.", *Molecular Breeding*, 34(1), pp. 127-141. doi: 10.1007/s11032-014-0022-6

2013

Liu, A., Gao, F., Kanno, Y., Jordan, M.C., Seo, M., Kamiya, Y., and Ayele, B.T. (2013). "Regulation of wheat seed dormancy by after-ripening is mediated by specific transcriptional switches that induce changes in seed hormone metabolism and signaling.", *PLoS ONE*, 8(2, Article No. e56570). doi: 10.1371/journal.pone.0056570

Gao, F., Rampitsch, C., Chitnis, V.R., Humphreys, D.G., Jordan, M.C., and Ayele, B.T. (2013). "Integrated analysis of seed proteome and mRNA oxidation reveals distinct post-transcriptional features regulating dormancy in wheat (*Triticum aestivum* L.).", *Plant Biotechnology Journal*, 11(8), pp. 921-932. doi: 10.1111/pbi.12083

Kumar, S., Jordan, M.C., Datta, R.S.S., and Cloutier, S. (2013). "The LuWD40-1 gene encoding WD repeat protein regulates growth and pollen viability in flax (*Linum usitatissimum* L.).", *PLoS ONE*, 8(7), pp. e69124. doi: 10.1371/journal.pone.0069124

2012

Foroud, N.A., Ouellet, T., Laroche, A., Oosterveen, B., Jordan, M.C., Ellis, B.E., and Eudes, F. (2012). "Differential transcriptome analyses of three wheat genotypes reveal different host response pathways associated with *Fusarium* head blight and trichothecene resistance.", *Plant Pathology*, 61(2), pp. 296-314. doi: 10.1111/j.1365-3059.2011.02512.x

Gao, F., Jordan, M.C., and Ayele, B.T. (2012). "Transcriptional programs regulating seed dormancy and its release by after-ripening in common wheat (*Triticum aestivum* L.).", *Plant Biotechnology Journal*, 10(4), pp. 465-476. doi: 10.1111/j.1467-7652.2012.00682.x

Stasiak, M., Gidzinski, D., Jordan, M.C., and Dixon, M.A. (2012). "Crop selection for advanced life support systems in the ESA MELISSA program: Durum wheat (*Triticum turgidum* var *durum*).", *Advances in Space Research*, 49(12), pp. 1684-1690. doi: 10.1016/j.asr.2012.03.001

2011

Brkljacic, J., Grotewold, E., Scholl, R., Mockler, T., Garvin, D.F., Vain, P., Brutnell, T., Sibout, R., Bevan, M., Budak, H., Caicedo, A.L., Gao, C., Gu, Y.Q., Hazen, S.P., Holt III, B.F., Hong, S.-Y., Jordan, M.C., Manzaneda, A.J., Mitchell-Olds, T., Mochida, K., Mur, L.A.J., Park, C.-M., Sedbrook, J., Watt, M., Zheng, S.J., and Vogel, J.P. (2011). "Brachypodium as a model for the grasses: Today and the future.", *Plant Physiology*, 157(1), pp. 3-13. doi: 10.1104/pp.111.179531

## Other Science Related Publications:

2015

Chitnis, V.R., Gao, F., Yao, Z., Jordan, M.C., and Ayele, B.T. (2015). "Abscisic acid and after ripening induced transcriptio nal changes in hormonal genes during wheat seed germination.", Botany 2015 Joint Conference: Science and plants for people, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015.

Kassa, M.T., You, F.M., Hiebert, C.W., McCallum, B.D., Cabral, A.L., Panwar, V., Pozniak, C.J., Fetch Jr., T.G., Zegeye, T., Menzies, J.G., Humphreys, D.G., Fobert, P., Sharpe, A.G., Jordan, M.C., and McCartney, C.A. (2015). "Targeting high impact wheat resistance genes for leaf rust, Ug99 stem rust and wheat midge.", Canadian Wheat Alliance Annual Science and Business Meeting (Invited), Saskatoon, SK, Canada, July 14-16, 2015. (Presentation)

McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M., Pozniak, C.J., Uauy, C., Förster, R.J., Ordon, F., Sharpe, A.G., Fobert, P., Fox, S.L., You, F.M., Thomas, J., Hiebert, C.W., Jordan, M.C., and Costamagna, A. (2015). "Management of Wheat Midge with Host Genetics.", Department of Entomology Seminar Series (Invited), University of Manitoba, Winnipeg, MB, Canada, January 27, 2015. (Presentation)

Kassa, M.T., Hiebert, C.W., You, F.M., Fobert, P., Jordan, M.C., Sharpe, A.G., Pozniak, C.J., Fetch Jr., T.G., Zegeye, T., Menzies, J.G., and McCartney, C. (2015). "Genetic mapping and marker development for high-throughput marker-assisted breeding for Ug99 stem rust resistance gene SrCad/Sr42.", Botany 2015 Joint Conference: Science and plants for people, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015.

Jordan, M.C., Cabral, A.L., and McCartney, C.A. (2015). "Candidate genes underlying QTL for Pre-Harvest Sprouting.", International Wheat Conference 2015, Sydney, Australia, September 20-25, 2015.

Chitnis, V.R., Gao, Z., Yao, M.K., Jordan, M.C., and Ayele, B.T. (2015). "After Ripening and Abscisic Acid Mediated Changes i n the Expression of Brassinosteroid and Ethylene Genes in Wheat Seeds.", XXIII Plant and Animal Genome Conference, San Di ego, CA, USA, January 10-14, 2015.

Jordan, M.C., Cabral, A.L., and McCartney, C.A. (2015). "High density SNP mapping to identify candidate genes underlying QTL for pre-harvest sprouting.", XXIII Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2015.

McCartney, C.A., Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Panwar, V., Pozniak, C.J., Menzies, J.G., Humphreys, D.G., Fobert, P., Sharpe, A.G., and Jordan, M.C. (2015). "Progress towards sequencing the leaf rust resistance gene Lr16.", International Wheat Conference 2015, Sydney, Australia, September 20-25, 2015.

Jordan, M.C., Cabral, A.L., McCartney, C.A., and Pozniak, C.J. (2015). "High Density SNP Mapping to Identify Candidate Genes Underlying QTL for Pre-Harvest Sprouting in Wheat", Plant and Animal Genome, January 9-14, 2015. (Poster)

2014

Jordan, M.C., Cabral, A.L., McCartney, C., Humphreys, D.G., and Pozniak, C.J. (2014). "High density SNP mapping and genome synteny to identify candidate genes underlying QTL for pre-harvest sprouting.", Wheat Breeding 2014, Harpenden, UK, January 29-30, 2014, Oral presentation. (Abstract)

Cabral, A.L., Jordan, M.C., You, F.M., McCartney, C.A., and Pozniak, C.J. (2014). "Ide ntification of a Maturity QTL That Coincides with a Heading Date Locus on 7D in a DH Population of RL4452/AC Domain.", XXII Plant & Animal Genome Conference, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014.

Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Panwar, V., Menzies, J.G., Pozniak, C.J., Sharpe, A.G., Fobert, P., Jordan, M.C., and McCartney, C.A. (2014). "Fine Mapping of the Wheat Leaf Rust Resistance Gene Lr16.", XXII Plant & Animal Genome Conference, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014.

McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M.A.H., Pozniak, C.J., Sharpe, A.G., Fobert, P., Fox, S.L., Thomas, J.B., Hiebert, C.W., Jordan, M.C., and Costamagna, A. (2014). "Managing Wheat Midge with Host Genetics.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Abstract)

Jordan, M.C. (2014). "The molecular biology of gene function.", The Genetic Basis of Unintended Effects in Modified Plants, Ottawa, ON, Canada, January 14-15, 2014. (Presentation)

Panwar, V., Kassa, M.T., Bakkeren, G., Fobert, P., Jordan, M.C., McCallum, B.D., and McCartney, C.A. (2014). "VIGS as a powerful genomics resource for identifying host or pathogen gene targets for the control of cereal rust diseases.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Jordan, M.C., Cabral, A.L., McCartney, C., and Humphreys, D.G. (2014). "High density SNP mapping and genome synteny to identify candidate genes underlying QTL for pre-harvest sprouting.", 2014 World Forum of Biology, Savannah, GA, USA, May 31 - June 4, 2014. (Abstract)

Chitnis, V.R., Gao, F., Zhen, Y., Jordan, M.C., and Ayele, B.T. (2014). "Expression of ethylene and brassinosteroid genes in wheat seeds as affected by after-ripening and abscisic acid.", Plant Biology 2014, Portland, Oregon, USA, July 12-16, 2014. (Abstract)

Jordan, M.C., Cabral, A.L., McCartney, C.A., and Humphreys, D.G. (2014). "High density SNP mapping and genome synteny to identify candidate genes underlying QTL for pre-harvest sprouting.", 2014 World Forum of Biology, Savannah, GA, USA, May 31 - June 4, 2014. (Poster)

Cabral, A.L., Jordan, M.C., You, F.M., McCartney, C.A., and Pozniak, C.J. (2014). "Identification of a maturity QTL that coincides with a heading date locus on 7D in a DH population of RL4452/AC Domain.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

Jordan, M.C. (2014). "Techniques to visually segregate GM and non-GM flax.", Flax Workshop 2014, Winnipeg, MB, Canada, February 25, 2014. (Presentation)

Panwar, V., Jordan, M.C., McCallum, B.D., Fobert, P., and Bakkeren, G. (2014). "Host-induced gene silencing of Puccinia triticina genes shows enhanced resistance to leaf rust disease in transgenic wheat plants.", XVI 2014 APS-CPS Joint Meeting, Minneapolis, Minnesota, USA, August 9-13, 2014. (Abstract)

## 2013

Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Menzies, J.G., Pozniak, C.J., Sharpe, A.G., Fobert, P., Jordan, M.C., and McCartney, C.A. (2013). "Fine mapping of the wheat leaf rust resistance gene Lr16.", 12th International Wheat Genetics Symposium (IWGS), Yokohama, Japan, September 8-14, 2013. (Poster)

Kassa, M.T., McCartney, C.A., You, F.M., Hiebert, C.W., Jordan, M.C., Pozniak, C.J., MacLachlan, R., McCallum, B.D., Fox, S.L., Wise, I.L., and Thomas, J.B. (2013). "Marker development for wheat leaf rust resistance gene Lr16 and wheat midge resistance gene Sm1 in Canadian wheat cultivars.", Plant & Animal Genome XXI Conference, Town & Country Convention Center, San Diego, CA, USA, January 12-16, 2013.

McCartney, C.A., Kassa, M.T., Cabral, A.L., Hiebert, C.W., You, F.M., Jordan, M.C., Menzies, J.G., Humphreys, D.G., Fellers, J.P., Rezac, N., Fobert, P., Sharpe, A.G., Pozniak, C.J., and McCallum, B.D. (2013). "Molecular Analysis of the Lr16 Locus.", North American Cereal Rust Workers Meeting, Winnipeg, MB, Canada, March 20, 2013.

McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M., Fox, S.L., You, F.M., Thomas, J., Hiebert, C.W., Jordan, M.C., and Pozniak, C.J. (2013). "Efforts to manage wheat midge through host genetics.", 69th Annual Meeting of the Entomological Society of Manitoba, Winnipeg, MB, Canada, November 1-2, 2013, Invited Keynote Speech.

Kassa, M.T., Hiebert, C.W., You, F.M., Jordan, M.C., Fobert, P., Sharpe, A.G., Pozniak, C.J., Zegeye, T., Fetch Jr., T.G., and McCartney, C.A. (2013). "Fine mapping of Ug99 stem rust resistance gene SrCad.", Canadian Phytopathological Society Annual Meeting, Edmonton, AB, Canada, June 16-19, 2013.

Kassa, M.T., Hiebert, C.W., You, F.M., Jordan, M.C., Fobert, P., Sharpe, A.G., Pozniak, C.J., Zegeye, T., Fetch Jr., T.G., Menzies, J.G., Humphreys, D.G., and McCartney, C.A. (2013). "Molecular Diagnosis of SrCad and Sr42 resistance genes.", North American Cereal Rust Workers Meeting, Winnipeg, MB, Canada, March 20, 2013.

## 2012

McCartney, C., Pozniak, C.J., Sharpe, A.G., MacLachlan, R., Hucl, P.J., Jordan, M.C., Knox, R.E., Randhawa, H.S., Spaner, D.M., Bekkaoui, F., Galushko, V., and Gray, R. (2012). "Overview and Progress on the CTAG Project. Canadian Wheat Symposium.", Canadian Journal of Plant Science, 92, pp. 593. (Abstract)

Kassa, M.T., McCartney, C.A., You, F.M., McCallum, B.D., Hiebert, C.W., and Jordan, M.C. (2012). "Marker development for the wheat leaf rust resistance gene Lr16 using a comparative genomic approach.", 22nd International Triticeae Mapping Initiative (ITMI) and 4th National Wheat Genomics Committee Joint Workshop, Fargo, ND, USA, June 25-29, 2012.

Cabral, A.L., McCartney, C., McCartney, C.A., Hiebert, C.W., McCallum, B.D., and Jordan, M.C. (2012). "Utility of EMS mutants in rust resistance studies and map based cloning in wheat.", 2012 International Triticeae Mapping Initiative, Fargo, ND, USA. (Poster)

## 2011

Pozniak, C.J., Hucl, P.J., MacLachlan, R., Sharpe, A.G., Randhawa, H.S., Spaner, D.M., Knox, R.E., Jordan, M.C., and McCartney, C. (2011). "Applied Genomic Strategies for Wheat Improvement in Canada.", Conference on the Development and Use of Molecular Markers For Crop Improvement, New Delhi, India.



Foroud, N.A., Ouellet, T., Ellis, B.E., Jordan, M.C., Laroche, A., and Eudes, A. (2011). "Signalling mechanisms mediating resistance and susceptibility to fusarium head blight in wheat", 7th Canadian Workshop on Fusarium Head Blight (CWFHB)/ Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 53.

McCartney, C., Pozniak, C.J., Sharpe, A.G., MacLachlan, R., Hucl, P.J., Jordan, M.C., Knox, R.E., Randhawa, H.S., Spaner, D.M., Bekkaoui, F., Galushko, V., and Gray, R. (2011). "Overview and Progress on the CTAG Project.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, Presentation.

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## Research Publications:

2015

Soladoye, P.O., Juárez, M., Aalhus, J.L., Shand, P.J., and Estévez, M. (2015). "Protein oxidation in processed meat: Mechanisms and potential implications on human health.", *Comprehensive Reviews in Food Science and Food Safety*, 14(2), pp. 106-122. doi : 10.1111/1541-4337.12127

Prieto, N., Swift, M.-L., Summerfelt, S.T., Juárez, M., Zijlstra, R.T., and Aalhus, J.L. (2015). "A Feasibility Study on the Use of Near Infrared Spectroscopy for the Authentication of Depurated Salmon Fillets.", *Food and Analytical Methods*. doi : 10.1007/s12161-015-0168-9

Prieto, N., Juárez, M., Zijlstra, R.T., López-Campos, Ó., and Aalhus, J.L. (2015). "Rapid discrimination of enhanced quality pork by visible and near infrared spectroscopy.", *Meat Science*, 110, pp. 76-84. doi : 10.1016/j.meatsci.2015.07.006

Soladoye, P.O., Shand, P.J., Aalhus, J.L., Gariépy, C., and Juárez, M. (2015). "Review: Porkbelly quality, bacon properties and recent consumer trends.", *Canadian Journal of Animal Science*, 95(3), pp. 325-340. doi : 10.4141/CJAS-2014-121

Avilés, C., Polvillo, O., Peña, F., Horcada, A., Juárez, M., and Molina, A. (2015). "Association Study Between a SNP in Bovine SCD1 Gene with Fatty Acid Composition in a Spanish Commercial Population Fed with Two Different Diets.", *Animal Biotechnology*, 26(1), pp. 40-44. doi : 10.1080/10495398.2014.880712

Ruan, E.D., Aalhus, J.L., Juárez, M., and Sabik, H. (2015). "Analysis of Volatile and Flavor Compounds in Grilled Lean Beef by Stir Bar Sorptive Extraction and Thermal Desorption-Gas Chromatography Mass Spectrometry.", *Food and Analytical Methods*, 8(2), pp. 363-370. doi : 10.1007/s12161-014-9881-z

Rodas-González, A.R., Larsen, I.L., Uttaro, B., Juárez, M., Parslow, J., and Aalhus, J.L. (2015). "Determination of optimum oven cooking procedures for lean beef products.", *Food Science and Nutrition*, 3, pp. 3-15.

Avilés, C., Peña, F., Polvillo, O., Barahona, M., Campo, M.M., Sañudo, C., Juárez, M., Horcada, A., Alcalde, M.J., and Molina, A.C.T. (2015). "Association between functional candidate genes and organoleptic meat traits in intensively-fed beef.", *Meat Science*, 107, pp. 33-38. doi : 10.1016/j.meatsci.2015.04.005

2014

López-Campos, Ó., Aalhus, J.L., Prieto, N., Larsen, I.L., Juárez, M., and Basarab, J.A. (2014). "Effects of production system and growth promotants on the physiological maturity scores in steers.", *Canadian Journal of Animal Science*, 94(4), pp. 607-617. doi : 10.4141/CJAS-2014-022

Li, C., Wang, H., Zhang, Y., Juárez, M., Shao, G., and Ruan, E.D. (2014). "Characteristics of early Maillard reaction products by electrospray ionization mass spectrometry.", *Asian Journal of Chemistry*, 26(21), pp. 7452-7456. doi : 10.14233/ajchem.2014.17389

Aalhus, J.L., López-Campos, Ó., Prieto, N., Rodas-Gonzalez, A., Dugan, M.E.R., Uttaro, B., and Juárez, M. (2014). "Review: Canadian beef grading – opportunities to identify carcass and meat quality traits valued by consumers.", *Canadian Journal of Animal Science*, 94(4), pp. 545-556.

Zhang, Y.-F., Ruan, E.D., Wang, H., Wang, H., Ruan, Y.Y., Shao, G.J., Aalhus, J.L., and Juárez, M. (2014). "A fundamental study of amadori rearrangement products in reducing sugar-amino acid model system by electrospray ionization mass spectrometry and computation.", *Asian Journal of Chemistry*, 26(10), pp. 2941-2944.

Ruan, E.D., Aalhus, J.L., and Juárez, M. (2014). "Sensitive Analysis of Off-flavor Compounds, Geosmin and 2-Methylisoborneol, in Water and Farmed Sturgeon by using Stir Bar Sorptive Extraction Coupled with Thermal Desorption and Gas Chromatography - Mass Spectrometry.", *Journal of Chromatography & Separation Techniques*, 5(3), pp. 1-4. doi : 10.4172/2169-0316.1000228

López-Campos, Ó., Aalhus, J.L., Galbraith, J., Larsen, I.L., Juárez, M., Uttaro, B., and Robertson, W.M. (2014). "The relation of carcass physiological maturity to meat quality in the Canadian Bison Grading System.", *Canadian Journal of Animal Science*, 94(1), pp. 55-62. doi : 10.4141/cjas2013-047

Ruan, E.D., Aalhus, J.L., and Juárez, M. (2014). "A rapid, sensitive and solvent-less method for determination of malonaldehyde in meat by stir bar sorptive extraction coupled thermal desorption and gas chromatography/mass spectrometry with in situ derivatization.", *Rapid Communications in Mass Spectrometry (RCM)*, 28(24), pp. 2723-2728. doi : 10.1002/rcm.7058

Avilés, C., Juárez, M., Larsen, I.L., Rodas-González, A.R., and Aalhus, J.L. (2014). "Effect of multiple vacuum packs on color development and stability in beef steaks.", *Canadian Journal of Animal Science*, 94(1), pp. 63-69. doi : 10.4141/cjas2013-037

Davidson, J., Schrader, K., Ruan, E.D., Swift, B., Aalhus, J.L., Juárez, M., Wolters, V., Burr, G., Good, C., and Summerfelt, S.T. (2014). "Evaluation of depuration procedures to mitigate the off-flavor compounds geosmin and 2-methylisoborneol from Atlantic salmon *Salmo salar* raised to market-size in recirculating aquaculture systems.", *Aquacultural Engineering*, 61, pp. 27-34. doi : 10.1016/j.aquaeng.2014.05.006

Whitesell, T., Aalhus, J.L., Larsen, I.L., and Juárez, M. (2014). "Evaluation of a rapid protein analyzer as a research tool for lean beef composition: Effects of storage time and freezing.", *Journal of Food Composition and Analysis*, 33(1), pp. 67-70. doi : 10.1016/j.jfca.2013.11.008

Alcalde, M.J., Moreno-Indias, I., Horcada, A., Molina, A.C.T., and Juárez, M. (2014). "Generalized procrustes analysis (GPA) as a tool to discriminate among sheep breeds.", *Archiv Tierzucht*, 57, pp. 1-10. doi : 10.7482/0003-9438-57-028

Ruan, E.D., Juárez, M., Thacker, R., Yang, X.Q., Dugan, M.E.R., and Aalhus, J.L. (2014). "Dietary vitamin E effects on the formation of heterocyclic amines in grilled lean beef.", *Meat Science*, 96(2, Part A), pp. 849-853. doi : 10.1016/j.meatsci.2013.09.016

Peña, F., Santos, R., Juárez, M., Avilés, C., Domenech, V., González, A., Martínez, M.A., and Molina, A. (2014). "The use of ultrasound scanning at different times of the finishing period in lean cattle.", *Livestock Science*, 167(1), pp. 381-391. doi : 10.1016/j.livsci.2014.05.016

Prieto, N., López-Campos, Ó., Aalhus, J.L., Dugan, M.E.R., Juárez, M., and Uttaro, B. (2014). "Use of near infrared spectroscopy for estimating meat chemical composition, quality traits and fatty acid content from cattle fed sunflower or flaxseed.", *Meat Science*, 98(2), pp. 279-288. doi : 10.1016/j.meatsci.2014.06.005

Galbraith, J., Rodas-Gonzalez, A., Lopez-Campos, O., López-Campos, Ó., Juárez, M., and Aalhus, J.L. (2014). "Bison meat: Characteristics, challenges, and opportunities (Review).", *Animal Frontiers*, 4(4: Art.No.:41913), pp. 68-73. doi : 10.2527/af.2014-0036

Ruan, E.D., Wang, H., Ruan, Y.Y., and Juárez, M. (2014). "Characteristics of glycation and glycation sites of lysozyme by matrix-assisted laser desorption/ionization time of flight/time-of-flight mass spectrometry and liquid chromatography-electrospray ionization tandem mass spectrometry.", *European Journal of Mass Spectrometry*, 20(4), pp. 327-336.

Peña, F., Molina, A., Juárez, M., Avilés, C., Santos, R., Domenech, V., Requena, F., and Horcada, A. (2014). "Use of serial ultrasound measures in the study of growth- and breed-related changes of ultrasonic measurements and relationship with carcass measurements in lean cattle breeds.", *Meat Science*, 96(1), pp. 247-255. doi : 10.1016/j.meatsci.2013.07.012

Túllio, R.R., Juárez, M., Larsen, I.L., Basarab, J.A., and Aalhus, J.L. (2014). "Short Communication: Influence of some meat quality parameters on beef tenderness.", *Canadian Journal of Animal Science*, 94(3), pp. 455-458. doi : 10.4141/CJAS2013-157

## 2013

Juárez, M., Larsen, I.L., Klassen, M.D., and Aalhus, J.L. (2013). "Canadian Beef Tenderness Survey 2001-2011.", *Canadian Journal of Animal Science*, 93(1), pp. 89-97. doi : 10.4141/CJAS2012-112

Rodas-González, A.R., Juárez, M., Robertson, W.M., Larsen, I.L., and Aalhus, J.L. (2013). "Characterization of Canadian grade standards and lean yield prediction for cows.", *Canadian Journal of Animal Science*, 93(1), pp. 99-107. doi : 10.4141/cjas2012-091

Ruan, E.D., Aalhus, J.L., Summerfelt, S.T., Davidson, J., Swift, B., and Juárez, M. (2013). "Determination of off-flavor compounds, 2-methylisoborneol and geosmin, in salmon fillets using stir bar sorptive extraction-thermal desorption coupled with gas chromatography-mass spectrometry.", *Journal of Chromatography A*, 1321, pp. 133-136. doi : 10.1016/j.chroma.2013.10.038

Horcada, A., Juárez, M., Molina, A., Valera, M., and Beriain, M.J. (2013). "Instrumental colour measurement as a tool for light veal carcasses on-line evaluation.", *Archiv Tierzucht*, 56(85), pp. 851-860. doi : 10.7482/0003-9438-56-085

Peña, F., Molina, A., Avilés, C., Juárez, M., and Horcada, A. (2013). "Marbling in the longissimus thoracis muscle from lean cattle breeds. Computer image analysis of fresh versus stained meat samples.", *Meat Science*, 95(3), pp. 512-519. doi : 10.1016/j.meatsci.2013.05.036

Avilés, C., Juárez, M., Peña, F., Domenech, V., Clemente, I., and Molina, A. (2013). "Association of single nucleotide polymorphisms in CAPN1 and CAST genes with beef tenderness from Spanish commercial feedlots.", *Czech Journal of Animal Science*, 58(10), pp. 479-487.

Whitesell, T., Avilés, C., Aalhus, J.L., Calkins, C.R., Larsen, I.L., and Juárez, M. (2013). "Introducing an angle adjustable cutting box for analyzing slice shear force in meat.", *Journal of Visualized Experiments (JoVE)*, 26(Article No. e50255). doi : 10.3791/50255

Santos, R., Peña, F., Juárez, M., Avilés, C., Horcada, A., and Molina, A. (2013). "Use of image analysis of cross-sectional cuts to estimate the composition of the 10th-11th-12th rib-cut of European lean beef bulls.", *Meat Science*, 94(3), pp. 312-319. doi : 10.1016/j.meatsci.2013.03.018

Ruan, E.D., Wang, H., Ruan, Y.Y., and Juárez, M. (2013). "Study of fragmentation behavior of Amadori rearrangement products in lysine-containing peptide model by tandem mass spectrometry.", *European Journal of Mass Spectrometry*, 19(4), pp. 295-303.

Juárez, M., Larsen, I.L., Klassen, M.D., and Aalhus, J.L. (2013). "Evolution de la tendreté du bœuf canadien entre 2001 et 2011.", *Viandes & Produits Camés*, 1459, pp. 1-4.

## 2012

Nassu, R.T., Uttaro, B., Aalhus, J.L., Zawadski, S.M., Juárez, M., and Dugan, M.E.R. (2012). "Type of packaging affects the colour stability of vitamin E enriched beef.", *Food Chemistry*, 135(3), pp. 1868-1872. doi : 10.1016/j.foodchem.2012.06.055

López-Campos, Ó., Basarab, J.A., Baron, V.S., Aalhus, J.L., and Juárez, M. (2012). "Reduced age at slaughter in youthful beef cattle: effects on carcass merit traits.", *Canadian Journal of Animal Science*, 92(4), pp. 449-463. doi : 10.4141/CJAS2012-014

Horcada-Ibáñez, A., Polvillo-Polo, O., Valera-Córdoba, M., and Juárez, M. (2012). "Influence of season on intramuscular fatty acid profile of Fighting Bulls.", *Agrociencia*, 46(5), pp. 467-479.

Mapiye, C., Dugan, M.E.R., Juárez, M., Basarab, J.A., Baron, V.S., Turner, T.D., Yang, X.Q., Aldai, N., and Aalhus, J.L. (2012). "Influence of  $\alpha$ -tocopherol supplementation on trans-18:1 and conjugated linoleic acid profiles in beef from steers fed a barley-based diet.", *Animal*, 6(11), pp. 1888-1896. doi : 10.1017/S1751731112000730

Juárez, M., Dugan, M.E.R., Aldai, N., Basarab, J.A., Baron, V.S., McAllister, T.A., and Aalhus, J.L. (2012). "Beef quality attributes as affected by increasing the intramuscular levels of vitamin E and omega-3 fatty acids.", *Meat Science*, 90(3), pp. 764-769. doi : 10.1016/j.meatsci.2011.11.010

Juárez, M., Aldai, N., López-Campos, Ó., Dugan, M.E.R., Uttaro, B., and Aalhus, J.L. (2012). "Beef Texture and Juiciness.", in Hui, Y.H. (ed.) - *Handbook of Meat and Meat Processing*. 2nd Edition, CRC Press Taylor & Francis, Boca Raton, FL, USA, Chapter 9, pp. 177-206.

Juárez, M., Basarab, J.A., Baron, V.S., Valera, M., Larsen, I.L., and Aalhus, J.L. (2012). "Quantifying the relative contribution of ante- and post-mortem factors to the variability in beef texture.", *Animal*, 6(11), pp. 1878-1887. doi : 10.1017/S1751731112000572

## 2011

Peña, F., Juárez, M., Bonvillani, A., García, P., Polvillo, O., and Domenech, V. (2011). "Muscle and genotype effects on fatty acid composition of goat kid intramuscular fat.", *Italian Journal of Animal Science*, 10(3). doi : 10.4081/ijas.2011.e40

Juárez, M., Dugan, M.E.R., Aldai, N., Aalhus, J.L., Patience, J.F., Zijlstra, R.T., and Beaulieu, A.D. (2011). "Increasing omega-3 levels through dietary co-extruded flaxseed supplementation negatively affects pork palatability.", *Food Chemistry*, 126(4), pp. 1716-1723. doi : 10.1016/j.foodchem.2010.12.065

Juárez, M., Caine, W.R., Dugan, M.E.R., Hidioglou, N., Larsen, I.L., Uttaro, B., and Aalhus, J.L. (2011). "Effects of dry-ageing on pork quality characteristics in different genotypes.", *Meat Science*, 88(1), pp. 117-121. doi : 10.1016/j.meatsci.2010.12.011

Juárez, M., Dugan, M.E.R., Aalhus, J.L., Aldai, N., Basarab, J.A., Baron, V.S., and McAllister, T.A. (2011). "Effects of vitamin E and flaxseed on rumen-derived fatty acid intermediates in beef intramuscular fat.", *Meat Science*, 88(3), pp. 434-440. doi : 10.1016/j.meatsci.2011.01.023

Hernandez-Calva, L.M., He, M.L., Juárez, M., Aalhus, J.L., Dugan, M.E.R., and McAllister, T.A. (2011). "Effect of flaxseed and forage type on carcass and meat quality of finishing cull cows.", *Canadian Journal of Animal Science*, 91(4), pp. 613-622. doi : 10.4141/CJAS2011-030

Nassu, R.T., Dugan, M.E.R., Juárez, M., Basarab, J.A., Baron, V.S., and Aalhus, J.L. (2011). "Effect of  $\alpha$ -tocopherol tissue levels on beef quality.", *Animal*, 5(12), pp. 2010-2018. doi : 10.1017/S1751731111001182

Membrillo, A., Polvillo, O., Juárez, M., Racero, J.C., Molina Casanova, A., and Barajas, F. (2011). "Estudio de verificación del origen racial en productos de cerdo Ibérico comercializados al corte (Verification of breed origin in retail Iberian Pork products).", *Eurocame*, 196, pp. 46-50.

Christensen, M., Ertbjerg, P., Failla, S., Sañudo, C., Richardson, R.I., Nute, G.R., Olleta, J.L., Panea, B., Albertí, P., Juárez, M., Hocquette, J.-F., and Williams, J.L. (2011). "Relationship between collagen characteristics, lipid content and raw and cooked texture of meat from young bulls of fifteen European breeds.", *Meat Science*, 87, pp. 61-65. doi : 10.1016/j.meatsci.2010.09.003

Juárez, M., Dugan, M.E.R, Larsen, I.L., Thacker, R., Rolland, D.C., and Aalhus, J.L. (2011). "Oxidative stability in grinds from omega-3 enhanced pork", *Canadian Journal of Animal Science*, 91(4), pp. 623-634. doi : 10.4141/cjas2011-059

## Other Science Related Publications:

2015

Prieto, N., Juárez, M., Dugan, M.E.R, Zijlstra, R.T., and Aalhus, J.L. (2015). "Near infrared spectroscopy on ears to classify pigs based on carcass and fat composition.", 2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council, Ottawa, Canada, May 6-8, 2015. (Abstract)

Basarab, J.A., Baron, V.S., McKeown, L.E., Juárez, M., Larsen, I.L., Akanno, E.C., Stothard, P., Plastow, G., and Aalhus, J.L. (2015). "Relationships between feed efficiency, carcass quality and meat quality in longissimus steaks from slaughter heifers and steers.", 2nd Symposium of Animal Evaluation and Meat Quality in Pirassununga/SP/Brazil, September 21, 2015.

Prieto, N., Juárez, M., Dugan, M.E.R, Zijlstra, R.T., and Aalhus, J.L. (2015). "The potential for near infrared spectroscopy on ears to predict body and fat composition post-slaughter.", Banff Pork Seminar 2015, Banff, AB, Canada, January 20-22, 2015.

Soladoye, P.O., López-Campos, Ó., Aalhus, J.L., Prieto, N., Gariépy, C., Shand, P.J., and Juárez, M. (2015). "Accuracy of Dual Energy X-ray Absorptiometry (DEXA) in assessing carcass composition from different pig populations.", Banff Pork Seminar 2015, Banff, AB, Canada.

Prieto, N., Juárez, M., Zijlstra, R.T., López-Campos, Ó., and Aalhus, J.L. (2015). "Rapid authentication of enhanced quality pork by visible and near infrared spectroscopy.", *Meat Science*, 99, pp. 149. doi : 10.1016/j.meatsci.2014.07.010 (Abstract)

Prieto, N., Juárez, M., Dugan, M.E.R, Zijlstra, R.T., and Aalhus, J.L. (2015). "The potential for near infrared spectroscopy on ears to predict body and fat composition post-slaughter.", Banff Pork Seminar, Banff, Canada, January, 2015. (Presentation)

López-Campos, Ó., Aalhus, J.L., Prieto, N., Larsen, I.L., Juárez, M., and Basarab, J.A. (2015). "Chronological vs. physiological age indicators in beef cattle: Effects of the production system and growth promotants.", *Meat Science*, 99, pp. 146. doi : 10.1016/j.meatsci.2014.07.013 (Abstract)

López-Campos, Ó., Larsen, I.L., Prieto, N., Juárez, M., and Aalhus, J.L. (2015). "Using Dual Energy X-Ray Absorptiometry technology for rapid and non-invasive fat and lean predictions in beef carcasses.", *Meat Science*, 99, pp. 144. doi : 10.1016/j.meatsci.2014.07.015 (Abstract)

Soladoye, P.O., Aalhus, J.L., López-Campos, Ó., Prieto, N., Uttaro, B., Dugan, M.E.R, Gariépy, C., Zhang, H., Ye, J., Shand, P.J., and Juárez, M. (2015). "Alternative management strategies for pork differentiation in Canada.", Banff Pork Seminar 2015, Banff, AB, Canada, January 20-22, 2015.

Prieto, N., Juárez, M., Dugan, M.E.R, Zijlstra, R.T., and Aalhus, J.L. (2015). "Near Infra-red spectroscopy on ears to classify pigs based on carcass and meat composition.", 61st International Congress of Meat Science and Technology, Clermont-Ferrand, France, August 23-28, 2015.

Soladoye, P.O., Shand, P.J., Gariépy, C., Aalhus, J.L., and Juárez, M. (2015). "Effect of cooking method and storage time on lipid oxidation and sensory attributes of bacon.", 61st International Congress of Meat Science and Technology (ICoMST), Clermont-Ferrand, France, August 23-28, 2015.

Davidson, J., Ruan, E.D., Raines, C., Plautz, C., Juárez, M., Jørgensen, N., Aalhus, J.L., Good, C., and Summerfelt, S.T. (2015). "The effect of native freshwater snails *Physa gyrina* on biofilm growth and off-flavor compounds (geosmin and 2-methylisoborneol) in experimental reuse systems culturing rainbow trout.", World Aquaculture Society Meeting, Jeju, South Korea, May 26-30, 2015. (Abstract)

Soladoye, P.O., López-Campos, Ó., Aalhus, J.L., Prieto, N., Gariépy, C., Shand, P.J., and Juárez, M. (2015). "Evaluating the accuracy of Dual Energy X-ray Absorptiometry (DEXA) in predicting carcass composition from varying pig populations.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2015 Annual Conference and Technical Symposium, Ottawa, Canada, May, 2015.

López-Campos, Ó., Larsen, I.L., Prieto, N., Juárez, M.L., Juárez, M., Dugan, M.E.R, Uttaro, B., and Aalhus, J.L. (2015). "Evaluation of the Canadian and U.S. beef yield equations.", CMSA, Ottawa, Canada, May, 2015. (Abstract)

2014

Davidson, J., Schrader, K., Swift, B., Ruan, E.D., Aalhus, J.L., Juárez, M., Good, C., Wolters, W., Burr, G., and Summerfelt, S.T. (2014). "Evaluating standard operating procedures to mitigate off-flavor from atlantic salmon *salmo salar* cultured in a semi-commercial scale recirculating aquaculture system.", 10th International Conference on Recirculating Aquaculture, Roanoke, Virginia, USA, August 22-24, 2014. (Abstract)

López-Campos, Ó., Aalhus, J.L., Prieto, N., Larsen, I.L., Juárez, M., and Basarab, J.A. (2014). "Effects of production system and growth promotants on the physiological maturity scores in steers.", 2014, Toronto, Ontario, Canada, May 7-9, 2014. (Abstract)

López-Campos, Ó., Aalhus, J.L., Larsen, I.L., Prieto, N., and Juárez, M. (2014). "Using Dual Energy X-Ray Absorptiometry for a rapid, non-invasive carcass fat and lean predictions in beef carcasses.", AMSA 67th Reciprocal Meat Conference (RMC) Processed Meats Symposium, June, 2014. (Abstract)

Soladoye, O.P., Juárez, M., Shand, P.J., Dugan, M.E.R, Uttaro, B., López-Campos, Ó., Prieto, N., Zhang, H.M., Larsen, I.L., and Aalhus, J.L. (2014). "Effects of selected pre- and post-slaughter factors on pork carcass quality traits.", 2014 Banff Pork Seminar, Banff, Alberta, Canada. (Abstract)

Prieto, N., Juárez, M., Zijlstra, R.T., López-Campos, Ó., and Aalhus, J.L. (2014). "Rapid authentication of enhanced quality pork by visible and near infrared spectroscopy.", 60th International Congress of Meat Science and Technology, Punta Del Este, Uruguay, August 17-22, 2014. (Abstract)

Zhang, H.M., Aalhus, J.L., Larsen, I.L., Dugan, M.E.R, Uttaro, B., López-Campos, Ó., Prieto, N., Soladoye, O.P., Ye, J., and Juárez, M. (2014). "Optimizing Canadian pork chemical composition and eating quality through integrated management strategies.", 2014 Banff Pork Seminar, Banff, Alberta, Canada. (Abstract)

Prieto, N., Juárez, M., Swift, M.-L., Summerfelt, S.T., Zijlstra, R.T., and Aalhus, J.L. (2014). "Authentication of depurated salmon fillets by near infrared spectroscopy.", 60th International Congress of Meat Science and Technology, Punta Del Este, Uruguay, August 17-22, 2014. (Abstract)

Prieto, N., Juárez, M., Zijlstra, R.T., López-Campos, Ó., and Aalhus, J.L. (2014). "Rapid authentication of enhanced quality pork by visible and near infrared spectroscopy.", Canadian Meat Council's 94th Annual Conference, Toronto, ON, Canada, May 7-9, 2014, Poster. (Abstract)

Prieto, N., Aalhus, J.L., López-Campos, Ó., Zijlstra, R.T., and Juárez, M. (2014). "Discrimination of beef dark cutters and enhanced quality pork using visible and near infrared spectroscopy.", AMSA 67th Reciprocal Meat Conference (RMC) Processed Meats Symposium, June, 2014, Poster. (Abstract)

López-Campos, Ó., Larsen, I.L., Prieto, N., Juárez, M., and Aalhus, J.L. (2014). "Using dual energy x-ray absorptiometry for a rapid, non-invasive carcass fat and lean prediction in beef.", 60th International Congress of Meat Science and Technology, Punta Del Este, Uruguay, August 17-22, 2014. (Abstract)

López-Campos, Ó., Larsen, I.L., Prieto, N., Juárez, M., and Aalhus, J.L. (2014). "Using Dual Energy X-Ray Absorptiometry technology for rapid and non-invasive fat and lean predictions in beef carcasses.", Canadian Meat Council's 94th Annual Conference, Toronto, ON, Canada, May 7-9, 2014. (Abstract)

López-Campos, Ó., Aalhus, J.L., Prieto, N., Larsen, I.L., Juárez, M., and Basarab, J.A. (2014). "Effects of production system and growth promotants on the physiological maturity scores in steers.", 60th International Congress of Meat Science and Technology, Punta Del Este, Uruguay, August 17-22, 2014. (Abstract)

Ruan, E.D., Aalhus, J.L., and Juárez, M. (2014). "Determination of malonaldehyde in meat by stir bar sorptive extraction and gas chromatography/mass spectrometry.", 60th International Congress of Meat Science and Technology, Punta Del Este, Uruguay, August 17-22, 2014. (Abstract)

Tullio, R.R., Aalhus, J.L., Nassu, R.T., Juárez, M., Berndt, A., da Silva, M.L.P., Rolland, D.C., de Alencar, M.M., and Dugan, M.E.R (2014). "Effects of finishing system, gender and breed on transvaccenic and conjugated linoleic acids in beef.", ICoMST, Uruguay, August, 2014. (Abstract)

Zhang, H.M., Aalhus, J.L., Rodas-Gonzalez, A., Larsen, I.L., Ye, J., and Juárez, M. (2014). "Effects of niche-market genotypes on pig performance traits.", 2014 Banff Pork Seminar, Banff, Alberta, Canada. (Abstract)

López-Campos, Ó., Aalhus, J.L., Prieto, N., Larsen, I.L., Juárez, M., and Basarab, J.A. (2014). "Chronological vs. physiological age indicators in beef cattle: Effects of the production system and growth promotants.", Canadian Meat Council's 94th Annual Conference, Toronto, ON, Canada, May 7-9, 2014. (Abstract)

2013

Aalhus, J.L., López-Campos, Ó., Prieto, N., Rodas-Gonzalez, A., Dugan, M.E.R, Uttaro, B., Juárez, M., and Juárez, M. (2013). "Meat quality and improving carcass value.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013. (Abstract)

Juárez, M. (2013). "Alternatives for production of "story pork" in Canada.", Alberta Livestock and Meat Agency (ALMA) 2013 Future Fare., Red Deer, AB, Canada, June 17-18, 2013.

Avilés, C., Juárez, M., Larsen, I.L., Rodas-González, A.R., and Aalhus, J.L. (2013). "Effect of multiple vacuum pack on colour development and stability in beef steaks.", 93rd Annual Conference of the Canadian Meat Council, Banff, AB, Canada, May 29 -31, 2013, pp. 14.

López-Campos, Ó., Aalhus, J.L., Prieto, N., Juárez, M., and Delaloye, C. (2013). "Six year trends in Canadian Bison Carcass Quality.", 93rd Annual Conference of the Canadian Meat Council, Banff, AB, Canada, May 29-31, 2013, pp. 7.

Ding, C., Juárez, M., Larsen, I.L., Swift, B., Fukui, S., McKenzie, P., Ye, J., and Aalhus, J.L. (2013). "Canadian Atlantic salmon quality characteristics.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P33, pp. 38. (Poster)

Davidson, J., Schrader, K., Swift, B., Ruan, E.D., Aalhus, J.L., Juárez, M., Good, C., Wolters, W., Burr, G., and Summerfelt, S.T. (2013). "Evaluation of depuration procedures to mitigate off-flavor from harvest size atlantic salmon *Salmo salar* cultured in a land-based recirculating aquaculture system.", 2013 Aquaculture Meeting. (Abstract)

Aalhus, J.L., Basarab, J.A., Larsen, I.L., López-Campos, Ó., Dugan, M.E.R., Prieto, N., Uttaro, B., Schaefer, A.L., Cook, N.J., Plastow, G., Li, C., Calkins, C.R., and Juárez, M. (2013). "The Phenomic Challenge – Integrating performance, carcass and meat quality data with genomics.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O44, pp. 20.

Rodas-González, A.R., Galbraith, J., Uttaro, B., López-Campos, Ó., Juárez, M., Siegel, D., and Aalhus, J.L. (2013). "Effects of electrical stimulation and nitrite film packaging on colour stability of bison steaks and ground meat.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, #1042, P30, pp. 37. (Poster)

Rodas-González, A.R., López-Campos, Ó., Galbraith, J., Uttaro, B., Juárez, M., and Aalhus, J.L. (2013). "Effects of electrical stimulation on meat quality of Bison strip-loin steaks.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, #1050, P31, pp. 37. (Poster)

López-Campos, Ó., Larsen, I.L., Prieto, N., Juárez, M., and Aalhus, J.L. (2013). "Preliminary evaluation of the dual energy X-ray absorptiometry to assess intramuscular fat from the Longissimus thoracis muscle of beef.", 59th International Congress of Meat Science and Technology (ICoMST2013), Izmir, Turkey, August 18-23, 2013, pp. 114. (Poster)

Aalhus, J.L. and Juárez, M. (2013). "National Beef Quality Satisfaction Survey 2001-2011. Objective Tenderness. On-line Webinar."

Zhang, H., Aalhus, J.L., Larsen, I.L., Nelson, S.D., Ye, J., and Juárez, M. (2013). "Effects of niche-market genotypes on pig performance traits.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P10, pp. 28. (Poster)

## 2012

Mapiye, C., Dugan, M.E.R., Juárez, M., Basarab, J.A., Baron, V.S., Tumer, T.D., Yang, X.Q., Aldai, N., and Aalhus, J.L. (2012). "Effect of vitamin E inclusion on trans-18:1 isomers in subcutaneous fat of steers fed a high-barley grain diet.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012.

Prieto, N., López-Campos, Ó., Juárez, M., Aalhus, J.L., Dugan, M.E.R., and Uttaro, B. (2012). "Potential of near infrared spectroscopy to estimate meat quality attributes from cattle fed sunflower or flaxseed.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012, Paper 223.

López-Campos, Ó., Aalhus, J.L., Uttaro, B., Dugan, M.E.R., and Juárez, M. (2012). "Ten year trends in the Canadian Beef Quality and Lean Meat Yield Grades.", Canadian Meat Science Association Newsletter, 2012(June), pp. 22. (Newsletter)

López-Campos, Ó., Juárez, M., Baron, V.S., Aalhus, J.L., Okine, E.K., Haugen-Kozyra, K., and Basarab, J.A. (2012). "Reducing age at harvest: toward maximizing efficiency in beef production.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012, Paper 326.

Juárez, M., Larsen, I.L., Thacker, R., Costello, F., Burbidge-Boyd, C., Croken, G., and Aalhus, J.L. (2012). National Beef Quality Satisfaction Survey 2001-2011. Objective Tenderness. Final Report to CCA-Beef Science Council (BCRC). (Report)

Prieto, N., López-Campos, Ó., Juárez, M., Aalhus, J.L., Dugan, M.E.R., and Uttaro, B. (2012). "Using near infrared spectroscopy to estimate meat quality attributes from cattle fed sunflower or flaxseed.", Canadian Meat Science Association Newsletter(June 2012), pp. 22. (Newsletter)

Prieto, N., López-Campos, Ó., Juárez, M., Aalhus, J.L., Dugan, M.E.R., and Uttaro, B. (2012). "Using near infrared spectroscopy to estimate meat quality attributes from cattle fed sunflower or flaxseed.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2012 Annual Conference and Technical Symposium, Québec City, QC, Canada, May 29-June 1, 2012, pp. 11. (Abstract)

Juárez, M., Klassen, M.D., Larsen, I.L., and Aalhus, J.L. (2012). "Canadian Beef Tenderness Survey 2001 -2011.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012, pp. 4, QUALITYP-31.

López-Campos, Ó., Aalhus, J.L., Uttaro, B., Dugan, M.E.R, and Juárez, M. (2012). "Ten year trends in the Canadian Beef Quality and Lean Meat Yield Grades.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2012 Annual Conference and Technical Symposium, Québec City, QC, Canada, May 29-June 1, 2012, pp.9. (Abstract)

## 2011

Nassu, R.T., Dugan, M.E.R, Juárez, M., Basarab, J.A., Baron, V.S., and Aalhus, J.L. (2011). "Beef quality of animals fed different levels of vitamin E.", 57th International Congress of Meat Science and Technology (ICoMST), Ghent, Belgium, August 7-12, 2011.

Peethambaran, K., Aalhus, J.L., Juárez, M., Larsen, D.P., Dugan, M.E.R, and Bruce, H.L. (2011). "The use of sugars in high omega-3 processed pork products.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.

Peethambaran, K., Aalhus, J.L., Juárez, M., Larsen, I.L., Dugan, M.E.R, and Bruce, H.L. (2011). "Improving the oxidative stability of omega-3 enriched pork", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.

Juárez, M., Dugan, M.E.R, Larsen, I.L., Gibson, L.L., and Aalhus, J.L. (2011). "Omega-3 pork: Meat quality challenges to a value added opportunity.", 41st Banff Pork Seminar, Banff Centre, Banff, AB, Canada, January 17-21, 2012, Advances in Pork Production Volume 23, Abstract No. 30.

López-Campos, Ó., Robertson, W.M., Aalhus, J.L., Larsen, I.L., Baron, V.S., Juárez, M., Uttaro, B., Okine, E.K., and Basarab, J.A. (2011). "Effect of production system and implant strategies on steer performance and carcass traits.", Canadian Meat Science Association Annual Meeting, Halifax, NS, Canada, May 4-6, 2011, published in 2011 Annual Meeting Poster Session Abstracts, pp. 17. (Poster)

López-Campos, Ó., Juárez, M., Larsen, I.L., Aalhus, J.L., Uttaro, B., Robertson, W.M., and Basarab, J.A. (2011). "Effect of production system and implant strategies on steer maturity and carcass characteristics.", Canadian Meat Science Association Annual Meeting, Halifax, NS, Canada, May 4-6, 2011, published in 2011 Annual Meeting Poster Session Abstracts, pp. 18. (Poster)

Juárez, M., Basarab, J.A., Baron, V.S., López-Campos, Ó., Valera, M., and Aalhus, J.L. (2011). "Ante- and post-mortem factors affecting Canadian beef: Relative contribution of carcass and meat quality.", Livestock Gentec's 2nd Annual Conference: Addressing the Gap Between Discovery and Profitable Adoption, Edmonton, AB, Canada, October 19-20, 2011.

Peethambaran, K., Aalhus, J.L., Juárez, M., Larsen, I.L., Dugan, M.E.R, and Bruce, H.L. (2011). "Effects of addition of sugars in pork meat rich in omega 3 fatty acids on oxidative stability.", 40th Banff Pork Seminar 2011, Banff Centre, Banff, AB, Canada, January 18-21, 2011, Advances in Pork Production Volume 22, Abstract No. 28.

Juárez, M., Basarab, J.A., Baron, V.S., López-Campos, Ó., Valera, M., and Aalhus, J.L. (2011). "Relative contribution of ante- and post-mortem factors to Canadian beef carcass and meat quality.", 57th International Congress of Meat Science and Technology (ICoMST), Ghent, Belgium, August 7-12, 2011, P 318.

Nassu, R.T., Uttaro, B., Aalhus, J.L., Zawadski, S.M., Juárez, M., and Dugan, M.E.R (2011). "Effect of packaging in the colour of beef with different  $\alpha$ -tocopherol levels.", 57th International Congress of Meat Science and Technology (ICoMST), Ghent, Belgium, August 7-12, 2011.

Aalhus, J.L., Gariépy, C., Basarab, J.A., Dugan, M.E.R, Fitzsimmons, C.J., Caine, W.R., Uttaro, B., and Juárez, M. (2011). "Optimizing Canadian pork quality through integrated management strategies.", 40th Banff Pork Seminar 2011, Banff Centre, Banff, AB, Canada, January 18-21, 2011.



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## Research Publications:

2015

Aurelian, V.M., Evenden, M.L., and Judd, G.J.R. (2015). "Diversity and abundance of arthropod by-catch in semiochemical-baited traps targeting apple clearwing moth in organic and conventional apple orchards in the Similkameen Valley, British Columbia.", *The Canadian Entomologist*, 147(2), pp.227-243. doi : 10.4039/tce.2014.47

2014

Judd, G.J.R. and Eby, C. (2014). "Spectral discrimination by *Synanthedon myopaeformis* (Lepidoptera: Sesiidae) when orienting to traps baited with sex pheromone or feeding attractants.", *The Canadian Entomologist*, 146(1), pp. 8-25. doi : 10.4039/tce.2013.55

Duménil, C., Judd, G.J.R., Bosch, D., Baldessari, M., Gemeno, C., and Groot, A.T. (2014). "Intraspecific variation in female sex pheromone of the codling moth *Cydia pomonella*.", *Insects*, 5(4), pp. 705-721. doi : 10.3390/insects5040705

2013

Eby, C., Gardiner, M.G.T., Gries, R., Judd, G.J.R., Khaskin, G., and Gries, G. (2013). "Phenylacetaldehyde attracts male and female apple clearwing moth, *Synanthedon myopaeformis*, to inflorescences of showy milkweed, *Asclepias speciosa*.", *Entomologia Experimentalis et Applicata*, 147(1), pp. 82-92. doi : 10.1111/eea.12045

Eby, C., Weis, M.M., Gardiner, M.G.T., Judd, G.J.R., and Gries, G. (2013). "Spectral efficiency and microstructure of the compound eyes of *Synanthedon myopaeformis* (Lepidoptera: Sesiidae).", *The Canadian Entomologist*, 145(5), pp. 529-538. doi : 10.4039/tce.2013.25

Teasdale, C.J., Judd, G.J.R., Gries, R., and Gries, G. (2013). "Evaluation of synthetic sex pheromone for monitoring and management of raspberry crown borer *Pennisetia marginata* (Lepidoptera: Sesiidae).", *Agricultural and Forest Entomology*, 15(3), pp. 285-293. doi : 10.1111/afe.12016

Cossentine, J.E., Aurelian, V.M., and Judd, G.J.R. (2013). "*Synanthedon myopaeformis* (Borkhausen), apple clearwing moth (Lepidoptera: Sesiidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Wallingford, UK, pp. 285-291.

2012

Chubb, B.E., Whitehouse, C., Judd, G.J.R., and Evenden, M.L. (2012). "Success of *Grapholita molesta* (Busck) reared on the diet used for *Cydia pomonella* L. (Lepidoptera: Tortricidae) sterile insect release.", *Journal of the Entomological Society of British Columbia*, 109, pp. 48-54.

Judd, G.J.R., Gries, R., Teasdale, C.J., and Gries, G. (2012). "Identification of a sex pheromone component for *Pennisetia marginata* (Lepidoptera: Sesiidae).", *Canadian Entomologist*, 144(6), pp. 798-807. doi : 10.4039/tce.2012.75

Aurelian, V.M., Evenden, M.L., and Judd, G.J.R. (2012). "Small-plot studies comparing pheromone and juice baits for mass-trapping invasive *Synanthedon myopaeformis* in Canada.", *Entomologia Experimentalis et Applicata*, 145(2), pp. 102-114. doi : 10.1111/j.1570-7458.2012.01322.x

2011

Judd, G.J.R., Gries, R., Aurelian, V.M., and Gries, G. (2011). "3Z, 13Z-octadecadienyl acetate: sex pheromone of the apple clearwing moth in British Columbia.", *Canadian Entomologist*, 143(3), pp. 236-244. doi : 10.4039/n11-002

Randall, P., Sholberg, P.L., Judd, G.J.R., and Cossentine, J.E. (2011). "Acetic acid fumigation of fruit storage bins to control diapausing codling moth larvae.", *HortScience*, 46(12), pp. 1634-1639.

Judd, G.J.R., Deglow, E.K., Gardiner, M.G.T., and Arthur, S. (2011). "Operational mark-release-recapture field tests comparing competitiveness of wild and differentially mass-reared codling moths from the Okanagan-Kootenay sterile insect program.", *Canadian Entomologist*, 143(3), pp. 300-316. doi : 10.4039/n11-005

## Other Science Related Publications:

2014

Judd, G.J.R. (2014). "OBITUARY: Michael James Smirle (1954-2014)", *Journal of the Entomological Society of British Columbia*, 111, pp. 15-16.

2013

Judd, G.J.R. (2013). Topic Management of Apple Clearwing Moth - CBC Radio Kelowna Morning Show Broadcast; Kelowna Capital News Article; British Columbia Fruit Grower Magazine Article. (Report)

Wu, G.-M., Roitberg, B.D., and Judd, G.J.R. (2013). "Climate change and insect phenology: the case of evolving moths.", Annual Meeting of the Canadian Society for Ecology and Evolution, University of British Columbia, Kelowna, BC, Canada, May 12 -16, 2013. (Presentation)

Judd, G.J.R. (2013). "Okanagan-Kootenay sterile insect release program: a Canadian success story.", Invited University Lecture for Department of Biological Sciences, University of Alberta, Edmonton, Alberta, Canada, February 15, 2013. (Presentation)

Gilbert, M., Eby, C., and Judd, G.J.R. (2013). "Mating disruption of codling moth using a wireless mesh network of aerosol pheromone dispensers.", 87th Annual Orchard Pest and Disease Management Conference, Portland, Oregon, USA, January 9 -11, 2013. (Poster)

Judd, G.J.R. (2013). "Now I have it what are my options for managing apple clearwing moth?", Okanagan Tree Fruit Company Horticultural Symposium, Canada, March 6-8, 2013. (Presentation)

Judd, G.J.R. (2013). "Area-wide management of codling moth and the promise of chemical ecology: Canadian innovation in action.", Annual Meeting of Professional Pest Management Association of British Columbia, Burnaby, British Columbia, Canada, February 25, 2013.

Judd, G.J.R. (2013). "Managing apple clearwing moth.", Okanagan Tree Fruit Company Grower Field Day, Summerland, British Columbia, Canada, May 7, 2013. (Presentation)

Judd, G.J.R. (2013). "Apple clearwing moth 2012 survey results.", Okanagan Tree Fruit Company Horticultural Symposium, Kelowna, British Columbia, Canada, March 6-8, 2013. (Presentation)

2012

Evenden, M.L., Aurelian, V.M., and Judd, G.J.R. (2012). "Assessment of mass trapping with kairomones and pheromones: efficacy, mechanisms, and future directions.", Seventh International Integrated Pest Management Symposium, Memphis, USA, March 27 - 29, 2012, pp. 55 (Abstract).

Judd, G.J.R. and Thomson, D. (2012). "Taking a FLEXible approach to mating disruption in British Columbia.", 86th Annual Western Orchard Pest and Disease Management Conference, Portland, USA, January 11 -13, 2012, pp. 20 (Abstract).

Evenden, M.L., Aurelian, V.M., and Judd, G.J.R. (2012). "Assessment of mass trapping with kairomones and pheromones against the apple clearwing moth, *Synanthedon myopaeformis*.", XXIV International Congress of Entomology, Daegu, South Korea, August 19-25, 2012, pp. (Abstract).

Kwon, J., Judd, G.J.R., and Evenden, M.L. (2012). "Development of a combined semiochemical-based attracticide to target the apple clearwing moth (*Synanthedon myopaeformis*) (Lepidoptera: Sesidae) and the codling moth (*Cydia pomonella*) (Lepidoptera: Tortricidae) in apple orchards in British Columbia.", 2012 Joint Annual Meeting of the Entomological Society of Canada and Entomological Society of Alberta, Edmonton, Canada, November 3-7, 2012, pp. 15 (Abstract).

Teasdale, C.J., Judd, G.J.R., Gries, R., and Gries, G. (2012). "Early detection and management of raspberry crown borer populations.", 2012 Joint Annual Meeting of the Entomological Society of Canada and Entomological Society of Alberta, Edmonton, Canada, November 3-7, 2012, pp. 28 (Abstract).

2011

Eby, C., Gardiner, M.G.T., Gries, R., Judd, G.J.R., and Gries, G. (2011). "Making scents of Apple Clearwing Moth attraction to Showy Milkweed flowers.", 27th Annual Meeting of International Society of Chemical Ecology, Burnaby, BC, Canada, July 24-28, 2011, pp. 84.

Kwon, J., Judd, G.J.R., and Evenden, M.L. (2011). "Development of a semiochemical-based attracticide to target the apple clearwing moth (*Synanthedon myopaeformis*) in British Columbia.", Entomological Society of Alberta 59th Annual Meeting, Kananaskis, AB, Canada, October 13-15, 2011.

Teasdale, C.J., Takács, S., Judd, G.J.R., and Gries, G. (2011). "What's the Buzz About? The Role of Pheromone and Sound in the Sexual Communication of the Raspberry Crown Borer.", 27th Annual Meeting of International Society of Chemical Ecology, Burnaby, BC, Canada, July 24-28, 2011.

Eby, C., Gardiner, M.G.T., Gries, R., Judd, G.J.R., and Gries, G. (2011). "Does Showy Milkweed contain a secret weapon against the Apple Clearwing Moth?", Professional Pest Management Association of BC, Burnaby BC, Canada, March 28, 2011. (Presentation)

Eby, C., Gardiner, M.G.T., Gries, R., Judd, G.J.R., and Gries, G. (2011). "Identifying feeding attractants from showy milkweed flowers for potential control of the apple clearwing moth.", Entomological Society of BC Annual General Meeting, Abbotsford, BC, Canada, October 14, 2011. (Presentation)

Teasdale, C.J., Gries, G., and Judd, G.J.R. (2011). "Developing a monitoring and mass trapping program for the raspberry crown borer, *Pennisetia marginata*.", Professional Pest Management Association of BC, Burnaby, BC, Canada, March 28, 2011. (Presentation)

Teasdale, C.J., Judd, G.J.R., and Gries, G. (2011). "Development of a pheromone-based monitoring and mass trapping program for the Raspberry Crown Borer.", Lower Mainland Horticultural Improvement Association of BC, Abbotsford, BC, Canada, January 27, 2011. (Presentation)

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## Research Publications:

2015

Kabaluk, J.T., Lafontaine, J.-P., and Borden, J.H. (2015). "An attract and kill tactic for click beetles based on *Metarhizium brunneum* and a new formulation of sex pheromone.", *Journal of Pest Science*. doi : 10.1007/s10340-015-0661-3

2014

Kabaluk, J.T. (2014). "Targeting the click beetle *Agriotes obscurus* with entomopathogens as a concept for wireworm biocontrol.", *BioControl*, 59(5), pp. 607-616. doi : 10.1007/s10526-014-9603-x

2013

Kabaluk, J.T., Janmaat, A., Sheedy, C., Goettel, M.S., and Noronha, C. (2013). "Agriotes spp. Wireworms and Click Beetles.", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing.

Mason, P.G., Kabaluk, J.T., Spencer, B., and Gillespie, D.R. (2013). "Regulation of biological control in Canada.", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, pp. 1-5.

2012

Kabaluk, J.T., Young, B.M.S., Doreau, A.M., and Mackovic, C.R. (2012). "A simple computation-based approach for measuring the carbon dioxide production of respiring biological samples in passively ventilated chambers (Technical Note).", *Entomologia Experimentalis et Applicata*, 145(2), pp. 175-180. doi : 10.1111/j.1570-7458.2012.01324.x

## Other Science Related Publications:

2015

Kabaluk, J.T. et al. (2015). "Hermetia illucens frass production and use in plant nutrition and pest management." (Patent)

2014

Kabaluk, J.T. (2014). Pheromones for click beetles (Elateridae) formulated as granules (invention report). (Report)

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## Research Publications:

2015

Varankovich, N.V., Khan, N.H., Nickerson, M.T., Kalmokoff, M.L., and Korber, D.R. (2015). "Evaluation of pea protein-polysaccharide matrices for encapsulation of acid-sensitive bacteria.", *Food Research International*, 70, pp. 118-124. doi : 10.1016/j.foodres.2015.01.028

Kalmokoff, M.L., Franklin, J.L., Petronella, N., Green, J., and Brooks, S.P.J. (2015). "Phylum level change in the cecal and fecal gut communities of rats fed diets containing different fermentable substrates supports a role for nitrogen as a factor contributing to community structure.", *Nutrients*, 7(5), pp. 3279-3299. doi : 10.3390/nu7053279

Barret, M., Gagnon, N., Morissette, B., Kalmokoff, M.L., Topp, E., Brooks, S.P.J., Matias, F., Neufeld, J.D., and Talbot, G. (2015). "Phylogenetic identification of methanogens assimilating acetate-derived carbon in dairy and swine manures.", *Systematic and Applied Microbiology*, 38(1), pp. 56-66. doi : 10.1016/j.syapm.2014.11.006

Shastri, P., McCarville, J.L., Kalmokoff, M.L., Brooks, S.P.J., and Green-Johnson, J.M. (2015). "Sex differences in gut fermentation and immune parameters in rats fed an oligofructose-supplemented diet.", *Biology of Sex Differences*, 6(13), pp. 1-12. doi : 10.1186/s13293-015-0031-0

2014

Fgaier, H., Kalmokoff, M.L., Ellis, T.C., and Eberl, H.J. (2014). "An allelopathy based model for the *Listeria* overgrowth phenomenon.", *Mathematical Biosciences*, 247(1), pp. 13-26. doi : 10.1016/j.mbs.2013.10.008

2013

Barret, M., Gagnon, N., Kalmokoff, M.L., Topp, E., Verastegui, Y., Brooks, S.P.J., Matias, F., Neufeld, J.D., and Talbot, G. (2013). "Identification of *Methanoculleus* spp. as active methanogens during anoxic incubations of swine manure storage tank samples.", *Applied and Environmental Microbiology*, 79(2), pp. 424-433. doi : 10.1128/AEM.02268-12

Kalmokoff, M.L., Zwicker, B., O'Hara, M., Matias, F., Green, J., Green-Johnson, J.M., and Brooks, S.P.J. (2013). "Temporal change in the gut community of rats fed high amylose corn starch is driven by endogenous urea rather than strictly on carbohydrate availability.", *Journal of Applied Microbiology*, 114(5), pp. 1516-1528. doi : 10.1111/jam.12157

Patrick, C., Wang, G.S., Lefebvre, D.E., Crookshank, J.A., Sonier, B., Eberhard, C., Mojibian, M., Kennedy, C.R., Brooks, S.P.J., Kalmokoff, M.L., Maglio, M., Troncone, R., Poussier, P., and Scott, F.W. (2013). "Promotion of autoimmune diabetes by cereal diets in the presence or absence of microbes associated with gut immune activation, regulatory imbalance and altered cathelicidin antimicrobial peptide.", *Diabetes*, 62(6), pp. 2036-2047. doi : 10.2337/db12-1243

McCarville, J.L., Clarke, S.T., Shastri, P., Kalmokoff, M.L., Brooks, S.P.J., and Green-Johnson, J.M. (2013). "Spaceflight influences both Mucosal and Peripheral Cytokine Production in PTN-Tg and Wild Type Mice.", *PLoS ONE*, 8(7), pp. e68961. doi : 10.1371/journal.pone.0068961

2012

Brooks, S.P.J. and Kalmokoff, M.L. (2012). "Prebiotics and probiotics: methodology, efficacy, and potential health considerations.", *Journal of AOAC International*, 95(1), pp. 1.

Brooks, S.P.J. and Kalmokoff, M.L. (2012). "Prebiotics and probiotics: some thoughts on demonstration of efficacy within the regulatory sphere.", *Journal of AOAC International*, 95(1), pp. 2-4.

Inglis, G.D., Thomas, M.C., Thomas, D.K., Kalmokoff, M.L., Brooks, S.P.J., and Selinger, L.B. (2012). "Molecular Methods to Measure Intestinal Bacteria: A Review.", *Journal of AOAC International*, 95(1), pp. 2-23. doi : 10.5740/jaoacint.SGE\_Inglis

Barret, M., Gagnon, N., Morissette, B., Topp, E., Kalmokoff, M.L., Brooks, S.P.J., Matias, F., Massé, D.I., Masse, L., and Talbot, G. (2012). "*Methanoculleus* spp. as a biomarker of methanogenic activity in swine manure storage tanks.", *FEMS Microbiology Ecology*, 80(2), pp. 427-440. doi : 10.1111/j.1574-6941.2012.01308.x

2011

Kalmokoff, M.L., Waddington, L.M., Thomas, M., Liang, K.-L., Ma, C., Topp, E., Desranleau Dandurand, U., Letellier, A., Matias, F., and Brooks, S.P.J. (2011). "Continuous feeding of antimicrobial growth promoters to commercial swine during the growing/finishing phase does not modify faecal community erythromycin resistance or community structure.", *Journal of Applied Microbiology*, 110(6), pp. 1414-1425. doi : 10.1111/j.1365-2672.2011.04992.x

Gagnon, N., Barret, M., Topp, E., Kalmokoff, M.L., Massé, D.I., Masse, L., and Talbot, G. (2011). "A novel fingerprinting technology to assess the diversity of methanogens.", *FEMS Microbiology Letters*, 325(2), pp. 115-122. doi : 10.1111/j.1574-6968.2011.02418.x

## Other Science Related Publications:

2013

Clarke, S.T., Kalmokoff, M.L., Brooks, S.P.J., Bercik, P., Ramdath, D.D., and Green-Johnson, J.M. (2013). "Evaluating influences of fructans on cytokine and immunoglobulin production in a human clinical trial.", *Cytokine*, 63(3), pp. 255. (Abstract)

Clarke, S.T., Kalmokoff, M.L., Brooks, S.P.J., Avila, C., Bercik, P., Ramdath, D.D., and Green-Johnson, J.M. (2013). "Investigating effects of fructans on host and immune parameters in a human clinical trial.", *EFFoST Annual Meeting: Bio-based Technologies in the Context of European Food Innovation Systems*, Bologna, Italy, November 12-15, 2013. (Presentation)

Shastri, P., McCarville, J.L., Brooks, S.P.J., Kalmokoff, M.L., and Green-Johnson, J.M. (2013). "Effects of dietary fructo-oligosaccharides on gender-based differences in gut mucosal cytokines.", *Cytokine*, 63(3), pp. 298. (Abstract)

2012

Talbot, G., Barret, M., Gagnon, N., Kalmokoff, M.L., Topp, E., and Neufeld, J.D. (2012). "Methanoculleus spp. Are major contributors to methane emissions in swine and dairy manure storage tanks.", *Canadian Society of Microbiologists (CSM) 62nd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM)*, Vancouver, BC, Canada, June 20-23, 2012, Abstract AE076.

2011

Talbot, G., Barret, M., Massé, D.I., Masse, L., Kalmokoff, M.L., and Topp, E. (2011). "Methanogenesis in dairy and swine production.", 1er Symposium du Centre de recherche et de développement sur le bovin laitier et le porc: Parlons science au CRDBLP! / 1st Symposium of the Dairy and Swine Research and Development Centre: Let's Talk Science at the DSRDC!, Sherbrooke, QC, Canada, June 7, 2011.

Brooks, S.P.J., Green-Johnson, J.M., Inglis, G.D., Uwiera, R.R.E., and Kalmokoff, M.L. (2011). "Gut microbiology – a relatively unexplored domain.", in Moo-Young, M. et al. (eds.) - *Comprehensive Biotechnology*, 2nd Edition. Vol. 4, Pergamon Press, Oxford, UK & New York, USA, pp. 575-590.

Barret, M., Neufeld, J.D., Gagnon, N., Kalmokoff, M.L., Topp, E., Verastegui, Y., and Talbot, G. (2011). "Active methanogens in swine manure storage tanks revealed by stable isotope probing.", *Canadian Society of Microbiologists (CSM) 61st Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM)*, Memorial University of Newfoundland, St. John's, NL, Canada, June 20-23, 2011, Abstract AE74. (Abstract)

Shastri, P., Brooks, S.P.J., Kalmokoff, M.L., Green, J., Chomyshyn, E., and Green-Johnson, J.M. (2011). "Host microbe interaction: Does gender influence immune changes mediated by dietary fibre?", *Annual Meeting Canadian Society of Microbiology 61st Annual Conference*, Memorial University, St. John's, NL, Canada, June 20 - 23, 2011. (Presentation)

Barret, M., Neufeld, J.D., Gagnon, N., Kalmokoff, M.L., Topp, E., Verastegui, Y., and Talbot, G. (2011). "Identification of the active methanogens in swine manure storage tanks by DNA Stable Isotope Probing.", 1er Symposium du Centre de recherche et de développement sur le bovin laitier et le porc: Parlons science au CRDBLP! / 1st Symposium of the Dairy and Swine Research and Development Centre: Let's Talk Science at the DSRDC!, Sherbrooke, QC, Canada, June 7, 2011.

Kalmokoff, M.L., Waddington, L.M., Thomas, M.B., Liang, K.-L., Ma, C., Topp, E., Desranleau Dandurand, U., Letellier, A., Matias, F., and Brooks, S.P.J. (2011). "Continuous feeding of antimicrobial growth promoters to commercial swine during the growing/finishing phase does not modify faecal community erythromycin resistance of community structure.", *Joint UK-Canada gut health meeting, Guelph & St Hyacinthe, Canada, February, 2011*. (Presentation)

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## Research Publications:

2015

Song, J., Du, L., Li, L., Kalt, W., Campbell, L., Fillmore, S.A.E., Zhang, Y., Zhang, Z., and Li, X.H. (2015). "Quantitative changes in proteins responsible for flavonoid and anthocyanin biosynthesis in strawberry fruit at different ripening stages: A targeted quantitative proteomic investigation employing multiple reaction monitoring.", *Journal of Proteomics*, 122, pp. 1-10. doi : 10.1016/j.jprot.2015.03.017

2014

Kalt, W., Liu, Y., McDonald, J.E., Vinqvist-Tymchuk, M.R., and Fillmore, S.A.E. (2014). "Anthocyanin metabolites are abundant and persistent in human urine.", *Journal of Agricultural and Food Chemistry*, 62(18), pp. 3926-3934. doi : 10.1021/jf500107j

Louis, X.L., Thandapilly, S.J., Kalt, W., Vinqvist-Tymchuk, M.R., Aloud, B.M., Raj, P., Yu, L., Le, H., and Netticadan, T. (2014). "Blueberry polyphenols prevent cardiomyocyte death by preventing calpain activation and oxidative stress.", *Food & Function*, 5(8), pp. 1785-1794. doi : 10.1039/c3fo60588d

Kalt, W., McDonald, J.E., Fillmore, S.A.E., and Tremblay, F. (2014). "Blueberry effects on dark vision and recovery after photobleaching: placebo-controlled crossover studies.", *Journal of Agricultural and Food Chemistry*, 62(46), pp. 11180-11189. doi : 10.1021/jf503689c

Satanina, V., Kalt, W., Astatkie, T., Havard, P., and Martynenko, A. (2014). "Comparison of anthocyanin concentration in blueberries processed using hydrothermodynamic technology and conventional processing technologies.", *Journal of Food Process Engineering*, 37(6), pp. 609-618. doi : 10.1111/jfpe.12117

2013

Li, L., Song, J., Kalt, W., Fomey, C.F., Tsao, R., Pinto, D., Chisholm, K., Campbell, L., Fillmore, S.A.E., and Li, X.-H. (2013). "Quantitative proteomic investigation employing stable isotope labeling by peptide dimethylation on proteins of strawberry fruit at different ripening stages.", *Journal of Proteomics*, 94(6), pp. 219-239. doi : 10.1016/j.jprot.2013.09.004

2012

Fomey, C.F., Kalt, W., Jordan, M.A., Vinqvist-Tymchuk, M.R., and Fillmore, S.A.E. (2012). "Blueberry and cranberry fruit composition during development.", *Journal of Berry Research*, 2(3), pp. 169-177. doi : 10.3233/JBR-2012-034

Tremblay, F., Waterhouse, J., Nason, J., and Kalt, W. (2012). "Prophylactic neuroprotection by blueberry-enriched diet in a rat model of light-induced retinopathy.", *Journal of Nutritional Biochemistry*, 24(4), pp. 647-655. doi : 10.1016/j.jnutbio.2012.03.011

Fomey, C.F., Kalt, W., and Vander Kloet, S.P. (2012). "Comparison of berry composition of selected *Vaccinium* species (*Ericaceae*) with *Gaylussacia dumosa*.", *Botany*, 90(5), pp. 355-363. doi : 10.1139/B11-098

Fomey, C.F., Kalt, W., Jordan, M.A., Vinqvist-Tymchuk, M.R., and Fillmore, S.A.E. (2012). "Compositional Changes in Blueberry and Cranberry Fruit during Ripening.", *Acta Horticulturae (ISHS)*, 926, pp. 331-337.

## Other Science Related Publications:

2015

Fan, L., Chen, S., Doucette, C., Hughes, T., Song, J., Kalt, W., Zhang, H., and Fillmore, S.A.E. (2015). "Characterization of Heat-resistant Fungi-Food Safety and Quality Aspects.", AG Connect 2015 Summit, Truro, NS, USA, March 31-April 1, 2015. (Poster)

Song, J., Du, L., Kalt, W., Palmer, C., Fillmore, S.A.E., Zhang, Z., and Li, X.-H. (2015). "Targeted quantitative proteomic investigation reveals the changes in proteins responsible for flavonoid and anthocyanin biosynthesis in strawberry fruit at different ripening stages.", ASHS2015, New Orleans, Louisiana, USA, August 4-7, 2015.

Fan, L., Chen, S., Doucette, C., Hughes, T., Song, J., Kalt, W., Zhang, H., and Fillmore, S.A.E. (2015). "Characterization of Heat-resistant Fungus, *Neosartorya pseudofischeri* Subjected to Heat Treatments.", Annual Meeting of the International Association of Food Protection (IAFP 2015), Oregon Convention Center, Portland, OR, USA, July 26-29, 2015, Published abstract. (Poster)

Fan, L., Chen, S., Doucette, C., Hughes, T., Song, J., Kalt, W., Zhang, H., and Fillmore, S.A.E. (2015). "Characterization of Heat-resistant Fungi-Food Safety and Quality Aspects.", Ag. Connect2015 Summit. (Poster)

Fan, L., Chen, S., Doucette, C., Hughes, T., Song, J., Kalt, W., Zhang, H., and Fillmore, S.A.E. (2015). "Characterization of Heat-resistant Fungus, *Neosartorya pseudofischeri* Subjected to Heat Treatments.", IAFP Conference 2015, Published abstract. (Poster)

Fan, L. and Kalt, W. (2015). "Antimicrobial effects of haskap berry polyphenolics.", Haskap Berry Research Meeting. (Presentation)

## 2013

Fan, L., Kalt, W., Doucette, C., Hughes, T., Song, J., Chen, S., Zhang, H., and Fillmore, S.A.E. (2013). "Characterization of heat-resistant fungus, *Byssochlamys striata* inoculated in blueberry juice and subjected to heat treatments.", IAFP annual conference 2014, Charlotte, NC, USA, July 28-August 1, 2013. (Poster)

Fan, L., Kalt, W., Doucette, C., Hughes, T., Song, J., Chen, S., Zhang, H., and Fillmore, S.A.E. (2013). "Challenge test on heat-resistant fungus, *Byssochlamys striata* inoculated in blueberry juice and subjected to heat treatments.", IAFP annual conference 2014, Charlotte, NC, USA, July 28-August 1, 2013. (Poster)

Kalt, W. (2013). "Anthocyanin metabolites are abundant and persistent in human urine.", Wild Blueberry Association Research Meeting, Bar Harbour, Maine, USA, August, 2013.

Kalt, W. (2013). "Anthocyanin absorption during long-term blueberry juice ingestion.", Berry Health Benefits Symposium, Charlotte NC, Canada, June, 2013.

## 2012

Thandapilly, S.J., Louis, X.L., Yu, L., Vinqvist-Tymchuk, M.R., Kalt, W., and Netticadan, T. (2012). "Blueberry fractions prevent norepinephrine induced cardiomyocyte hypertrophy and cell death.", 10th International Symposium on Vaccinium and Other Superfruits, Maastricht, Limburg, The Netherlands, June 17-22, 2012.

Zvalo, V., Kalt, W., Shi, J., Fillmore, S.A.E., and Owen, J. (2012). "Sweet Potatoes (*Ipomoea batatas*) of Diverse Colours Grown in Atlantic Canada.", 2nd Symposium on Horticulture in Europe (SHE 2012), Angers, France, July 1-5, 2012. (Poster)

## 2011

Kalt, W. (2011). "Blueberries and Human Health.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

Kalt, W. (2011). "Blueberries as a Therapeutic Functional Food.", Therapeutic Applications for Functional Foods Conference, St. Boniface Hospital Research Centre, Winnipeg, MB, Canada, May 31-June 1, 2011.

Forney, C.F. and Kalt, W. (2011). "Blueberries and cranberries.", in Terry, L.A. (ed.) - Health-promoting properties of fruits and vegetables, CABI Publishing, Wallingford, UK, Chapter 4, pp. 51-73.



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## Research Publications:

2015

Alkher, H.A., Islam, M.R., Wijekoon, C.P., Wijekoon, C.P., Kalischuk, M.L., Kawchuk, L.M., Peters, R.D., Al-Mughrabi, K.I., Conn, K.L., Dobinson, K.F., Waterer, D.R., and Daayf, F. (2015). "Characterization of *Phytophthora infestans* populations in Canada during 2012.", *Canadian Journal of Plant Pathology*, 37(3), pp. 305-314. doi: 10.1080/07060661.2015.1053987

Kalischuk, M.L., Johnson, D.L., and Kawchuk, L.M. (2015). "Priming with a double-stranded DNA virus alters *Brassica rapa* seed architecture and facilitates a defense response.", *Gene*, 557(2), pp. 130-137. doi: 10.1016/j.gene.2014.12.016

Kalischuk, M.L., Hachey, J.E., and Kawchuk, L.M. (2015). "Complete genome sequence of phytopathogenic *Pectobacterium atrosepticum* bacteriophage Peat1.", *Genome Announcements*, 3(4: Article e00760-15), pp. 1-2. doi: 10.1128/genomeA.00760-15

Forge, T.A., Lamey, F.J., Kawchuk, L.M., Pearson, D.C., Koch, C.A., and Blackshaw, R.E. (2015). "Crop rotation effects on *Pratylenchus neglectus* populations in the root zone of irrigated potatoes in southern Alberta.", *Canadian Journal of Plant Pathology*, 37(3), pp. 363-368. doi: 10.1080/07060661.2015.1066864

Howard, R.J., Harding, M.W., Lynn, J., Kawchuk, L.M., and Rasmussen, N. (2015). "First Report of Goss's Bacterial Wilt and Leaf Blight on Corn Caused by *Clavibacter michiganensis* subsp. *nebraskensis* in Alberta, Canada.", *Plant Disease*, 99. doi: 10.1094/PDIS-11-14-1117-PDN

2014

Peters, R.D., Al-Mughrabi, K.I., Kalischuk, M.L., Dobinson, K.F., Conn, K.L., Alkher, H.A., Islam, M.R., Daayf, F., Lynn, J., Bizimungu, B., De Koeber, D.L., Lévesque, C.A., and Kawchuk, L.M. (2014). "Characterization of *Phytophthora infestans* population diversity in Canada reveals increased migration and genotype recombination.", *Canadian Journal of Plant Pathology*, 36(1), pp. 73-82. doi: 10.1080/07060661.2014.892900

Wijekoon, C.P., Wijekoon, C.P., Peters, R.D., Al-Mughrabi, K.I., and Kawchuk, L.M. (2014). "First Report of Late Blight Caused by *Phytophthora infestans* Clonal Lineage US-23 on Tomato and Potato in Atlantic Canada.", *Plant Disease*, 98(3), pp. 426. doi: 10.1094/PDIS-08-13-0807-PDN

Lange, F. and Kawchuk, L.M. (2014). "Growth strategies for a declining market - the German fresh potato market.", *American Journal of Potato Research*, 91(5), pp. 440-446. doi: 10.1007/s12230-014-9367-y

Gossen, B.D., Carisse, O., Kawchuk, L.M., Van der Heyden, H., and McDonald, M.R. (2014). "Recent changes in fungicide use and the fungicide insensitivity of plant pathogens in Canada.", *Canadian Journal of Plant Pathology*, 36(3), pp. 327-340. doi: 10.1080/07060661.2014.925506

Pageni, B.B., Lupwayi, N.Z., Akter, Z., Lamey, F.J., Kawchuk, L.M., and Gan, Y.T. (2014). "Plant growth-promoting and phytopathogen-antagonistic properties of bacterial endophytes from potato (*Solanum tuberosum* L.) cropping systems.", *Canadian Journal of Plant Science*, 94(5), pp. 835-844. doi: 10.4141/CJPS2013-356

Hwang, Y.T., Wijekoon, C., Kalischuk, M.L., Johnson, D.L., Howard, R.J., Prüfer, D., and Kawchuk, L.M. (2014). "Evolution and Management of the Irish Potato Famine Pathogen *Phytophthora infestans* in Canada and the United States.", *American Journal of Potato Research*. doi: 10.1007/s12230-014-9401-0

2013

Bizimungu, B., Kawchuk, L.M., Wahab, J., Waterer, D.R., and Howard, R.J. (2013). "Sentinel: An Early Yellow-Fleshed Potato Cultivar Suitable for Fresh Market and Chip Processing.", *American Journal of Potato Research*. doi: 10.1007/s12230-013-9309-0

Hwang, Y.T., Kalischuk, M.L., Fusaro, A.F., Waterhouse, P.M., and Kawchuk, L.M. (2013). "Small RNA sequencing of Potato leaf roll virus infected plants reveals an additional subgenomic RNA encoding a sequence-specific RNA-binding protein.", *Virology*, 438(2), pp. 61-69. doi: 10.1016/j.virol.2012.12.012

Kalischuk, M.L., Fusaro, A.F., Waterhouse, P.M., Pappu, H., and Kawchuk, L.M. (2013). "Complete genomic sequence of a *Rubus* yellow net virus isolate and detection of genome-wide pararetrovirus-derived small RNAs.", *Virus Research*. doi: 10.1016/j.virusres.2013.09.026

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Kawchuk, L.M., and Gan, Y.T. (2013). "Populations, diversity and identities of bacterial endophytes in potato (*Solanum tuberosum* L.) cropping systems.", *Canadian Journal of Plant Science*, 93, pp. 1125-1142. doi : 10.4141/CJPS2013-166

2012

Groscurth, S., Müller, B., Schwan, S., Menzel, M., Diekstatt, F., Senft, M., Kendall, A., Kommer, B. A., Neumann, U., Kalischuk, M.L., Kawchuk, L.M., Krzyzaneck, V., Heilmann, A., Stubbs, G., Twyman, R.M., Prüfer, D., and Noll, G.A. (2012). "Artificial forisomes are ideal models of forisome assembly and activity that allow the development of technical devices.", *Biomacromolecules*, 13(10), pp. 3076-3086. doi : 10.1021/bm3008499

Kalischuk, M.L., Al-Mughrabi, K.I., Peters, R.D., Howard, R.J., Platt, H.W., and Kawchuk, L.M. (2012). "Genetic composition of *Phytophthora infestans* in Canada reveals migration and increased diversity.", *Plant Disease*, 96(12), pp. 1729-1735. doi : 10.1094/PDIS-10-11-0859-RE

Fusaro, A.F., Correa, R.L., Nakasugi, K., Jackson, C., Kawchuk, L.M., Vasin, M.F.S., and Waterhouse, P.M. (2012). "The Enamovirus P0 protein is a silencing suppressor which inhibits local and systemic RNA silencing through AGO1 degradation.", *Virology*, 426(2), pp. 178-187. doi : 10.1016/j.virol.2012.01.026

2011

Noll, G.A., Müller, B., Ernst, A.M., Rüping, B., Groscurth, S., Twyman, R.M., Kawchuk, L.M., and Prüfer, D. (2011). "Characteristics of artificial forisomes from plants and yeast.", *Bioengineered Bugs*, 2(2), pp. 111-114. doi : 10.4161/bbug.2.2.14368

Kawchuk, L.M. (2011). "Potato Production Systems and Disease Prevention.", in Verheye, W.H. (ed.) - *Soils, Plant Growth and Crop Production, Encyclopedia of Life Support Systems (EOLSS)*, UNESCO, Eolss Publishers, Oxford, UK, pp. 1-16.

Hill, B.D., Kalischuk, M.L., Waterer, D.R., Bizimungu, B., Howard, R.J., and Kawchuk, L.M. (2011). "An environmental model predicting bacterial ring rot symptom expression.", *American Journal of Potato Research*, 88(3), pp. 294-301. doi : 10.1007/s12230-011-9193-4

Kawchuk, L.M., Howard, R.J., Peters, R.D., and Al-Mughrabi, K.I. (2011). "First Report of *Phytophthora infestans* Genotype US23 Causing Late Blight in Canada.", *Plant Disease*, 95(7), pp. 873. doi : 10.1094/PDIS-01-11-0054

Bizimungu, B., Holm, D.G., Kawchuk, L.M., Konschuh, M.N., Schaupmeyer, C.A., Wahab, J., Waterer, D.R., Driedger, D., Wolfe, H., McAllister, P., Howard, R.J., Platt, H.W., and Lynch, D.R. (2011). "Alta Crown: A new russet potato cultivar with resistance to common scab and a low incidence of tubers deformities.", *American Journal of Potato Research*, 88, pp. 72-81. doi : 10.1007/s12230-010-9165-0

## Other Science Related Publications:

2015

Kawchuk, L.M. (2015). "Bronze Leaf Disease Update.", International Society of Arboriculture Prairie Chapter Conference, Lethbridge Lodge, Lethbridge, Alberta, Canada, October 19, 2015.

Kalischuk, M.L. and Kawchuk, L.M. (2015). "Virus suppression with the Ploverovirus 5' sequence-specific RNA-binding protein encoded by the 3' subgenomic RNA. P VIRUS 47.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015.

Carisse, O., Kawchuk, L.M., Peters, R.D., Bilodeau, G.J., Lévesque, C.A., Vincent, C., and Laforest, M. (2015). "Biovigilance: a framework for effective pest management.", National Science Day on Biovigilance and Precision Agriculture, Agriculture and Agri-Food Canada, Saint-Jean-sur-Richelieu, QC, Canada, July 9, 2015. (Presentation)

Johnson, D.L., Kawchuk, L.M., Meers, S., Xia, Q., and others (2015). "Canadian Zebra Chip and Potato Psyllid Monitoring Network", American Phytopathological Society Annual Meeting, Pasadena Convention Center, Pasadena, CA, USA, August 1-5, 2015. (Poster)

Kalischuk, M.L., Peters, R.D., Al-Mughrabi, K.I., Daayf, F., Harding, M.W., Howard, R.J., Sabaratnam, S., and Kawchuk, L.M. (2015). "Chronic late blight produced by *Phytophthora infestans* US-23 limits conventional disease management strategies.", Botany 2015 Joint Conference: Science and plants for people, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-30, 2015, # 1251. (Abstract)

Wijekoon, C., Pageni, B.B., and Kawchuk, L.M. (2015). "Rapid molecular characterization of the late blight pathogen *Phytophthora infestans*.", Botany 2015 Joint Conference: Science and plants for people, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-30, 2015, # 825. (Abstract)

Johnson, D.L., Kawchuk, L.M., Meers, S., Xia, Q., and Walgama, R.S. (2015). "Potato psyllid, an invasive species in Canada: abundance, population characteristics, and vector status.", Alberta Potato Conference and Trade Show. Potato Growers of Alberta, The Sheraton, Red Deer, Alberta, Canada, November 17-19, 2015.

Kalischuk, M.L., Harding, M.W., Howard, R.J., and Kawchuk, L.M. (2015). "Late blight pathogen monitoring.", Alberta Potato Conference and Trade Show. Potato Growers of Alberta, The Sheraton, Red Deer, Alberta, Canada, November 17- 19, 2015, Presentation.

Kawchuk, L.M. (2015). "Late blight evolution and prevention strategies.", Alberta Potato Conference and Trade Show. Potato Growers of Alberta, The Sheraton, Red Deer, Alberta, Canada, November 17- 19, 2015.

Crane, B., Peters, R.D., Kawchuk, L.M., Al-Mughrabi, K.I., Macdonald, K., MacPhail, A., Drake, K.A., Gregory, D., and Clark, M.M. (2015). "Fungicide resistance in populations of *Phytophthora erythroseptica* in Canada and alternative management strategies for potato pink rot.", Alberta Potato Conference and Trade Show. Potato Growers of Alberta, The Sheraton, Red Deer, Alberta, Canada, November 17- 19, 2015, Presentation.

Kawchuk, L.M. (2015). "Evolution and Lifestyle of RNA Viruses.", Invited Presentation at ARRTI Speaker Series Lecture, University of Lethbridge, Alberta RNA Research and Training Institute, Lethbridge, Alberta, Canada, January 21, 2015. (Presentation)

Lévesque, C.A., Chen, W., Hambleton, S., Seifert, K.A., Adam, Z., Bilodeau, G.J., Cullis, J., Demeke, T., Dumonceaux, T.J., Gagnon, M., Graefenhan, T., Kawchuk, L.M., Khan, I.U.H., Lewis, C.T., Li, X., Links, M.G., Mimeo, B., Rott, M., Tambong, J.T., Topp, E., Yu, Q., and Yuan, K. (2015). Project CRTI 09-462RD - Next generation sequencing, direct detection and genotyping of fungi, bacteria and nematodes in the agri-food system. DRDC-RDDC-2015-C148. Final Close-Out Report. (Report)

Kalischuk, M.L., Johnson, D.L., and Kawchuk, L.M. (2015). "Characterization of the transcriptome and pathogen small RNA associated with stress memory in a commercial crop.", American Phytopathological Society Annual Meeting, Pasadena Convention Center, Pasadena, CA, USA, August 1-5, 2015. (Abstract)

## 2014

Crane, B., Peters, R.D., Kawchuk, L.M., Al-Mughrabi, K.I., Macdonald, K., MacPhail, A., Drake, K.A., and Gregory, D. (2014). "Resistance to metalaxyl-m in populations of the potato pink rot pathogen (*Phytophthora erythroseptica*) in Canada.", Northeast Potato Technology Forum 2014, Fredericton, NB, Canada, March 12-13, 2014, Proceedings published by McCain Foods Ltd., pp. 7-8.

Harding, M.W., Howard, R.J., Daniels, G.C., Unruh, M.J., Lisowski, S.L.I., Pugh, C., Burke, D.A., Korschuh, M.N., Kawchuk, L.M., and Peters, R.D. (2014). "Beneficial practices for managing Fusarium diseases on potato.", Potato Growers of Alberta (PGA) Annual Meeting, Sheraton, Red Deer, AB, Canada, November 18-20, 2014.

Crane, B., Peters, R.D., Kawchuk, L.M., Harding, M.W., Al-Mughrabi, K.I., Macdonald, K., MacPhail, A., Drake, K.A., and Gregory, D. (2014). "Resistance to metalaxyl-m in populations of the potato pink rot pathogen (*Phytophthora erythroseptica*) in Canada.", Potato Growers of Alberta (PGA) Annual Meeting, Sheraton, Red Deer, AB, Canada, November 18-20, 2014.

Kawchuk, L.M. (2014). "Potato pathology and microbiology.", Delegation from the Hebei Academy of Agriculture and Forestry Sciences, Lethbridge Research Centre, Lethbridge, AB, Canada, March 17, 2014. (Presentation)

Kawchuk, L.M. (2014). "Next generation potato innovation in Canada.", USDA Agriculture Attaché and USDA Foreign Agricultural Service Specialist, US Embassy in Ottawa, Canada, September 25, 2014. (Presentation)

Bilodeau, G.J., Gagnon, M., Lévesque, C.A., Kawchuk, L.M., Wijekoon, C.P., Wijekoon, C.P., Feau, N., Bergeron, M., Grünwald, N.J., Brasier, C.M., Webber, J.F., and Hamelin, R.C. (2014). "Tools for rapid characterization of *Phytophthora infestans* and *Phytophthora ramorum* using real-time PCR and microsatellites from genomic resources.", *Phytophthora in Forests and Natural Ecosystems: 7th Meeting of the International Union of Forest Research Organizations (IUFRO) Working Party S07-02-09*, <http://www.iufrophytophthora2014.org/downloads/proceedings.pdf>, pp. 58. (Abstract)

Gagnon, M., Lévesque, C.A., Kawchuk, L.M., Wijekoon, C.P., Wijekoon, C.P., Feau, N., Bergeron, M., Grünwald, N.J., Hamelin, R.C., and Bilodeau, G.J. (2014). "Development of rapid characterization tools for *Phytophthora infestans* and *Phytophthora ramorum* using real-time PCR and microsatellites from a genomic resource.", Oomycete Molecular Genetics Network Annual Meeting 2014, Norwich, UK, July 2-4, 2014.

Islam, M.R., Alkher, H.A., Bezzahou, M., Godee, C., Adam, L.R., Kawchuk, L.M., Dobinson, K.F., Conn, K.L., Peters, R.D., Al-Mughrabi, K.I., Shinnars-Camelle, T., and Daayf, F. (2014). "Diversity in population structure of the late blight pathogen, *Phytophthora infestans*, in Manitoba.", *Canadian Journal of Plant Pathology*, 36, pp. 267. (Abstract)

Vucurevich, T., Sheedy, C., Duke, G., and Kawchuk, L.M. (2014). "Immunofluorescent detection of clubroot resting spores.", Annual Meeting of the Plant Pathology Society of Alberta, Pocaterra Inn, Canmore, AB, Canada, November 3-5, 2014, pp. 3.

Peters, R.D., Kawchuk, L.M., Daayf, F., and Al-Mughrabi, K.I. (2014). "The changing dynamic of tomato and potato late blight in Canada.", 29th Annual Tomato Disease Workshop, Windsor, ON, Canada, November 4-6, 2014.

Crane, B., Peters, R.D., Kawchuk, L.M., MacPhail, A., Drake, K.A., Gregory, D., and Macdonald, K. (2014). "Resistance to metalaxyl-m in populations of *Phytophthora erythroseptica* causing pink rot of potato in Canada.", *Canadian Journal of Plant Pathology*. (Abstract)

Johnson, D.L., Kawchuk, L.M., and Meers, S. (2014). "Potato psyllid and zebra chip monitoring network.", Potato Growers of Alberta (PGA) Annual Meeting, Sheraton, Red Deer, AB, Canada, November 18-20, 2014.

Wijekoon, C. and Kawchuk, L.M. (2014). "Molecular characterization of Late blight pathogen (*Phytophthora infestans*) using microsatellite and TRFLP analysis.", Annual Meeting of the Plant Pathology Society of Alberta, Pocaterra Inn, Canmore, AB, Canada, November 3-5, 2014.

Crane, B., Peters, R.D., Kawchuk, L.M., Al-Mughrabi, K.I., Macdonald, K., MacPhail, A., Drake, K.A., and Gregory, D. (2014). "Resistance to metalaxyl-m in populations of the potato pinkrot pathogen (*Phytophthora erythroseptica*) in Canada.", 98th Annual Meeting of the Potato Association of America (PAA), The Davenport Hotel, Spokane, WA, USA, July 27-31, 2014. (Abstract)

Kalischuk, M.L., Kawchuk, L.M., Peters, R.D., Al-Mughrabi, K.I., Daayf, F., and Harding, M.W. (2014). "Evolution and prevention of late blight caused by *Phytophthora infestans* genotype US-23.", APS-CPS Joint Meeting, Hilton Minneapolis, Minneapolis, MN, USA, August 9-13, 2014. (Abstract)

Kawchuk, L.M., Kalischuk, M.L., Peters, R.D., Al-Mughrabi, K.I., Daayf, F., Harding, M.W., and Howard, R.J. (2014). "Prevalence and prevention of *Phytophthora infestans* US-23.", 98th Annual Meeting of the Potato Association of America (PAA), The Davenport Hotel, Spokane, WA, USA, July 27-31, 2014. (Abstract)

Kalischuk, M.L. and Kawchuk, L.M. (2014). "Mapping of the Small RNA from Potato leafroll virus infected plants reveals a 3' subgenomic RNA encoding a 5' sequence-specific RNA-binding protein.", RiboWest 2014 10th Annual Meeting, University of Lethbridge, Lethbridge, AB., Canada, June 18-21, 2014. (Abstract)

## 2013

Peters, R.D., MacPhail, A., Clark, M.M., Drake, K.A., Gregory, D., Macdonald, M.M., Beaton, B.W., Al-Mughrabi, K.I., and Kawchuk, L.M. (2013). "Variation in aggressiveness of genotypes of *Phytophthora infestans* found in eastern Canada.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013.

Bizimungu, B., Kawchuk, L.M., Wahab, J., Waterer, D.R., Korschuh, M.N., and Lynch, D.R. (2013). "AAC Alta Strong potato variety- A new option for French fry processing and fresh market uses.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013.

Kawchuk, L.M., Peters, R.D., Al-Mughrabi, K.I., Dobinson, K.F., Conn, K.L., and Daayf, F. (2013). "Population diversity and segregation analysis of genotype specific loci of the Irish Potato Famine pathogen.", 84rd Annual Meeting of the Canadian Phytopathological Society (CPS), Matrix Hotel, Edmonton, AB, Canada, June 16-19, 2013.

Johnson, D.L., Meers, S., and Kawchuk, L.M. (2013). "New network to monitor potato psyllid and zebra chip disease in Canada.", Potato Growers of Alberta (PGA) Annual Meeting, Calgary, AB, Canada, November 19-21, 2013.

Islam, M.R., Alkher, H.A., Bezzahou, M., Godee, C., Adam, L.R., Kawchuk, L.M., Dobinson, K.F., Conn, K.L., Peters, R.D., Al-Mughrabi, K.I., Shinnars-Camelle, T., and Daayf, F. (2013). "Diversity in population structure of late blight pathogen, *P. infestans* in Manitoba.", 84rd Annual Meeting of the Canadian Phytopathological Society (CPS), Matrix Hotel, Edmonton, AB, Canada, June 16-19, 2013.

Wijekoon, C.P., Wijekoon, C.P., Kalischuk, M.L., Spencer, R.C.J., Howard, R.J., and Kawchuk, L.M. (2013). "Characterization of *Apioplagiostoma populi* causing bronze leaf disease in poplar.", Annual Meeting of the Plant Pathology Society of Alberta, Brooks, AB, Canada, November 4-6, 2013.

Lynn, J., Kalischuk, M.L., Howard, R.J., Harding, M.W., Korschuh, M.N., Spencer, R.C.J., Carter, J., Johnson, D.H., and Kawchuk, L.M. (2013). "An action plan for the prevention of late blight.", Potato Growers of Alberta (PGA) Annual Meeting, Calgary, AB, Canada, November 19-21, 2013.

Harding, M.W., Daniels, G.D., Unruh, M.J., Lisowski, S.L.I., Pugh, C., Korschuh, M.N., Kawchuk, L.M., and Howard, R.J. (2013). "Fusarium disease surveillance and management in potato.", Potato Growers of Alberta (PGA) Annual Meeting, Calgary, AB, Canada, November 19-21, 2013.

Kalischuk, M.L., Fusaro, A.F., Waterhouse, P.M., Pappu, H., and Kawchuk, L.M. (2013). "Genomic sequence and small RNA analysis of pararetrovirus infecting raspberry.", Annual Meeting of the Plant Pathology Society of Alberta, Brooks, AB, Canada, November 4-6, 2013.

Howard, R.J., Harding, M.W., Rasmussen, N.M., Lisowski, S.L.I., Pugh, C., and Kawchuk, L.M. (2013). "Goss's Wilt of Field Corn: A New Disease for Alberta.", Annual Meeting of the Plant Pathology Society of Alberta, Brooks, AB, Canada, November 4-6, 2013.

Gagnon, M., Kawchuk, L.M., Li, S., Lévesque, C.A., and Bilodeau, G.J. (2013). "Identification and molecular characterization of Canadian strains of potato late blight and potato wart.", 84rd Annual Meeting of the Canadian Phytopathological Society (CPS), Matrix Hotel, Edmonton, AB, Canada, June 16-19, 2013.

Kawchuk, L.M., Kalischuk, M.L., Harding, M.W., Spencer, R.C.J., and Howard, R.J. (2013). "Population dynamics of the Irish potato famine pathogen in Alberta.", Annual Meeting of the Plant Pathology Society of Alberta, Brooks, AB, Canada, November 4-6, 2013.

Hachey, J.E., Fletcher, L., Mitchell, S., Mitchell, P., Hochstein, T., and Kawchuk, L.M. (2013). "Fungicide efficiency for preventing early and late blight.", Potato Growers of Alberta (PGA) Annual Meeting, Calgary, AB, Canada, November 19-21, 2013.

Pageni, B.B., Lupwayi, N.Z., Akter, Z., Lamey, F.J., and Kawchuk, L.M. (2013). "Characterization of bacterial endophytes from potato (*Solanum tuberosum* L.) reveals growth-promoting and antagonistic properties in vitro.", 50th Annual Alberta Soil Science Workshop, Lethbridge, AB, Canada, February 19-21, 2013.

## 2012

Alkher, H.A., Kawchuk, L.M., Adam, L.R., Islam, M.R., Dobinson, K.F., Conn, K.L., Peters, R.D., Al-Mughrabi, K.I., and Daayf, F. (2012). "Pathogenic diversity of Manitoba isolates of *Phytophthora infestans* on potato and tomato.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012.

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Kawchuk, L.M., Pearson, D.C., Blackshaw, R.E., and Gan, Y.T. (2012). "Characterization of bacterial endophytes associated with *Solanum tuberosum* in irrigated cropping systems.", 112th General Meeting of American Society for Microbiology, San Francisco, CA, USA, June 15-19, 2012. (Abstract)

Kawchuk, L.M. (2012). "Advances in potato pest management.", 54th Annual Horticulture Growers' Short Course, Abbotsford, BC, Canada, January 26-28, 2012, pp. 2.

Kawchuk, L.M., Peters, R.D., Al-Mughrabi, K.I., Conn, K.L., Dobinson, K.F., and Daayf, F. (2012). "Migration and recombination increase the genetic diversity of *Phytophthora infestans* in Canada.", 96th Annual Meeting of the Potato Association of America (PAA), Crowne Plaza Denver International Airport, Denver, CO, USA, August 12-16, 2012.

Lynn, J., Kalischuk, M.L., Howard, R.J., Korschuh, M.N., Harding, M.W., Spencer, R.C.J., and Kawchuk, L.M. (2012). "Genetic composition of *Phytophthora infestans* in Alberta and Canada.", 2012 Annual Meeting of Potato Growers of Alberta, Red Deer, AB, Canada, November 13-15, 2012 (Poster).

Hachey, J.E., Fletcher, L., Mitchell, P., and Kawchuk, L.M. (2012). "Chemical effectiveness associated with early blight and late blight.", 2012 Annual Meeting of Potato Growers of Alberta, Red Deer, AB, Canada, November 13-15, 2012 (Poster).

Daniels, G.D., Kawchuk, L.M., Unruh, M.J., Harding, M.W., and Howard, R.J. (2012). "Characterization and management of *Fusarium* species from Alberta potato storages.", 2012 Annual Meeting of Potato Growers of Alberta, Red Deer, AB, Canada, November 13-15, 2012 (Poster).

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Kawchuk, L.M., Pearson, D.C., Blackshaw, R.E., and Gan, Y.T. (2012). "Preceding crop, rotation length and soil management effects on bacterial endophytes.", 49th Annual Alberta Soil Science Workshop, Ramada Inn, Edmonton, AB, Canada, February 14-16, 2012. (Abstract)

Peters, R.D., Drake, K.A., MacPhail, A., Howard, R.J., Harding, M.W., Korschuh, M.N., and Kawchuk, L.M. (2012). "Post-harvest management of *Fusarium sambucinum* causing dry rot of potatoes in storage.", 96th Annual Meeting of the Potato Association of America (PAA), Crowne Plaza Denver International Airport, Denver, CO, USA, August 12-16, 2012.

Dobinson, K.F., Conn, K.L., Kawchuk, L.M., Peters, R.D., Al-Mughrabi, K.I., and Daayf, F. (2012). "Characterization of *Phytophthora infestans* (Mont.) de Bary from tomato in southwestern Ontario.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012.

Peters, R.D., Barasubiye, T., Howard, R.J., Harding, M.W., Korschuh, M.N., Kawchuk, L.M., Beaton, B.W., Drake, K.A., MacPhail, A., Banks, C., Clark, M.M., and MacDonald, M.A. (2012). "Prevalence and management of fungicide resistance in *Fusarium* spp. infecting potatoes in Canada.", International Conference on Antimicrobial Research (ICAR 2012), University of Lisbon, Lisbon, Portugal, November 21-23, 2012.

Kawchuk, L.M., Peters, R.D., Al-Mughrabi, K.I., Conn, G., Dobinson, K.F., and Daayf, F. (2012). "Distribution of genotypes of *Phytophthora infestans* isolated from potato and tomato in Canada in 2011.", American Phytopathological Society (APS) 2012 Annual Meeting, Westin Providence, Providence, RI, USA, August 4-8, 2012.

## 2011

Kawchuk, L.M. and Kovalchuk, I.E. (2011). "Transgenerational pathogen resistance in canola following biotic stress.", 32nd Annual Meeting of the Plant Pathology Society of Alberta (PPSA), University of Alberta, Edmonton, AB, Canada, November 7-9, 2011, pp. 29.

Kalischuk, M.L., Kovalchuk, I.E., Fusaro, A.F., Waterhouse, P.M., Prüfer, D., and Kawchuk, L.M. (2011). "Early dying innate immunity involves ligand dependent endocytosis of cell surface receptors.", Canadian Journal of Plant Pathology, 33(2), pp. 282. (Abstract)

Howard, R.J., Burke, D.A., Lisowski, S.L.I., Strelkov, S.E., Rennie, D.C., Hwang, S.F., Turnbull, G.D., Kawchuk, L.M., and Harding, M.W. (2011). "Assessing the potential for clubroot spore contamination of field pea seed.", Canadian Journal of Plant Science, 91(2), pp. 389, Poster 21.

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Kawchuk, L.M., Pearson, D.C., Blackshaw, R.E., and Gan, Y.T. (2011). "Preceding crop, rotation length and soil management effects on bacterial endophytes.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011. (Abstract)

Konschuh, M.N., Howard, R.J., McKenzie, R.H., Thompson, J., Kawchuk, L.M., Woods, S., and Waterer, D.R. (2011). "Use of Green Manure Crops to Reduce Soil-borne Pests and Diseases of Potato Crops in Alberta.", American Journal of Potato Research, 88, pp. 49. (Abstract)

Kalischuk, M.L., Kawchuk, L.M., and Kovalchuk, I.E. (2011). "Transgenerational pathogen resistance following biotic stress.", 32nd Annual Meeting of the Plant Pathology Society of Alberta (PPSA), University of Alberta, Edmonton, AB, Canada, November 7-9, 2011, pp. 29.

Kawchuk, L.M., Kalischuk, L.D., Al-Mughrabi, K.I., Peters, R.D., Howard, H., and Platt, H.W. (2011). "Genetic Composition of *Phytophthora infestans* in Canada Reveals Increased Diversity.", 32nd Annual Meeting of the Plant Pathology Society of Alberta (PPSA), University of Alberta, Edmonton, AB, Canada, November 7-9, 2011.

Peters, R.D., Kawchuk, L.M., Al-Mughrabi, K.I., Platt, H.W., Beaton, B.W., Banks, C., MacDonald, I.K., and Gregory, D. (2011). "Genotypes of *Phytophthora infestans* causing late blight in Canada in 2010.", 19th Annual Northeast Potato Technology Forum, Crowne Plaza Fredericton Lord Beaverbrook Hotel, Fredericton, NB, Canada, March 16-17, 2011.

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## Research Publications:

2015

Dossett, M.P., Bushakra, J.M., Gilmore, B., Koch, C.A., Kempler, C., Finn, C.E., and Bassil, N.V. (2015). "Development and transferability of black and red raspberry microsatellite markers from short-read sequences.", *Journal of the American Society for Horticultural Science*, 140(3), pp. 243-252.

2014

Finn, C.E., Strik, B.C., Yorgey, B.M., Mackey, T.A., Moore, P.P., Dossett, M.P., Kempler, C., Martin, R.R., Jamieson, A.R., and Galletta, G.J. (2014). "'Sweet Sunrise' strawberry.", *HortScience*, 49(8), pp. 1088-1092.

2013

Kempler, C. and Hall, H.K. (2013). "World raspberry production and marketing: Industry changes and trends from 1960 to 2010.", in Funt, R.C. and Hall, H.K. (eds.) - *Raspberries*, CABI Publishing, pp. 213-233.

Dossett, M.P., Kempler, C., and Daubeny, H.A. (2013). "BC 90-19-34 and BC 93-16-43 Red Raspberries.", *HortScience*, 48(5), pp. 664-667.

2012

Dossett, M.P. and Kempler, C. (2012). "Biotypic Diversity and Resistance to the Raspberry Aphid *Amphorophora agathonica* in Pacific Northwestern North America.", *Journal of the American Society for Horticultural Science*, 137(6), pp. 445-451.

Kempler, C., Muehlchen, A.M., and Forge, T.A. (2012). "Screening for Resistance to *Phytophthora* Root Rot in Raspberries: Identifying New Sources of Resistance.", *Acta Horticulturae (ISHS)*, 926, pp. 59-64.

Zhang, Z.-M., Zhao, Z.-Y., Liu, H., Dubé, C., Charles, M.T., Kempler, C., and Khanizadeh, S. (2012). "Horticultural characteristics and chemical composition of advanced raspberry lines from British Columbia.", *Journal of Food, Agriculture & Environment (JFAE)*, 10(3-4), pp. 883-887.

2011

Moore, P.P., Hoashi-Erhardt, W.K., Finn, C.E., and Kempler, C. (2011). "'Puget Crimson' Strawberry.", *HortScience*, 46(12), pp. 1698-1700.

Finn, C.E., Kempler, C., Moore, P.P., Strik, B.C., Yorgey, B.M., Martin, R.R., and Galletta, G.J. (2011). "'Sweet Bliss' Strawberry.", *HortScience*, 46(12), pp. 1701-1705.

Kempler, C., Daubeny, H.A., Harding, B., Frey, L., Baumann, T., Finn, C.E., Khanizadeh, S., Jamieson, A.R., MacKenzie, K.C., Moore, P.P., and Sweeney, M.E. (2011). "'Stolo' Strawberry.", *HortScience*, 46(7), pp. 1046-1048.

Yu, C., Ranieri, M., Lv, D., Zhang, M., Charles, M.T., Tsao, R., Rékiká, D., Kempler, C., and Khanizadeh, S. (2011). "Phenolic Composition and Antioxidant Capacity of Newly Developed Strawberry Lines from British Columbia and Quebec.", *International Journal of Food Properties*, 14(1), pp. 59-67. doi: 10.1080/10942910903131415

## Other Science Related Publications:

2014

Dossett, M.P., Forge, T.A., Koch, C.A., and Kempler, C. (2014). "Resistance to *Phytophthora rubi* in wild North American red raspberry germplasm.", 2014 American Society for Horticultural Science Annual Meeting, Orlando, FL, USA, July 28-31, 2014. (Abstract)

2012

Debnath, S.C., Kempler, C., Jamieson, A.R., and Khanizadeh, S. (2012). "Growth and development of raspberry as affected by in vitro and ex vitro propagation methods.", Plant Canada 2012 (joint meeting of the Canadian Society of Agronomy (CSA), Canadian Society for Horticultural Science (CSHS), Certified Crop Advisors (CCA), North American Fruit Explorers (NAFEX)): Adapting Crops to Change, University of Saskatchewan, Saskatoon, SK, Canada, July 16-19, 2012, E2.4 Abstract Id 3832, pp. 43. (Abstract)

2011

Kempler, C., Kannangara, T., and Ehret, D.L. (2011). "Investigations into enzymatic and non-enzymatic antioxidants in different cultivars of blueberry.", HortScience, 46, pp. S301. (Abstract)



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## Research Publications:

2015

Khakbazan, M., Huang, J., Monreal, M.A., Grant, C.A., Glenn, A.J., and Berry, N. (2015). "Agricultural Practices to Reduce Greenhouse Gas Emissions in Cropping Systems.", in Lac, S., McHenry, M. and Kulshreshtha, S. (eds.) - Agriculture Management for Climate Change, Nova Publishers, Chapter 4, pp. 43-54.

Khakbazan, M., Huang, J., Monreal, M.A., Grant, C.A., and Glenn, A.J. (2015). "Agricultural Practices to Improve Energy Input and Resource Efficiency in Cropping Systems.", in Lac, S., McHenry, M. and Kulshreshtha, S. (eds.) - Agriculture Management for Climate Change, Nova Publishers, Chapter 3, pp. 31-42.

Khakbazan, M., Durunna, O.N., Sirski, T.K., Brewin, D.G., Huang, J., Berry, N., Iwaasa, A.D., Scott, S.L., Robins, C.D., Block, H.C., and Lardner, H.A. (2015). "The effects of spring versus summer calving on beef cattle economic performance in western Canada.", Canadian Journal of Animal Science, 95(3), pp. 475-486. doi : 10.4141/CJAS-2015-046

Durunna, O.N., Baron, V.S., Scott, S.L., Robins, C.D., Khakbazan, M., and Block, H.C. (2015). "Effects of resting perennial pastures during the sensitive pre-dormancy period in western manitoba: Pasture productivity and beef cattle performance.", Canadian Journal of Animal Science, 95(2), pp. 129-141. doi : 10.4141/CJAS-2014-046

St. Luce, M., Grant, C.A., Zebarth, B.J., Ziadi, N., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Khakbazan, M., and Smith, E.G. (2015). "Legumes can reduce economic optimum nitrogen rates and increase yields in a wheat-canola cropping sequence in western Canada.", Field Crops Research, 179, pp. 12-25. doi : 10.1016/j.fcr.2015.04.003

Khakbazan, M., Henry, R., Huang, J., Mohr, R.M., Peters, R.D., Fillmore, S.A.E., Rodd, A.V., and Mills, A.A.S. (2015). "Economics of organically managed and conventional potato production systems in Atlantic Canada.", Canadian Journal of Plant Science, 95(1), pp. 161-174. doi : 10.4141/CJPS-2014-050

2014

Khakbazan, M., Grant, C.A., Huang, J., Smith, E.G., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Lafond, G.P., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., and Lupwayi, N.Z. (2014). "Economic effects of preceding crops and nitrogen application on canola and subsequent barley.", Agronomy Journal, 106(6), pp. 2055-2066. doi : 10.2134/agnonj14.0253

Durunna, O.N., Girardin, L.C., Scott, S.L., Robins, C.D., Block, H.C., Iwaasa, A.D., Khakbazan, M., and Lardner, H.A. (2014). "The effects of spring versus summer calving on beef cattle reproductive and growth performance in western Canada.", Canadian Journal of Animal Science, 94(2), pp. 259-271. doi : 10.4141/CJAS2013-180

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Turkington, T.K., Lupwayi, N.Z., Stevenson, F.C., McLaren, D.L., Khakbazan, M., and Smith, E.G. (2014). "Rotational effects of legumes and non-legumes on hybrid canola and malting barley.", Agronomy Journal, 106(6), pp. 1921-1932. doi : 10.2134/agnonj14.0236

Durunna, O.N., Block, H.C., Iwaasa, A.D., Scott, S.L., Robins, C.D., Khakbazan, M., Dugan, M.E.R., Aalhus, J.L., Aliani, M., and Lardner, H.A. (2014). "Impact of calving seasons and feeding systems in western Canada. II. Meat composition and organoleptic quality of steaks.", Canadian Journal of Animal Science, 94(4), pp. 583-593. doi : 10.4141/CJAS-2014-034

Durunna, O.N., Block, H.C., Iwaasa, A.D., Thompson, L.C., Scott, S.L., Robins, C.D., Khakbazan, M., and Lardner, H.A. (2014). "Impact of calving seasons and feeding systems in western Canada. I. Postweaning growth performance and carcass characteristics of crossbred steers.", Canadian Journal of Animal Science, 94(4), pp. 571-582. doi : 10.4141/CJAS-2014-033

Khakbazan, M., Carew, R., Scott, S.L., Chiang, P., Block, H.C., Robins, C.D., Durunna, O.N., and Huang, J. (2014). "Economic analysis and stochastic simulation of alternative beef calving and feeding systems in western Canada.", Canadian Journal of Animal Science, 94(2), pp. 299-311. doi : 10.4141/CJAS2013-185

2013

Khakbazan, M., Grant, C.A., Finlay, G., Wu, R.G., Malhi, S.S., Selles, F., Clayton, G.W., Lupwayi, N.Z., Soon, Y.K., and Harker, K.N. (2013). "An economic study of controlled release urea and split applications of nitrogen as compared with non-coated urea under conventional and reduced tillage management.", *Canadian Journal of Plant Science*, 93(3), pp. 523-534. doi : 10.4141/CJPS2012-107

Khakbazan, M., Hamilton, C., Elliott, J.A., and Yarotski, J.B. (2013). "Economic analysis of agricultural nutrient management practices in the South Tobacco Creek Watershed in Manitoba, Canada.", *Journal of Soil and Water Conservation*, 68(4), pp. 257-269. doi : 10.2489/jswc.68.4.257

Khakbazan, M., Hamilton, C., and Yarotski, J.B. (2013). "The effect of land management changes and nutrient runoff capture on water quality and farm and watershed economics.", published in *Online AgEcon Search Journal, Research in Agriculture and Applied Economics*, 18.

2012

Khakbazan, M. and Hamilton, C. (2012). "Economic evaluation of tillage management practices at the watershed scale in southern Manitoba.", *Soil & Tillage Research*, 118, pp. 40-51. doi : 10.1016/j.still.2011.10.009

Legesse, G., Small, J.A., Scott, S.L., Kebreab, E., Crow, G.H., Block, H.C., Robins, C.D., Khakbazan, M., and McCaughey, W.P. (2012). "Bioperformance evaluation of various summer pasture and winter feeding strategies for cow-calf production.", *Canadian Journal of Animal Science*, 92(1), pp. 89-102. doi : 10.4141/CJAS2011-082

Mohr, R.M., Irvine, R.B., Khakbazan, M., McLaren, D.L., Monreal, M.A., Moulin, A.P., Tomasiwicz, D.J., Volkmar, K.M., and Derksen, D.A. (2012). "Potato Rotation Study - Carberry, Manitoba (1997-2010).", *Prairie Soils and Crops*, 5, pp. 36-41.

2011

Mohr, R.M., Volkmar, K.M., Derksen, D.A., Irvine, R.B., Khakbazan, M., McLaren, D.L., Monreal, M.A., Moulin, A.P., and Tomasiwicz, D.J. (2011). "Effect of Rotation on Crop Yield and Quality in an Irrigated Potato System.", *American Journal of Potato Research*, 88(4), pp. 346-359. doi : 10.1007/s12230-011-9200-9

Monreal, M.A., Grant, C.A., Irvine, R.B., Mohr, R.M., McLaren, D.L., and Khakbazan, M. (2011). "Crop management effect on arbuscular mycorrhizae and root growth of flax.", *Canadian Journal of Plant Science*, 91(2), pp. 315-324. doi : 10.4141/cjps10136

Khakbazan, M., Hamilton, C., Mohr, R.M., and Grant, C.A. (2011). "Water and nutrient crop sufficiency models for potato, wheat, canola, oats, alfalfa, and corn.", *The Americas Journal of Plant Science and Biotechnology*, 5(Spec. Issue 2), pp. 45-60.

## Other Science Related Publications :

2015

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2015). "Legumes in rotation affect hybrid canola and malting barley.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015, Keynote Theme D oral presentation.

2014

Fuller, K.D., Burton, D.L., Rodd, A.V., Smith, E., Grimmett, M.G., Nyiraneza, J., Jiang, Y., Khakbazan, M., and Van Roestel, J. (2014). "Improving Hayfield for Forage Quality while Minimizing Nitrate Loading of Tile Drainage in Atlantic Canada.", ASA-CSSA-SSSA International Annual Meeting: Grand Challenges – Great Solutions, Long Beach, CA, USA, November 2-6, 2014.

Fuller, K.D., Burton, D.L., Rodd, A.V., Smith, E., Grimmett, M.G., Nyiraneza, J., Jiang, Y., Khakbazan, M., and Van Roestel, J. (2014). "Improving Hayfield for Forage Quality while Minimizing Nitrate Loading of Tile Drainage in Atlantic Canada.", ASA-CSSA-SSSA International Annual Meeting: Grand Challenges – Great Solutions, Long Beach, CA, USA, November 2-6, 2014.

Fuller, K.D., Burton, D.L., Rodd, A.V., Smith, E., Grimmett, M.G., Nyiraneza, J., Jiang, Y., Khakbazan, M., and Van Roestel, J. (2014). "Nitrogen dynamics in twin row versus conventional row silage corn in Atlantic Canada.", ASA-CSSA-SSSA International Annual Meeting: Grand Challenges – Great Solutions, Long Beach, CA, USA, November 2-6, 2014.

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Lafond, G.P., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2014). "Rotational Effects of Legumes and Non-Legumes on Hybrid Canola, and Malting Barley.", American Society of Agronomy Annual Meeting 2014, Long Beach, CA, USA, November 3-5, 2014.

Fuller, K.D., Burton, D.L., Rodd, A.V., Smith, E., Grimmett, M.G., Nyiraneza, J., Jiang, Y., Khakbazan, M., and Van Roestel, J. (2014). "Nitrogen dynamics in twin row versus conventional row silage corn in Atlantic Canada.", ASA-CSSA-SSSA International Annual Meeting: Grand Challenges – Great Solutions, Long Beach, CA, USA, November 2-6, 2014.

Khakbazan, M., Vanrobaeys, J., Braul, L., Huang, J., Wilson, H.F., and Elliott, J.A. (2014). "Economics of crop and land management practices and water quality impacts for four watersheds located in Manitoba Canada.", 2014 Soils and Water Conservation Society Annual Meeting, Lombard, IL, USA, July 27-30, 2014, [http://www.swcs.org/documents/filelibrary/14ac/Abstract\\_Book\\_FINAL\\_FB7B07FB89022.pdf](http://www.swcs.org/documents/filelibrary/14ac/Abstract_Book_FINAL_FB7B07FB89022.pdf), pp. 52.

## 2013

Block, H.C., Durunna, O.N., Robins, C.D., Entz, M.H., Khakbazan, M., and Scott, S.L. (2013). "Effect of rested grazing and alfalfa inclusion in bromegrass pastures on cow-calf productivity.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O36, pp. 17.

## 2012

Khakbazan, M. (2012). "Economic and Biophysical Impacts of Land Management Practices in Southern Manitoba.", 67th Annual International Conference of the Soil and Water Conservation Society (SWCS), Fort Worth, TX, USA, July 22-25, 2012, pp. 31.

## 2011

Khakbazan, M. and Hamilton, C. (2011). "Watershed Evaluation of Beneficial Management Practices – South Tobacco Creek Project.", 125th Anniversary of the Brandon Research Centre, Brandon, MB, Canada, August 11, 2011. (Poster)

Khakbazan, M. (2011). "Practices and Impacts on Water Quality and Quantity in Canada.", 6th IWA Specialist Conference on Efficient Use and Management of Water, Dead Sea, Jordan, March 29-April 2, 2011.

Khakbazan, M. (2011). "The economic and biophysical modeling of beneficial management practices in Agriculture.", Department of Agribusiness and Agricultural Economics, University of Manitoba, Winnipeg, MB, October 24, 2011. (Presentation)

Khakbazan, M. and Hamilton, C. (2011). "WEBS-STC Economics.", Manitoba STC - WEBS meeting, Winnipeg, MB, Canada, May 24-25, 2011.

Khakbazan, M. and Hamilton, C. (2011). "Watershed Evaluation of Beneficial Management Practices - South Tobacco Creek Project – Economics.", Manitoba STC - WEBS meeting, Winnipeg, MB, Canada, May 24-25, 2011.

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## Research Publications:

2015

Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Cloutier, M., Tambong, J.T., Xu, R., Topp, E., Arts, M.T., Chao, J., Adam, Z., Lévesque, C.A., Lapen, D.R., Villemur, R., and Khan, I.U.H. (2015). "Identification, characterization and description of *Arcobacter faecis* sp. Nov., isolated from a human waste septic tank.", *Systematic and Applied Microbiology*. doi : 10.1016/j.syapm.2015.12.002

Samarajeewa, A.D., Hammad, A., Masson, L., Khan, I.U.H., Scroggins, R.P., and Beaudette, L.A. (2015). "Comparative assessment of next-generation sequencing, denaturing gradient gel electrophoresis, clonal restriction fragment length polymorphism and cloning-sequencing as methods for characterizing commercial microbial consortia.", *Journal of Microbiological Methods*, 108, pp. 103-111. doi: 10.1016/j.mimet.2014.11.013

Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Cloutier, M., Tambong, J.T., Xu, R., Topp, E., Arts, M.T., Chao, J., Adam, Z., Lévesque, C.A., Lapen, D.R., Villemur, R., Talbot, G., and Khan, I.U.H. (2015). "*Arcobacter lanthieri* sp. nov., isolated from pig and dairy cattle manure.", *International Journal of Systematic and Evolutionary Microbiology (IJSEM)*. doi: 10.1099/ijs.0.000318

Frey, S.K., Topp, E., Khan, I.U.H., Ball, B., Edwards, M., Gottschall, N., Sunohara, M.D., and Lapen, D.R. (2015). "Quantitative *Campylobacter* spp., antibiotic resistance gene, and veterinary antibiotic movement to surface and ground water following manure application: Influences of Tile Drainage Control.", *Science of the Total Environment*, 532, pp. 138-153. doi : 10.1016/j.scitotenv.2015.03.114

Jokinen, C.C., Koot, J.M., Cole, L., Desruisseau, A., Edge, T.A., Khan, I.U.H., Koning, W., Lapen, D.R., Pintar, K.D.M., Reid-Smith, R., Thomas, J.L., Topp, E., Wang, L.Y., Wilkes, G.A., Ziebell, K.A., van Bochove, É., and Gannon, V.P.J. (2015). "The distribution of *Salmonella enterica* serovars and subtypes in surface water from five agricultural regions across Canada.", *Water Research*, 76, pp. 120-131. doi: 10.1016/j.watres.2015.02.038

2014

Wilkes, G.A., Brassard, J., Edge, T.A., Gannon, V.P.J., Gottschall, N., Jokinen, C.C., Jones, T.H., Khan, I.U.H., Marti, R., Sunohara, M., Topp, E., and Lapen, D.R. (2014). "Long-term monitoring of waterborne pathogens and microbial source tracking markers in paired-agricultural watersheds under controlled and conventional tile drainage management.", *Applied and Environmental Microbiology*, 80(12), pp. 3708-3720. doi: 10.1128/AEM.00254-14

Ryu, H., Elk, M., Khan, I.U.H., Harwood, V.J., Molina Casanova, A., Molina, M., Edge, T.A., and Santo Domingo, J. (2014). "Comparison of two poultry litter qPCR assays targeting the 16S rRNA gene of *Brevibacterium* sp.", *Water Research*, 48, pp. 613-621. doi: 10.1016/j.watres.2013.10.015

Adam, Z., Whiteduck-Leveillee, K., Cloutier, M., Tambong, J.T., Chen, W., Lewis, C.T., Lévesque, C.A., Topp, E., Lapen, D.R., Talbot, G., and Khan, I.U.H. (2014). "Draft genome sequences of three *Arcobacter* strains of pig and dairy cattle manure origin.", *Genome Announcements*, 2(3:e00377-14). doi: 10.1128/genomeA.00377-14

Adam, Z., Whiteduck-Leveillee, K., Cloutier, M., Chen, W., Lewis, C.T., Lévesque, C.A., Topp, E., Lapen, D.R., Tambong, J.T., Talbot, G., and Khan, I.U.H. (2014). "Draft genome sequence of *Arcobacter cibarius* Strain LMG21996{SUP}T{/SUP} isolated from broiler carcasses.", *Genome Announcements*, 2(1), pp. e00034-14. doi: 10.1128/genomeA.00034-14

Khan, I.U.H., Gannon, V.P.J., Jokinen, C.C., Kent, R., Koning, W., Lapen, D.R., Medeiros, D.T., Miller, J.J., Neumann, N.F., Phillips, R., Schreier, H., Topp, E., van Bochove, É., Wilkes, G.A., and Edge, T.A. (2014). "A National Investigation of the Prevalence and Diversity of Thermophilic *Campylobacter* Species in Agricultural Watersheds in Canada", *Water Research*, 61, pp. 243-252. doi: 10.1016/j.watres.2014.05.027

Adam, Z., Tambong, J.T., Lewis, C.T., Lévesque, C.A., Chen, W., Bromfield, E.S.P., Khan, I.U.H., and Xu, R. (2014). "Draft Genome Sequence of *Pantoea ananatis* Strain LMG 2665T, a Bacterial Pathogen of Pineapple Fruitlets.", *Genome Announcements*, 2(3: e00489-14). doi: 10.1128/genomeA.00489-14

Adam, Z., Whiteduck-Leveillee, K., Cloutier, M., Chen, W., Lewis, C.T., Lévesque, C.A., Topp, E., Lapen, D.R., Tambong, J.T., Talbot, G., and Khan, I.U.H. (2014). "Draft genome sequences of two *Arcobacter* strains isolated from human feces.", *Genome Announcements*, 2(2 e00113-14). doi: 10.1128/genomeA.00113-14

2013

Khan, I.U.H., Hill, S., Nowak, E.K., Palmer, M.E., Jarjanazi, H., Lee, D.-Y., Mueller, M., Schop, R., Weir, S., Irwin Abbey, A.-M., Winter, J., and Edge, T.A. (2013). "Investigation of the prevalence of thermophilic *Campylobacter* species at Lake Simcoe recreational beaches.", *Inland Waters*, 3(1), pp. 93-104. doi : 10.5268/iw-3.1.582

Edge, T.A., Khan, I.U.H., Bouchard, R., Guo, J., Hill, S., Locas, A., Moore, L., Neumann, N.F., Nowak, E.K., Payment, P., Yang, R., Yerubandi, R., and Watson, S.B. (2013). "Occurrence of waterborne pathogens and *Escherichia coli* at offshore drinking water intakes in Lake Ontario.", *Applied and Environmental Microbiology*, 79(19), pp. 5799-5813. doi : 10.1128/AEM.00870-13

Khan, I.U.H., Hill, S., Nowak, E.K., and Edge, T.A. (2013). "Effect of incubation temperature on the detection of thermophilic *Campylobacter* species from freshwater beaches, and nearby wastewater effluents and bird fecal droppings.", *Applied and Environmental Microbiology*, 79(24), pp. 7639-7645. doi : 10.1128/AEM.02324-13

2012

Edge, T.A., El-Shaarawi, A., Gannon, V.P.J., Jokinen, C.C., Kent, R., Khan, I.U.H., Koning, W., Lapen, D.R., Miller, J.J., Neumann, N.F., Phillips, R., Robertson, W.J., Schreier, H., Scott, A., Shtepani, I., Topp, E., Wilkes, G.A., and van Bochove, É. (2012). "Investigation of an *Escherichia coli* Environmental Benchmark for Waterborne Pathogens in Agricultural Watersheds in Canada.", *Journal of Environmental Quality*, 41(1), pp. 21-30. doi : 10.2134/jeq2010.0253

Ryu, H., Griffith, J.F., Khan, I.U.H., Moore, L., Locas, A., Hill, S., Neumann, N.F., Edge, T.A., Toledo-Hernandez, C., Gonzalez-Nieves, J., Santo Domingo, J. (2012). "Comparison of gull feces-specific assays targeting the 16S rRNA genes of *Catellibacterium marimammali* and *Streptococcus* spp.", *Applied and Environmental Microbiology*, 78(6), pp. 1909-1916. doi : 10.1128/AEM.07192-11

2011

Selvaraju, S.B., Khan, I.U.H., and Yadav, J.S. (2011). "Susceptibility of *Mycobacterium immunogenium* and *Pseudomonas fluorescens* to Formaldehyde and Non-Formaldehyde Biocides in Semi-Synthetic Metalworking Fluids.", *International Journal of Molecular Sciences*, 12(1), pp. 725-741. doi : 10.3390/ijms12010725

## Other Science Related Publications:

2015

Lévesque, C.A., Chen, W., Hambleton, S., Seifert, K.A., Adam, Z., Bilodeau, G.J., Cullis, J., Demeke, T., Dumonceaux, T.J., Gagnon, M., Graefenhan, T., Kawchuk, L.M., Khan, I.U.H., Lewis, C.T., Li, X., Links, M.G., Mimeo, B., Rott, M., Tambong, J.T., Topp, E., Yu, Q., and Yuan, K. (2015). Project CRTI 09-462RD - Next generation sequencing, direct detection and genotyping of fungi, bacteria and nematodes in the agri-food system. DRDC-RDDC-2015-C148. Final Close-Out Report. (Report)

2014

Tambong, J.T., Adam, Z., Lewis, C.T., Lévesque, C.A., Chen, W., Khan, I.U.H., Bromfield, E.S.P., and Xu, R. (2014). "Comparative genomics of *Pantoea stewartii* subspecies and development of a TaqMan Real-Time PCR assay for specific detection of *P. stewartii* subsp. *stewartii*.", 13th International Conference of Plant Pathogenic Bacteria, Shanghai, China, June 8-13, 2014, pp. 34. (Abstract)

Mazzola, L.G., Khan, I.U.H., and Vierula, J. (2014). "Comparative analysis of three DNA extraction kits and PCR assays for purification and identification of fungal DNA from agricultural water.", Biology Poster Competition, Carleton University, Ottawa, ON, Canada, April 10, 2014. (Poster)

Edge, T.A., Hill, S., Khan, I.U.H., Gannon, V.P.J., Crane, C., Collins, H.M., Johnson, R., Topp, E., and Roberts, C. (2014). "Microbial source tracking of pathogen and fecal pollution in shellfish harvesting areas in Atlantic Canada.", XVth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada, July 27-August 1, 2014.

Brazeau, K., Cloutier, M., and Khan, I.U.H. (2014). "Development of quantitative real-time PCR-based assays for the detection and identification of human and animal viruses in environmental matrices.", Biotechnology Poster Competition, La Cité Collégiale, Ottawa, ON, Canada, April 26, 2014. (Poster)

Khan, I.U.H., Cloutier, M., Topp, E., Lapen, D.R., Lévesque, C.A., Edge, T.A., Tambong, J.T., Talbot, G., and Wilkes, G.A. (2014). "Quantitative Detection and Identification of *Arcobacter*, *Campylobacter* and *Helicobacter* Species in a Canadian Agricultural Watershed.", XVth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada, July 27-August 1, 2014.

2013

Khan, I.U.H., Cloutier, M., Edge, T.A., Schellhorn, H.E., Gupta, R.S., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Wilkes, G.A., Nowak, E.K., and Hill, S. (2013). "A comparative study on the prevalence of thermophilic *Campylobacter* spp. in agricultural and recreational waters.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.

Whiteduck-Leveillee, J., Whiteduck-Leveillee, K., Kaneza, C.A., Cloutier, M., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Multiplex PCR assay for the detection and identification of virulent genes in *Arcobacter* species.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.

Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Kaneza, C.A., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Development of genus-specific PCR assay for rapid identification of *Arcobacter* species: Optimization of PCR Primers and Conditions, and Restriction Pattern Analysis.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.

Kaneza, C.A., Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Identification and detection of *Arcobacter* spp. from water and fecal matter using genus- and species-specific PCR assays.", La Cité Collégiale, Ottawa, ON, Canada, April 26, 2013. (Poster)

Poulin, G., Laprade, N., and Khan, I.U.H. (2013). "Development and application of DNA-based real-time PCR assay for the rapid detection of *Campylobacter coli* in agricultural waters.", La Cité Collégiale, Ottawa, ON, Canada, April 26, 2013.

Hamelin, M-A., Cloutier, M., and Khan, I.U.H. (2013). "Detection and identification of thermophilic *Campylobacter* species in agricultural watershed in Ontario.", La Cité Collégiale, Ottawa, ON, Canada, April 26, 2013.

Kaneza, C.A., Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Identification and detection of *Arcobacter* spp. From water and fecal matter using genus- and species-specific PCR assays.", La Cité Collégiale, Ottawa, ON, Canada, April 26, 2013.

Laprade, N., Whiteduck-Leveillee, J., Whiteduck-Leveillee, K., Cloutier, M., Tambong, J.T., Topp, E., Lapen, D.R., Wilkes, G.A., and Khan, I.U.H. (2013). "Detection of virulence, toxin and tet(O) resistant genes in thermophilic *Campylobacter* species using multiplex PCR assays.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.

Léveillé, W.J., Kaneza, C.A., Léveillé, K., Talbot, G., Topp, E., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Optimization of multiplex PCR assays for the detection of virulence genes in *Arcobacter* species isolated from fecal samples.", 63rd Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013, Abstract AE86.

Léveillé, K., Laprade, N., Léveillé, W.J., Topp, E., Lapen, D.R., Tambong, J.T., Talbot, G., Wilkes, G.A., and Khan, I.U.H. (2013). "Antimicrobial resistance profiling of *Arcobacter butzleri* isolates from faecal sources and an agricultural watershed.", 63rd Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013, Abstract AE87.

Léveillé, W.J., Kaneza, C.A., Léveillé, K., Talbot, G., Topp, E., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Optimization of a genus-specific PCR assay and restriction fragment length polymorphism (RFLP) analysis for rapid detection.", 63rd Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013, Abstract AE88.

Whiteduck-Leveillee, K., Laprade, N., Whiteduck-Leveillee, J., Topp, E., Kaneza, C.A., Lapen, D.R., Tambong, J.T., Guylaine, T., Wilkes, G.A., and Khan, I.U.H. (2013). "Antimicrobial resistance profiling of *Arcobacter butzleri* isolated from a Canadian agricultural watershed.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.

2012

Edge, T.A., Khan, I.U.H., Bouchard, R., Locas, A., Moore, L., Neumann, N.F., Payment, P., Yerubandi, R., and Watson, S.B. (2012). "Pathogen Occurrence at Offshore Lake Ontario Drinking Water Intakes (2007-10).", Environment Canada, Toronto, ON, Canada, November 20, 2012. (Presentation)

2011

Khan, I.U.H., Edge, T.A., Jarjanazi, H., Lee, D.-Y., Palmer, M.E., Mueller, M., Schop, R., Weir, S., and Winter, J. (2011). "Preliminary Investigation on the Prevalence of *Campylobacter*s at Lake Simcoe Beaches.", 1st Biennial Lake Simcoe Protection Plan Science Forum: Science at Work, Kempenfelt Conference Centre, Barrie, ON, Canada, May 26-27, 2011.

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## Research Publications:

2015

Misran, A., Padmanabhan, P., Sullivan, J.A., Khanizadeh, S., and Gopinadhan, G. (2015). "Composition of phenolics and volatiles in strawberry cultivars and influence of preharvest hexanal treatment on their profiles.", *Canadian Journal of Plant Science*, 95(1), pp. 115-126. doi: 10.4141/CJPS-2014-245

Xie, Z., Charles, M.T., Charlebois, D., Rolland, D., Roussel, D., Deschênes, M., Dubé, C., Khanizadeh, S., and Fan, J. (2015). "Preharvest exposure to UV-C radiation: impact on strawberry fruit quality.", *Acta Horticulturae (ISHS)*, 1079, pp. 589-592.

Xie, Z., Charles, M.T., Fan, J.S., Charlebois, D., Khanizadeh, S., Rolland, D., Roussel, D., Deschênes, M., and Dubé, C. (2015). "Effects of preharvest ultraviolet-C irradiation on fruit phytochemical profiles and antioxidant capacity in three strawberry (*Fragaria x ananassa* Duch.) cultivars", *Journal of the Science of Food and Agriculture*, 95(14), pp. 2996-3002. doi: 10.1002/jsfa.7064

Wang, Y., Moidu, H., Charles, M.T., Dubé, C., and Khanizadeh, S. (2015). "Differential Regulation of Superoxide Dismutase Activity in Selected Strawberry Lines Exposed to *Mycosphaerella fragariae*.", *Journal of Plant Studies (JPS)*, 4(1), pp. 30-41. doi: 10.5539/jps.v4n2p30

Wang, D., Gao, F., Sun, W., Rui, W., Khanizadeh, S., Zhang, S., and Tao, S. (2015). "Cloning and expression analysis of CCoAOMT gene in fruit of 'Dangshansuli'.", *Journal of Nanjing Agricultural University*, 38(1), pp. 33-40. doi: 10.7685/j.issn.1000-2030.2015.01.006

Tao, S., Wang, D., Jin, C., Sun, W., Liu, X., Zhang, S., Gao, F., and Khanizadeh, S. (2015). "Cinnamate-4-Hydroxylase Gene Is Involved in the Step of Lignin Biosynthesis in Chinese White Pear.", *Journal of the American Society for Horticultural Science*, 140(6), pp. 573-579.

Moidu, H., Brownlee, J., Wang, X.L., Deschiffart, I., Langille, L., Voldeng, H.D., and Khanizadeh, S. (2015). "Effect of Plant Height on Fusarium Head Blight in Spring Wheat.", *Journal of Plant Studies (JPS)*, 4(2), pp. 105-109.

Chen, D., Hu, X.S., Wang, X., Deschiffart, I., Sperry, H., Xue, A.G., Chen, Y.Y., Langille, L., Dion, Y., McCallum, B.D., Voldeng, H.D., and Khanizadeh, S. (2015). "Agronomic performance and susceptibility of selected spring wheat lines to fusarium head blight and leaf rust in Eastern Canada.", *Journal of Food, Agriculture & Environment (JFAE)*, 13(3&4), pp. 86-89.

2014

Khanizadeh, S., Fan, L., Fang, C.Q., Charles, M.T., and Tao, S. (2014). "Effect of production systems on phenolic compositions of strawberry fruits.", *Acta Horticulturae (ISHS)*, 1049, pp. 513-516.

Sinclair, G., Charest, C., Dalpé, Y., and Khanizadeh, S. (2014). "Influence of colonization by arbuscular mycorrhizal fungi on three strawberry cultivars under salty conditions.", *Agricultural and Food Science*, 23(2), pp. 146-158.

Wang, Y., Charles, M.T., Dong, W., Dubé, C., and Khanizadeh, S. (2014). "Distribution of Phenolic Components and their Antioxidant Capacity in Strawberries.", *Journal of Food Research*, 3(2), pp. 54-60. doi: 10.5539/jfr.v3n2p54

Xie, Z., Fan, J.S., Charlebois, D., Roussel, D., Dubé, C., Charles, M.T., and Khanizadeh, S. (2014). "Agronomic characteristics and phytochemical profiles of advanced June-bearing strawberry lines for the northern Canadian climate.", *Agricultural and Food Science*, 23(1), pp. 38-47.

Samy, É., Benoît, D.-L., and Khanizadeh, S. (2014). "Chlorophyll Fluorescence: A Novel Method to Screen for Herbicide Resistance.", *International Journal of Horticultural Science and Technology*, 1(2), pp. 93-99.

2013

Zhang, Z., Zhu, X., Xie, Z., Zhao, Z.-Y., Dubé, C., Roussel, D., Charles, M.T., and Khanizadeh, S. (2013). "Yield, fruit quality, antioxidant capacity and phenolic composition of advanced raspberry lines from Quebec.", *Journal of Food, Agriculture & Environment (JFAE)*, 11(2), pp. 278-284.

Wang, Q., Dubé, C., Gagnon, C., Gleddie, S.C., Hao, Y.-J., and Khanizadeh, S. (2013). "Fruit Differential Protein Patterns in Strawberry Cultivars Susceptible or Resistant to Gray Mold.", *Archives of Phytopathology and Plant Protection*, 46(7), pp. 813-824. doi: 10.1080/03235408.2012.752619

Damm, A., Charles, M.T., Gondet, L., Hampson, C.R., Dubé, C., and Khanizadeh, S. (2013). "Activity and concentration of polyphenolic antioxidants and agronomic characteristics of selected cultivars and advanced apple lines from Quebec and British Columbia, Canada.", *Journal of Food, Agriculture & Environment (JFAE)*, 11(3&4), pp. 834-843.

Khanizadeh, S., Granger, R., Dubé, C., and Groleau, Y. (2013). "Jade Crab Apple.", *Canadian Journal of Plant Science*, 93(2), pp. 341-342. doi: 10.4141/cjps2012-131

Adebayo, O., Dang, T., Bélanger, A., and Khanizadeh, S. (2013). "Antifungal Studies of Selected Essential Oils and a Commercial Formulation against *Botrytis Cinerea*.", *Journal of Food Research*, 2(1), pp. 217-226. doi: 10.5539/xxx.v2n1p

Sinclair, G., Charest, C., Dalpé, Y., and Khanizadeh, S. (2013). "Influence of arbuscular mycorrhizal fungi and a root endophyte on the biomass and root morphology of selected strawberry cultivars under salt conditions.", *Canadian Journal of Plant Science*, 93(6), pp. 997-999. doi: 10.4141/CJPS2012-279

Adebayo, O., Bélanger, A., and Khanizadeh, S. (2013). "Variable inhibitory activities of essential oils of three *Monarda* species on the growth of *Botrytis cinerea*", *Canadian Journal of Plant Science*, 93(6), pp. 987-995. doi: 10.4141/CJPS2013-044

## 2012

Zhang, Z.-M., Zhao, Z.-Y., Liu, H., Dubé, C., Charles, M.T., Kempler, C., and Khanizadeh, S. (2012). "Horticultural characteristics and chemical composition of advanced raspberry lines from British Columbia.", *Journal of Food, Agriculture & Environment (JFAE)*, 10(3-4), pp. 883-887.

Khanizadeh, S., Fan, L., Gosselin, A., and Desjardins, Y. (2012). "Phytochemicals: Shelf Life and Disease Resistant Elicitors.", *Acta Horticulturae (ISHS)*, 939, pp. 33-38.

Fan, L., Dubé, C., Fang, C.Q., Dominique, R., Charles, M.T., Desjardins, Y., and Khanizadeh, S. (2012). "Effect of production systems on phenolic compositions and oxygen radical absorbance capacity of 'Orléans' strawberry.", *Food Science and Technology - LWT*, 45(2), pp. 241-245. doi: 10.1016/j.lwt.2011.09.004

Fan, L., Fang, C.Q., Dubé, C., Deschênes, M., Dalpé, Y., Tao, S., and Khanizadeh, S. (2012). "Arbuscular Mycorrhiza Alleviate Salinity Stress of Strawberry Cultivars under Salinity Condition.", *Acta Horticulturae (ISHS)*, 926, pp. 491-496.

Wang, Q., Tao, S., Dubé, C., Tury, E., Hao, Y.-J., Zhang, S., and Khanizadeh, S. (2012). "Postharvest Changes in the Total Phenolic Content, Antioxidant Capacity and L Phenylalanine Ammonia-Lyase Activity of Strawberries Inoculated with *Botrytis Cinerea* Pers.", *Journal of Plant Studies (JPS)*, 1(2), pp. 11-18. doi: 10.5539/jps.v1n2p11

Khanizadeh, S., Granger, R., Dubé, C., and Groleau, Y. (2012). "Javid Crab Apple.", *Canadian Journal of Plant Science*, 92(5), pp. 977-978. doi: 10.4141/cjps2012-075

Tao, S., Zhao, M., Khanizadeh, S., and Zhang, S. (2012). "Cloning and Analyzing of Cinnamyl Alcohol Dehydrogenase Gene from Pear (*Pyrus*) Fruit.", *South China Fruits*, 41(3), pp. 40-45.

Khanizadeh, S., Charles, M.T., Yu, C., Tao, S., and Fan, L. (2012). "Effect of Cultural Practices on Fruit Quality and Polyphenols Content.", *Acta Horticulturae (ISHS)*, 926, pp. 401-406.

Fan, L., Roux, V., Dubé, C., Charlebois, D., Tao, S., and Khanizadeh, S. (2012). "Effect of mulching systems on fruit quality and phytochemical composition of newly developed strawberry lines.", *Agricultural and Food Science*, 21(2), pp. 132-140.

## 2011

Joshi, A.P.K., Rupasinghe, H.P.V., and Khanizadeh, S. (2011). "Impact of Drying Processes on Bioactive Phenolics, Vitamin C and Antioxidant Capacity of Red-Fleshed Apple Slices.", *Journal of Food Processing and Preservation*, 35(4), pp. 453-457. doi: 10.1111/j.1745-4549.2010.00487.x

Fan, L., Yu, C., Fang, C.Q., Zhang, M., Ranieri, M., Dubé, C., and Khanizadeh, S. (2011). "The effect of cultural practices on selected agronomic characteristics and phytochemical composition of 'Orléans' strawberry.", *Canadian Journal of Plant Science*, 91(2), pp. 403-409. doi: 10.4141/CJPS10147

Fan, L., Dalpé, Y., Fang, C.Q., Dubé, C., and Khanizadeh, S. (2011). "Influence of arbuscular mycorrhizae on biomass and root morphology of selected strawberry cultivars under salt stress.", *Botany*, 89(6), pp. 397-403. doi: 10.1139/b11-028

Kempler, C., Daubeny, H.A., Harding, B., Frey, L., Baumann, T., Finn, C.E., Khanizadeh, S., Jamieson, A.R., MacKenzie, K.C., Moore, P.P., and Sweeney, M.E. (2011). "'Stolo' Strawberry.", *HortScience*, 46(7), pp. 1046-1048.



Fan, L., Fang, C.Q., Dubé, C., Tremblay, N., and Khanizadeh, S. (2011). "A non-destructive method to predict polyphenols content in strawberry.", *Journal of Agricultural, Food and Environmental Sciences*, 9(2), pp. 59-62.

Khayyat, M., Khanizadeh, S., Tafazoli, E., Rajaei, S., Kholdebarin, B., and Emam, Y. (2011). "Effects of Different Calcium Forms on Gas Exchange Activities, Water Usage and Macronutrient Uptake by Strawberry Plants Under Sodium Chloride Stress.", *Journal of Plant Nutrition*, 34(3), pp. 427-435. doi: 10.1080/01904167.2011.536882

Khanizadeh, S., Groleau, Y., Granger, R., Rousselle, G.L., Privé, J.-P., and Embree, C.G. (2011). "Ottawa 3 amélioré (O.3A) apple rootstock", *Acta Horticulturae (ISHS)*, 903, pp. 189-190.

Li, D., Charles, M.T., Carisse, O., Tsao, R., Dubé, C., and Khanizadeh, S. (2011). "Changes in ascorbate-glutathione pathway enzymes in response to *Mycosphaerella fragariae* infection in selected strawberry genotypes.", *Archives of Phytopathology and Plant Protection*, 44(8), pp. 712-725. doi: 10.1080/03235400903266297

Privé, J.-P., Embree, C.G., and Khanizadeh, S. (2011). "Performance of Eight Semi-Dwarf Apple Rootstocks at Three Apple Growing Regions in Eastern Canada.", *Acta Horticulturae (ISHS)*, 903, pp. 341-347.

Yu, C., Ranieri, M., Lv, D., Zhang, M., Charles, M.T., Tsao, R., Rékika, D., Kempler, C., and Khanizadeh, S. (2011). "Phenolic Composition and Antioxidant Capacity of Newly Developed Strawberry Lines from British Columbia and Quebec.", *International Journal of Food Properties*, 14(1), pp. 59-67. doi: 10.1080/10942910903131415

Khanizadeh, S., Groleau, Y., Granger, R., Rousselle, G.L., Privé, J.-P., and Embree, C.G. (2011). "St Jean 84 (SJ84) dwarf winter hardy apple rootstock series.", *Acta Horticulturae (ISHS)*, 903, pp. 187-188.

Medina, Y., Gosselin, A., Desjardins, Y., Harnois, R., Gauthier, L., and Khanizadeh, S. (2011). "Effect of plastic mulches on yield and fruit quality of strawberry plants grown under high tunnels.", *Acta Horticulturae (ISHS)*, 893, pp. 1327-1332.

## Other Science Related Publications:

2015

Moidu, H., Brownlee, J., Wang, X.L., Deschiffart, I., Langille, L., Voldeng, H.D., and Khanizadeh, S. (2015). "Effect of plant height on Fusarium head blight in spring wheat", *Botany 2015 Joint Conference: Science and plants for people*, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-30, 2015, Presentation. (Poster)

2014

Jalali-Honarmand, S., Rasaei, A., Saeidi, M., Ghobadi, M.-E., and Khanizadeh, S. (2014). "Effects of selected plant growth regulators on wheat (*Triticum aestivum* L.) spikelet initiation.", *Scientific Conference "Plant Physiology and Genetics - Achievements and Challenges"*, Sofia, Bulgaria, September 24-26, 2014, Organized by the Institute of Plant Physiology and Genetics, Bulgarian Academy of Sciences.

2012

Dion, M.E., Gosselin, A., Gauthier, L., Khanizadeh, S., de Halleux, D., and Desjardins, Y. (2012). "Effect of Transplant Type and Plant Spacing on Growth, Development and Productivity of Day-neutral Strawberries Grown in Soilless Culture Under High Tunnels.", *VII International Strawberry Symposium*, Beijing, China, February 18-23, 2012. (Abstract)

Debnath, S.C., Kempler, C., Jamieson, A.R., and Khanizadeh, S. (2012). "Growth and development of raspberry as affected by in vitro and ex vitro propagation methods.", *Plant Canada 2012 (joint meeting of the Canadian Society of Agronomy (CSA), Canadian Society for Horticultural Science (CSHS), Certified Crop Advisors (CCA), North American Fruit Explorers (NAFEX))*: Adapting Crops to Change, University of Saskatchewan, Saskatoon, SK, Canada, July 16-19, 2012, E2.4 Abstract Id 3832, pp. 43. (Abstract)

Khanizadeh, S. (2012). "Organic production of strawberries and raspberries.", *Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings*, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012.

Khanizadeh, S. (2012). "High tunnel production of Organic strawberries.", *2nd International Organic fruit Research Symposium*, Leavenworth, WA, USA, June 18-21, 2012.

Dorais, M., Gaudreau, L., Bordeleau, M., Gosselin, A., Medina, Y., Gauthier, L., Desjardins, Y., and Khanizadeh, S. (2012). "High Tunnel Production of Organic Raspberries.", *Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings*, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012. (Poster)

2011

Khanizadeh, S. (2011). New strawberry a delight for gardeners: 'Roseberry' recommended for hanging baskets, groundcover.

Khanizadeh, S. (2011). *Pyrus pyrifolia* cinnamyl alcohol dehydrogenase mRNA, partial cds. GenBank: FJ478152.1., National Center for Biotechnology Information (NCBI), USA.

- Bordeleau, M., Dorais, M., Gosselin, A., Gauthier, A., Desjardins, Y., and Khanizadeh, S. (2011). "High tunnel production of organic raspberries.", 3rd ISOFAR Scientific Conference in the frame of the 17th IFOAM Organic World Congress, Gyeonggi Paldang, South Korea, September 27-October 1 2011, Organic isLife: Knowledge for tomorrow. Vol. 1 Organic Crop production, pp. 459-462.
- Fan, L., Fang, C.Q., Dalpé, Y., Dubé, C., and Khanizadeh, S. (2011). "Nutrient uptake of Selected Strawberry Cultivars in Response to Arbuscular mycorrhizal fungi under Salinity.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011. (Poster)
- Fan, L., Fang, C.Q., Dalpé, Y., Dubé, C., and Khanizadeh, S. (2011). "Nutrient uptake of Selected Strawberry Cultivars in Response to Arbuscular mycorrhizal fungi under Salinity.", 7th North American Strawberry Symposium (NASS) & North American Strawberry Growers Association (NASGA) 2011 Berry Conference, Doubletree Hotel Tampa Westshore Airport, Tampa, FL, USA, February 8-11, 2011. (Poster)
- Fan, L., Fang, C.Q., Dubé, C., Deschênes, M., Dalpé, Y., and Khanizadeh, S. (2011). "Arbuscular Mycorrhiza improves the performance of selected strawberry cultivars under salt stress.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011. (Poster)
- Fan, L., Fang, C.Q., Dubé, C., Tremblay, N., and Khanizadeh, S. (2011). "A new non-destructive rapid method to select strawberry lines rich in polyphenols: a preliminary study.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011. (Poster)
- Fan, L., Yu, C., Fang, C.Q., Zhang, M., Ranieri, M., Dubé, C., and Khanizadeh, S. (2011). "The effect of three production systems on the postharvest quality and phytochemical composition of 'Orléans' strawberry.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011. (Poster)
- Brown, D.C.W., Mazza, G., Ross, K.A., Jordan, M.A., McCallum, J.L., Netticadan, T., Siow, Y.L., Khanizadeh, S., Ames, N.P., and Lui, E.M.K. (2011). "Plant Bioactives Research in Canada.", Plant Bioactives Research in Canada. Canada-United Kingdom Gut and Health Workshop, AAFC-FRDC / AAC-CRDA, Saint-Hyacinthe, QC, Canada, February 24-25, 2011.
- Fan, L., Fang, C.Q., Dubé, C., Deschênes, M., Dalpé, Y., and Khanizadeh, S. (2011). "Arbuscular Mycorrhiza improves the performance of selected strawberry cultivars under salt stress.", 7th North American Strawberry Symposium (NASS) & North American Strawberry Growers Association (NASGA) 2011 Berry Conference, Doubletree Hotel Tampa Westshore Airport, Tampa, FL, USA, February 8-11, 2011. (Poster)
- Fan, L., Yu, C., Zhang, M., Ranieri, M., Dubé, C., and Khanizadeh, S. (2011). "The effect of three production systems on the postharvest quality and phytochemical composition of 'Orléans' strawberry.", 7th North American Strawberry Symposium (NASS) & North American Strawberry Growers Association (NASGA) 2011 Berry Conference, Doubletree Hotel Tampa Westshore Airport, Tampa, FL, USA, February 8-11, 2011. (Poster)
- Fan, L., Fang, C.Q., Dubé, C., Tremblay, N., and Khanizadeh, S. (2011). "A new non-destructive rapid method to select strawberry lines rich in polyphenols: a preliminary study.", 7th North American Strawberry Symposium (NASS) & North American Strawberry Growers Association (NASGA) 2011 Berry Conference, Doubletree Hotel Tampa Westshore Airport, Tampa, FL, USA, February 8-11, 2011. (Poster)
- Khanizadeh, S. (2011). *Pyrus x bretschneideri* cinnamyl alcohol dehydrogenase mRNA, partial cds. GenBank FJ478151.1., National Center for Biotechnology Information (NCBI), USA.

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## Research Publications:

2015

Liu, J., Kandasamy, S., Zhang, J.-Z., Kirby, C.W., Karakach, T.K., Hafting, J., Critchley, A.T., Evans, F., and Prithiviraj, B. (2015). "Prebiotic effects of diet supplemented with the cultivated red seaweed *Chondrus crispus* or with fructo-oligo-saccharide on host immunity, colonic microbiota and gut microbial metabolites.", *BMC Complementary and Alternative Medicine Journal*, 15(1: Article number 279). doi: 10.1186/s12906-015-0802-5

Nabuurs, M.H., McCallum, J.L., Brown, D.C.W., and Kirby, C.W. (2015). "NMR characterization of novel pyranoanthocyanins derived from the pulp of *Panax quinquefolius* L. (North American ginseng).", *Magnetic Resonance in Chemistry*. doi : 10.1002/mrc.4366

2014

Markus, M.A., Ferrier, J., Luchsinger, S.M., Yuk, J., Cuerrier, A., Balick, M.J., Hicks, H., Killday, K.B., Kirby, C.W., Berrue, F., Kerr, R.G., Knagge, K., Gödecke, T., Ramirez, B.E., Lankin, D.C., Pauli, G.F., Burton, I., Karakach, T.K., Amason, J.T., and Colson, K.L. (2014). "Distinguishing vaccinium species by chemical fingerprinting based on NMR spectra, validated with spectra collected in different laboratories.", *Planta Medica*, 80(8-9), pp. 732-739. doi : 10.1055/s-0034-1368569

Ghose, K., Selvaraj, K., McCallum, J.L., Kirby, C.W., Sweeney-Nixon, M., Cloutier, S., Deyholos, M.K., Datla, R.S.S., and Fofana, B. (2014). "Identification and functional characterization of a flax UDP-glycosyltransferase glucosylating secoisolariciresinol (SECO) into secoisolariciresinol monoglucoside (SMG) and diglucoside (SDG).", *BMC Plant Biology*, 14(1: Article number 82). doi : 10.1186/1471-2229-14-82

2013

Ghose, K., McCallum, J.L., Fillmore, S.A.E., Kirby, C.W., Sanderson, K.R., Joly, S., Bruneau, A., and Fofana, B. (2013). "Structuration of the genetic and metabolite diversity among Prince Edward Island cultivated wild rose ecotypes.", *Scientia Horticulturae*, 160(27), pp. 251-263. doi : 10.1016/j.scienta.2013.01.016

Kirby, C.W., Wu, T., Tsao, R., and McCallum, J.L. (2013). "Isolation and structural characterization of unusual pyranoanthocyanins and related anthocyanins from Staghorn sumac (*Rhus typhina* L.) via UPLC-ESI-MS, <sup>1</sup>H, <sup>13</sup>C, and 2D NMR spectroscopy.", *Phytochemistry*, 94, pp. 284-293. doi : 10.1016/j.phytochem.2013.06.017

2012

Nair, P., Kandasamy, S., Zhang, J.-Z., Ji, X.-H., Kirby, C.W., Benkel, B.F., Hodges, D.M., Critchley, A.T., Hiltz, D., and Prithiviraj, B. (2012). "Transcriptional and metabolomic analysis of *Ascophyllum nodosum* mediated freezing tolerance in *Arabidopsis thaliana*", *BMC Genomics*, 13(643). doi : 10.1186/1471-2164-13-643

Ji, X.-H., Rivers, L., Zielinski, Z., Xu, M., MacDougall, E., Stephen, J., Zhang, S.C., Wang, Y., Chapman, R.G., Keddy, P., Robertson, G.S., Kirby, C.W., Embleton, J., Worrall, K., Murphy, A.M., De Koeper, D.L., Tai, H.H., Yu, L., Charter, E., and Zhang, J.-Z. (2012). "Quantitative analysis of phenolic components and glycoalkaloids from 20 potato clones and in vitro evaluation of antioxidant, cholesterol uptake, and neuroprotective activities.", *Food Chemistry*, 133(4), pp. 1177-1187. doi : 10.1016/j.foodchem.2011.08.065

2011

Fofana, B., Cloutier, S., Kirby, C.W., McCallum, J.L., and Duguid, S.D. (2011). "A well balanced omega-6/omega-3 ratio in developing flax bolls after heating and its implications for use as a fresh vegetable by humans.", *Food Research International*, 44(8), pp. 2459-2464. doi : 10.1016/j.foodres.2010.12.018

Kirby, C.W., McCallum, J.L., and Fofana, B. (2011). "A <sup>1</sup>H NMR study of the fatty acid distribution in developing flax bolls before and after a cooking treatment.", *Canadian Journal of Chemistry*, 89(9), pp. 1138-1142. doi : 10.1139/V11-057

Fan, D., Hodges, D.M., Zhang, J.-Z., Kirby, C.W., Ji, X.-H., Locke, S.J., Critchley, A.T., and Prithiviraj, B. (2011). "Commercial extract of the brown seaweed *Ascophyllum nodosum* enhances phenolic antioxidant content of spinach (*Spinacia oleracea* L.) which protects *Caenorhabditis elegans* against oxidative and thermal stress.", *Food Chemistry*, 124(1), pp. 195-202. doi : 10.1016/j.foodchem.2010.06.008

## Other Science Related Publications:

2015

Nabuurs, M.H., Boyetchko, S.M., McCallum, J.L., Mills, A.A.S., Zhou, T., and Kirby, C.W. (2015). "Application of Bioautography in the Discovery of Biopesticides from Natural Resources.", 98th Canadian Chemistry Conference and Exhibition, Ottawa, ON, Canada, June 13-17, 2015. (Abstract)

2014

Kirby, C.W., Nabuurs, M.H., and McCallum, J.L. (2014). "Anthocyanin and Pyranoanthocyanin biosynthesis in Staghorn Sumac (*Rhus typhina* L.).", 52nd Annual meeting of Phytochemical Society of North America, Raleigh, NC, USA, August 9-13, 2014.

Nabuurs, M.H., McCallum, J.L., and Kirby, C.W. (2014). "Isolation of Novel Pyranoanthocyanins From North American Ginseng Berry Pulp.", MOOT XXVII NMR Symposium, Montreal, QC, Canada, October 18-19, 2014. (Poster)

Kirby, C.W. and McCallum, J.L. (2014). "Temporal and tissue-specific accumulation of unusual pyranoanthocyanins during development of Staghorn sumac (*Rhustyphina* L.).", Plant Biology 2014, Portland, Oregon, USA, July 12-16, 2014. (Poster)

Kirby, C.W., Wu, T.-Y., Nabuurs, M.H., Tsao, R., Tsao, R., and McCallum, J.L. (2014). "Anthocyanin and Pyranoanthocyanin Biosynthesis in Staghorn Sumac (*Rhustyphina* L.).", 53rd Annual meeting of Phytochemical Society of North America (PSNA), Raleigh, North Carolina, USA, August 9-13, 2014, Presentation.

Nabuurs, M.H., McCallum, J.L., and Kirby, C.W. (2014). "Novel Pyranoanthocyanins Isolated From North American Ginseng Berry Pulp.", 6th Maritime Natural Products Conference, Charlottetown, PEI, Canada, August 18-20, 2014.

Fischer, M.B., Nabuurs, M.H., McCallum, J.L., and Kirby, C.W. (2014). "Pyranoanthocyanin Behaviour in Solution.", MOOT XXVII NMR Symposium, Montreal, QC, Canada, October 18-19, 2014. (Poster)

Kirby, C.W., Nabuurs, M.H., and McCallum, J.L. (2014). "Anthocyanin and Pyranoanthocyanin biosynthesis in Staghorn Sumac (*Rhus typhina* L.).", 6th Maritime Natural Products Conference, Charlottetown, PEI, Canada, August 18-20, 2014.

Kirby, C.W., Wu, T.-Y., Nabuurs, M.H., Tsao, R., Tsao, R., and McCallum, J.L. (2014). "Anthocyanin and Pyranoanthocyanin Biosynthesis in Staghorn Sumac (*Rhustyphina* L.).", Maritimes Natural Products Conference (MNPC) 2014, Charlottetown, Prince Edward Island, Canada, August 18-20, 2014, Presentation.

Nabuurs, M.H., McCallum, J.L., and Kirby, C.W. (2014). "Novel Pyranoanthocyanins Isolated From North American Ginseng Berry Pulp.", 6th Maritime Natural Products Conference, Charlottetown, PEI, Canada, August 18-20, 2014. (Presentation)

McCallum, J.L. and Kirby, C.W. (2014). "Phytochemical profile of Staghorn sumac (*Rhustyphina* L.) during inflorescence development.", Plant Biology 2014, Portland, Oregon, USA, July 12-16, 2014. (Poster)

Nabuurs, M.H., McCallum, J.L., and Kirby, C.W. (2014). "Isolation of Novel Pyranoanthocyanins From North American Ginseng Berry Pulp.", MOOT XXVII NMR Symposium, Montreal, QC, Canada, October 18-19, 2014. (Poster)

2013

Kirby, C.W., Wu, T., Tsao, R., Tsao, R., and McCallum, J.L. (2013). "Isolation and structural characterization of unusual pyranoanthocyanins and related anthocyanins from Staghorn Sumac (*Rhustyphina* L.) via UPLC-ESI-MS, 1H, 13C, and 2D NMR spectroscopy.", 52nd Annual meeting of Phytochemical Society of North America (PSNA), Corvallis, Oregon, USA, August 2-7, 2013.

2012

Kirby, C.W., Wu, T., Tsao, R., and McCallum, J.L. (2012). "NMR structure elucidation of novel anthocyanins from Staghorn Sumac (*Rhus typhina* L.)", MOOT XXV Mini NMR Symposium, Université Laval, Québec City, QC, Canada, October 20-21, 2012.

2011

Fofana, B., Main, D., Ghose, K., Grimmer, M.G., Kirby, C.W., McCallum, J.L., Peters, R.D., Drake, K.A., Locke, S.J., and Sweeney, M.E. (2011). "Improving the antioxidant capacity of field crops by increasing selenoprotein content.", 2011 Annual Meeting of the Canadian Phytopathological Society (with Plant Canada 2011), Halifax, NS, Canada, July 17-21, 2011, pp. 61, #1145. (Presentation)

Ghose, K., Sanderson, K.R., Kirby, C.W., McCallum, J.L., and Fofana, B. (2011). "Genetic structure of Prince Edwards island wild rosehip ecotypes as revealed by single nucleotide polymorphism.", Canadian Phytopathological Society (CPS) 82nd Annual Meeting (with Plant Canada 2011), Halifax, NS, Canada, July 17-21, 2011, CSHS-9, pp. 283. (Poster)

Kirby, C.W., McCallum, J.L., Bernard, K., and Fofana, B. (2011). "Cooked Flax Bolls: An Alternative Omega-3 Fatty Acid Source.", MOOT XXIV NMR Minisymposium, Toronto, ON, Canada, October 21-22, 2011. (Poster)

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## Research Publications:

2016

Singh, A.K., Knox, R.E., Clarke, J.M., Clarke, F.R., Singh, A., DePauw, R.M., and Cuthbert, R.D. (2016). "Genetics of pre-harvest sprouting resistance in a cross of Canadian adapted durum wheat genotypes.", *Molecular Breeding*, 33(4), pp. 919-929. doi : 10.1007/s11032-013-0006-y

2015

Singh, A.K., Clarke, J.M., Knox, R.E., DePauw, R.M., Wise, I.L., Thomas, J.B., McCaig, T.N., Cuthbert, R.D., Clarke, F.R., and Fernandez, M.R. (2015). "AAC Marchwell durum wheat.", *Canadian Journal of Plant Science*, 95(1), pp. 189-195. doi : 10.4141/cjps-2014-223

Singh, A.K., Clarke, J.M., DePauw, R.M., Knox, R.E., McCaig, T.N., and Cuthbert, R.D. (2015). "AAC Current Durum Wheat.", *Canadian Journal of Plant Science*, 95(3), pp. 589-594. doi : 10.4141/CJPS-2014-326

Kumar, S., Knox, R.E., Clarke, F.R., Pozniak, C.J., DePauw, R.M., Cuthbert, R.D., and Fox, S.L. (2015). "Maximizing the identification of QTL for pre-harvest sprouting resistance using seed dormancy measures in a white-grained hexaploid wheat population.", *Euphytica*, 205(1), pp. 287-309. doi : 10.1007/s10681-015-1460-x

Maccaferri, M., Cane, M.A., Sanguineti, M.C., Salvi, S., Colalongo, M.C., Massi, A., Clarke, F.R., Knox, R.E., Pozniak, C.J., Clarke, J.M., Fahima, T., Dubcovsky, J., Xu, S.S., Ammar, K., Karsai, I., Vida, G., and Tuberosa, R. (2015). "A consensus framework map of durum wheat (*Triticum durum* Desf.) suitable for linkage disequilibrium analysis and genome-wide association mapping.", *BMC Genomics*, pp. 1-21. doi : 10.1186/1471-2164-15-873

2014

Singh, A.K., Clarke, J.M., Knox, R.E., DePauw, R.M., McCaig, T.N., Cuthbert, R.D., Clarke, F.R., and Fernandez, M.R. (2014). "AAC Raymore durum wheat.", *Canadian Journal of Plant Science*, 94(7), pp. 1289-1296. doi : 10.4141/CJPS-2014-048

Singh, A., Knox, R.E., DePauw, R.M., Singh, A.K., Cuthbert, R.D., Campbell, H.L., Shorter, S., and Bhavani, S. (2014). "Stripe rust and leaf rust resistance QTL mapping, epistatic interactions, and co-localization with stem rust resistance loci in spring wheat evaluated over three continents.", *Theoretical and Applied Genetics (TAG)*, 127(11), pp. 2465-2477. doi : 10.1007/s00122-014-2390-z

Lukaszewski, A.J., Alberti, A., Sharpe, A.G., Kilian, A., Stanca, A.M., Keller, B., Knox, R.E., and others (2014). "A chromosome-based draft sequence of the hexaploid bread wheat (*Triticum aestivum*) genome.", *Science*, 345(6194): Article 1251788. doi : 10.1126/science.1251788

Knox, R.E., Campbell, H.L., Clarke, F.R., Menzies, J.G., Popovic, Z., Procnier, J.D., Clarke, J.M., DePauw, R.M., Cuthbert, R.D., and Somers, D.J. (2014). "Quantitative trait loci for resistance in wheat (*Triticum aestivum*) to *Ustilago tritici*.", *Canadian Journal of Plant Pathology*, 36(2), pp. 187-201. doi : 10.1080/07060661.2014.905497

DePauw, R.M., Knox, R.E., Cuthbert, R.D., Singh, A.K., and McCaig, T.N. (2014). "AAC Bailey hard red spring wheat.", *Canadian Journal of Plant Science*, 94(1), pp. 175-181. doi : 10.4141/cjps2013-252

Kashaninejad, M., Tabil, L.G., and Knox, R.E. (2014). "Effect of compressive load and particle size on compression characteristics of selected varieties of wheat straw grinds.", *Biomass and Bioenergy*, 60, pp. 1-7. doi : 10.1016/j.biombioe.2013.11.017

2013

Singh, A., Pandey, M.P., Singh, A.K., Knox, R.E., Ammar, K., Clarke, J.M., Clarke, F.R., Singh, R.P., Pozniak, C.J., DePauw, R.M., McCallum, B.D., Cuthbert, R.D., Randhawa, H.S., and Fetch Jr., T.G. (2013). "Identification and mapping of leaf, stem and stripe rust resistance quantitative trait loci and their interactions in durum wheat.", *Molecular Breeding*, 31(2), pp. 405-418. doi : 10.1007/s11032-012-9798-4

Singh, A., Knox, R.E., DePauw, R.M., Singh, A.K., Cuthbert, R.D., Campbell, H.L., Singh, D., Bhavani, S., Fetch Jr., T.G., and Clarke, F.R. (2013). "Identification and mapping in spring wheat of genetic factors controlling stem rust resistance and the study of their epistatic interactions across multiple environments.", *Theoretical and Applied Genetics (TAG)*, 126(8), pp. 1951-1964. doi : 10.1007/s00122-013-2109-6

Randhawa, H.S., Asif, M., Pozniak, C.J., Clarke, J.M., Graf, R.J., Fox, S.L., Humphreys, D.G., Knox, R.E., DePauw, R.M., Singh, A.K., Cuthbert, R.D., Hucl, P.J., and Spaner, D.M. (2013). "Application of Molecular Markers for Wheat Breeding in Canada.", *Plant Breeding*, 132(5), pp. 458-471. doi: 10.1111/pbr.12057

Knox, R.E., Campbell, H., DePauw, R.M., Gaudet, D.A., and Puchalski, B. (2013). "DNA markers for resistance to common bunt in 'McKenzie' wheat.", *Canadian Journal of Plant Pathology*. doi: 10.1080/07060661.2013.763292

2012

Singh, A.K., Hamel, C., DePauw, R.M., and Knox, R.E. (2012). "Genetic variability in arbuscular mycorrhizal fungi compatibility supports the selection of durum wheat genotypes for enhancing soil ecological services and cropping systems in Canada.", *Canadian Journal of Microbiology*, 58(3), pp. 293-302. doi: 10.1139/W11-140

Singh, A.K., Clarke, J.M., Knox, R.E., DePauw, R.M., McCaig, T.N., Fernandez, M.R., and Clarke, F.R. (2012). "Transcend Durum wheat.", *Canadian Journal of Plant Science*, 92(4), pp. 809-813. doi: 10.4141/cjps2011-255

Isidro, J., Knox, R.E., Clarke, F.R., Singh, A.K., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2012). "Quantitative genetic analysis and mapping of leaf angle in durum wheat.", *Planta*, 236(6), pp. 1713-1723. doi: 10.1007/s00425-012-1728-5

DePauw, R.M., Knox, R.E., Singh, A.K., Fox, S.L., Humphreys, D.G., and Hucl, P.J. (2012). "Developing standardized methods for breeding preharvest sprouting resistant wheat, challenges and successes in Canadian wheat.", *Euphytica*, 188(1), pp. 7-14. doi: 10.1007/s10681-011-0611-y

Knox, R.E., Clarke, F.R., Clarke, J.M., Fox, S.L., DePauw, R.M., and Singh, A.K. (2012). "Enhancing the identification of genetic loci and transgressive segregants for preharvest sprouting resistance in a durum wheat population.", *Euphytica*, 186(1), pp. 193-206. doi: 10.1007/s10681-011-0557-0

Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., Krishna, P., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2012). "Brassinosteroid leaf unrolling QTL mapping in durum wheat.", *Planta*, 236(1), pp. 273-281. doi: 10.1007/s00425-012-1603-4

Knox, R.E. and Menzies, J.G. (2012). "Resistance in Wheat to Loose Smut.", in Sharma, I. (ed.) - *Disease Resistance in Wheat*. CABI Plant Protection Series, CABI Publishing, Wallingford, UK, Chapter 9, pp. 160-189.

2011

DePauw, R.M., Knox, R.E., Humphreys, D.G., Thomas, J.B., Fox, S.L., Brown, P.D., Singh, A.K., Pozniak, C.J., Randhawa, H.S., Fowler, D.B., Graf, R.J., and Hucl, P.J. (2011). "New breeding tools impact Canadian commercial farmer fields.", *Czech Journal of Genetics and Plant Breeding (CJGPB)*, 47(Spec. Issue 1), pp. S28-S34.

DePauw, R.M., Knox, R.E., McCaig, T.N., Clarke, F.R., and Clarke, J.M. (2011). "Much more hard red spring wheat.", *Canadian Journal of Plant Science*, 91(4), pp. 797-803. doi: 10.4141/cjps10188

DePauw, R.M., Knox, R.E., McCaig, T.N., Clarke, F.R., and Clarke, J.M. (2011). "Carberry hard red spring wheat.", *Canadian Journal of Plant Science*, 91(3), pp. 529-534. doi: 10.4141/cjps10187

Bykova, N.V., Hoehn, B., Rampitsch, C., Hu, J., Stebbing, J.A., and Knox, R.E. (2011). "Thiol redox-sensitive seed proteome in dormant and non-dormant hybrid genotypes of wheat.", *Phytochemistry*, 72(10), pp. 1162-1172. doi: 10.1016/j.phytochem.2010.12.021

Bykova, N.V., Hoehn, B., Rampitsch, C., Banks, T.W., Stebbing, J.A., Fan, T., and Knox, R.E. (2011). "Redox-sensitive proteome and antioxidant strategies in wheat seed dormancy control.", *Proteomics*, 11(5), pp. 865-882. doi: 10.1002/pmic.200900810

## Other Science Related Publications:

2015

Pozniak, C.J., Wiebe, K., Haile, J.K., Clarke, J.M., Sharpe, A.G., Ruan, Y., Clarke, F.R., Knox, R.E., and Karim Ammar, K. (2015). "Marker-assisted breeding in durum wheat: progress and perspectives.", *From Seed to Pasta and Beyond: a Sustainable Durum Wheat Chain for Food Security and Healthy Lives*, Bologna, Italy, May 31 - June 2, 2015. (Abstract)

Bokore, F.E., Cuthbert, R.D., Knox, R.E., Henriquez, M.A., Ruan, Y., DePauw, R.M., Pozniak, C.J., N'Daiye, A., Sharpe, A.G., Clarke, F.R., and Berraies, S. (2015). "Quantitative Trait Loci Associated with Resistance to Fusarium Head Blight in a Carberry x Vesper Derived Wheat Population.", 2015 National Fusarium Head Blight Forum, St. Louis, MO, USA, December 6-8, 2015. (Poster)

Berraies, S., Knox, R.E., Cuthbert, R.D., Henriquez, M.A., Ruan, Y., DePauw, R.M., Singh, A., Pozniak, C.J., Meyer, B., Clarke, F.R., and Bokore, F.E. (2015). "Molecular Mapping of QTL for Fusarium Head Blight Resistance in Spring Wheat.", 2015 National Fusarium Head Blight Forum, St. Louis, MO, USA, December 6-8, 2015. (Poster)

Feurtado, J.A., Huang, D.C., Koh, C., Smith, M., Flatman, L., Ehman, L., He, Y., Knox, R.E., Cuthbert, R.D., DePauw, R.M., Ruan, Y., and Cutler, A. (2015). "Improving productivity under water stress: the path from germplasm to genes and back again.", 2nd Annual Science Meeting of the Canadian Wheat Association, Saskatoon, Canada, July 14-16, 2015. (Poster)

Berraies, S., Ruan, Y., Knox, R.E., Clarke, F.R., Fernandez, M.R., DePauw, R.M., and Cuthbert, R.D. (2015). "Characterization of FHB resistance to *Fusarium* species and associated DON accumulation in spring wheat", From Seed to Pasta and Beyond: a Sustainable Durum Wheat Chain for Food Security and Healthy Lives, Bologna, Italy, May 31 - June 2, 2015. (Poster)

Cabral, A.L., Knox, R.E., Ammar, K., Pozniak, C.J., Ruan, Y., Laroche, A., Randhawa, H.S., Sharpe, A.G., N'Daiye, A., Sari, E., Schmidt, P.J., Boyle, K., Zhang, W., Condie, J., Campbell, H., Meyer, B., and Fobert, P. (2015). "The ADF Durum CWA Enhanced *Fusarium* and Rust Tolerance Project.", 2nd Annual Science Meeting of the Canadian Wheat Association, Saskatoon, Canada, July 14-16, 2015. (Abstract)

2014

N'Daiye, A., Haile, J.K., Clarke, F.R., Clarke, J.M., Knox, R.E., and Pozniak, C.J. (2014). "Genome-Wide Association Analysis of Grain Pigment Colour in Elite Durum Wheat Breeding Lines, Using Single SNP- and Haplotype-Based Approach in Durum Wheat.", XXII International Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2014.

Biswas, D.K., Ashe, P., Shaterian, H., Sudarshan, G.P., He, Y., Knox, R.E., DePauw, R.M., Wang, H., Cuthbert, R.D., Singh, A. K., and Selvaraj, G. (2014). "Phenotypic, physiological and molecular responses of a selected collection of common wheat (*Triticum aestivum* L.) and durum wheat [*Triticum turgidum* L. ssp. *Durum* (Desf.) Husn.] lines to drought stress under laboratory conditions.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Kumar, S., Knox, R.E., Clarke, F.R., Cuthbert, R.D., Pozniak, C.J., DePauw, R.M., and He, Y. (2014). "High-Density SNP Mapping and Quantitative Trait Locus Analysis of Glaucousness and Leaf Colour in Common Wheat.", XXII International Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2014.

Cuthbert, R.D., Kumar, S., Knox, R.E., Clarke, F.R., Pozniak, C.J., Hucl, P.J., DePauw, R.M., and He, Y. (2014). "High-Density SNP Mapping and Quantitative Trait Locus Analysis of Agronomic Traits in Common Wheat.", XXII International Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2014.

Wang, H., Zou, J.W., DePauw, R.M., Knox, R.E., Cuthbert, R.D., Ruan, Y., Qian, B., Gopalan, Y.S., Cutler, A., He, Y., and Qin, X. (2014). "Heat stress in wheat: Beat it or avoid it?", Heat and Drought Wheat Improvement Consortium -HeDWIC, Frankfurt, Germany, December 2014. (Poster)

Kumar, S., Knox, R.E., Clarke, F.R., Clarke, J.M., Pozniak, C.J., Isidro, J., Singh, A.K., Cuthbert, R.D., DePauw, R.M., Campbell, H.L., and Somers, D.J. (2014). "QTL mapping for resistance to loose smut in a durum wheat doubled haploid population.", CSA/CSHS Conference, Lethbridge, Alberta, Canada, July 10-14, 2014.

Kumar, S., Knox, R.E., Clarke, F.R., Pozniak, C.J., DePauw, R.M., Cuthbert, R.D., and Fox, S.L. (2014). "Fine mapping of pre-harvest sprouting resistance associated QTL in white-grained wheat.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Knox, R.E., Kumar, S., Fetch Jr., T.G., Singh, A.K., Clarke, J.M., DePauw, R.M., Cuthbert, R.D., Campbell, H.L., Singh, D., Bhavani, S., Pozniak, C.J., and Clarke, F.R. (2014). "Identification of Quantitative Trait Loci for Stem Rust Resistance in Durum Wheat.", Canadian Wheat Alliance Annual Science Meeting 2014, Saskatoon, Canada, April 2014.

Pozniak, C.J., Hucl, P.J., Graf, R.J., Knox, R.E., Cuthbert, R.D., and McCartney, C.A. (2014). "Deployment of Genomic Tools: Breeding, Targets, and Progress to Enhance Development of Field Ready Wheat Cultivars.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014, Invited presentation.

Feurtado, J.A., Huang, D., Koh, C.S., He, Y., Knox, R.E., Cuthbert, R.D., DePauw, R.M., and Cutler, A. (2014). "Height differences in durum wheat as a test case for marker and gene identification by sequencing-based bulk segregant analysis.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Knox, R.E., Singh, A., Kumar, S., DePauw, R.M., Clarke, F.R., Cuthbert, R.D., Singh, A.K., Pozniak, C.J., and Campbell, H.L. (2014). "Epistasis and Preliminary Fine Mapping of Quantitative Trait Loci for Common Bunt Resistance.", XXII International Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2014.

Knox, R.E., DePauw, R.M., and Cuthbert, R.D. (2014). Update to the durum and hexaploid rust genetic work at SPARC. Growing Forward Ug99 Rust Project. Feb. Winnipeg MB. (Report)

Bokore, F.E., Knox, R.E., DePauw, R.M., Cuthbert, R.D., Clarke, F.R., and Campbell, H.L. (2014). "Assessment of Canada Western Red Spring (CWRS) Wheat Doubled Haploid Populations with *Fusarium* Head Blight Resistance Genetic Markers.", Canadian Wheat Alliance Annual Science Meeting 2014, Saskatoon, Canada, April 2014.

DePauw, R.M., Cuthbert, R.D., Knox, R.E., Kumar, S., Singh, A., Singh, A.K., Campbell, H.L., Bhavani, S., Singh, D., Clarke, F.R., and Fetch Jr., T.G. (2014). "Evidence for Recombination of Sr2 and Fhb1.", Bortaug Global Rust Initiative (BGRI) Technical Workshop 2014, CIMMYT, México, March 2014.



Knox, R.E. (2014). "The practical implications of translational research to wheat breeding.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Brûlé-Babel, A.L., Knox, R.E., and others (2014). "Breeding for FHB resistance: Progress and challenges.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

He, Y., Knox, R.E., and others (2014). "Field evaluation of a collection of wheat lines for performance under irrigated and rain-fed conditions in the semiarid region of Saskatchewan.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Bokore, F.E., Knox, R.E., DePauw, R.M., Cuthbert, R.D., Clarke, F.R., and Campbell, H.L. (2014). "Validation of DNA markers for Fusarium head blight resistance in Canada Western Red Spring (CWRS) wheat doubled haploid populations.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Pozniak, C.J., Hucl, P.J., MacLachlan, R.P., Clarke, J.M., N'Daiye, A., Ruan, Y., Knox, R.E., Cuthbert, R.D., McCartney, C., Choulet, F., Feuillet, C., Sharpe, A.G., and Paux, E. (2014). "Utilization of Wheat Sequence Resources: Application to Wheat Improvement.", XXII International Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2014.

## 2013

Singh, A., Knox, R.E., DePauw, R.M., Cuthbert, R.D., Singh, A.K., Shorter, S., Campbell, H., and Bhavani, S. (2013). "Identification and mapping of genetic factors controlling stripe and leaf rust resistance in spring wheat.", 5th BGRI Workshop, New Delhi, India, August 19-22, 2013.

Maccaferri, M., Salvi, S., Ricci, A., Massi, A., Clarke, F.R., Pozniak, C.J., Buerstmayr, H., Buerstmayr, H., Korol, A., Fahima, T., Dubcovsky, J., Xu, S., Karsai, I., Knox, R.E., Clarke, J.M., Cane, M.A., Sanguineti, M.C., and Tuberosa, R. (2013). "A consensus map of durum wheat based on simple sequence repeat and DART® markers for QTL analysis and SNP mapping.", International Symposium on "Genetics and Breeding of Durum Wheat", Rome, Italy.

McCartney, C.A., Gaudet, D.A., Knox, R.E., and Menzies, J.G. (2013). "QTL Analysis of Common Bunt Resistance in the 'Kenyon'/86ISMN 2137 Mapping Population.", XXI Plant and Animal Genome Conference, San Diego, CA, USA, January 12-16, 2013.

Singh, A., DePauw, R.M., Knox, R.E., Cuthbert, R.D., Singh, A.K., Singh, D., Bhavani, S., Fetch Jr., T.G., and Campbell, H.L. (2013). "Identification and mapping of genetic factors controlling stem rust resistance in spring wheat and the study of their epistatic interactions across multiple environments.", 5th BGRI Workshop, New Delhi, India, August 19-22, 2013.

Knox, R.E., Menzies, J.G., and Singh, A.K. (2013). "DNA markers associated with ergot resistance in durum wheat.", 2nd Conference of Cereal Biotechnology and Breeding, Budapest, Hungary, November 5-7, 2013. (Abstract)

Feurtado, J.A., Huang, D., Jaradat, M.R., Singh, A.K., Knox, R.E., and Cutler, A. (2013). "Drought Stress Response in Flag Leaves of Canadian Durum Wheat", Canadian Plant Genomics Workshop, Halifax, NF, Canada, August 12-15, 2013.

Kumar, S., Knox, R.E., Clarke, F.R., Pozniak, C.J., Singh, A., DePauw, R.M., Cuthbert, R.D., Hucl, P.J., Randhawa, H.S., Fox, S.L., Fetch Jr., T.G., McCartney, C., and He, Y. (2013). "High-resolution Mapping of Agronomic and Disease Related Traits Featuring Pre-harvest Sprouting and Common Bunt Resistance.", Canadian Triticum Advancement through Genomics (CTAG) annual meeting 2014, Saskatoon, SK, Canada.

Isidro, J., Knox, R.E., Clarke, F.R., Singh, A.K., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2013). "Quantitative trait loci for chlorophyll content in durum wheat.", XXI Plant and Animal Genome Conference, San Diego, CA, USA, January 12-16, 2013.

Ruan, Y., MacLachlan, R., N'Daiye, A., Houshmand, S., Knox, R.E., Clarke, F.R., Clarke, J.M., Feuillet, C., and Pozniak, C.J. (2013). "Utilization of the chromosome 3B sequence to localize SST1, a stem solidness gene in wheat.", International Symposium on "Genetics and Breeding of Durum Wheat", Rome, Italy.

## 2012

McCartney, C., Pozniak, C.J., Sharpe, A.G., MacLachlan, R., Hucl, P.J., Jordan, M.C., Knox, R.E., Randhawa, H.S., Spaner, D.M., Bekkaoui, F., Galushko, V., and Gray, R. (2012). "Overview and Progress on the CTAG Project. Canadian Wheat Symposium.", Canadian Journal of Plant Science, 92, pp. 593. (Abstract)

DePauw, R.M., McCallum, B.D., Voldeng, H.D., Knox, R.E., Edwards, N., Hatcher, D., Fetch Jr., T.G., Lukow, O.M., Fox, S.L., Pozniak, C.J., Hucl, P.J., Comeau, A., and Singh, A.K. (2012). "Canadian Triticologists: The Game Changers!", Canadian Journal of Plant Science, 92, pp. 593. (Abstract)

Knox, R.E., Hucl, P.J., Cuthbert, R.D., Singh, A.K., Clarke, F.R., DePauw, R.M., Pozniak, C.J., Fox, S.L., Humphreys, D.G., Clarke, J.M., Randhawa, H.S., Spaner, D.M., McCartney, C., Gaudet, D.A., Menzies, J.G., Gilbert, J.R., Fetch Jr., T.G., McCallum, B.D., and Brûlé-Babel, A.L. (2012). "Phenomics.", Canadian Triticum Advancement through Genomics (CTAG) annual meeting 2014, Saskatoon, SK, Canada.

Maccaferri, M., Massi, A., Clarke, F.R., Pozniak, C.J., Knox, R.E., Clarke, J.M., Buerstmayr, H., Buerstmayr, M., Korol, A., Fahima, T., Xu, S., Karsai, I., Sanguineti, M.C., and Tuberosa, R. (2012). "A consensus map for durum wheat as a framework for linkage, association mapping studies and SNP development.", XXI Plant and Animal Genome Conference, San Diego, CA, USA, January 12-16, 2013.

Singh, A., DePauw, R.M., Knox, R.E., Cuthbert, R.D., Singh, A.K., Singh, D., Bhavani, S., Fetch Jr., T.G., and Campbell, H.L. (2012). "Mapping of stem rust resistance QTL and study of their epistatic interactions in hexaploid wheat (*Triticum aestivum* L.).", Borlaug Global Rust Initiative (BGRI) Technical Workshop, Beijing, China, September 1-4, 2012.

Edwards, N.M., Gawalko, E.J., Knox, R.E., McCaig, T.N., and DePauw, R.M. (2012). "Mineral micro-nutrient content of Canada Western Red Spring wheat segregating for Gpc-B1.", 14th ICC Cereal and Bread Congress and Forum on Fats & Oils, Beijing, China, August 6-9, 2012, pp. 575-576.

Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2012). "Leaf angle and its relationship with brassinosteroid response loci in durum wheat.", XX Plant and Animal Genome Conference, San Diego, CA, USA, January 14-18, 2012.

Humphreys, D.G., DePauw, R.M., Knox, R.E., Singh, A.K., Cuthbert, R.D., Fox, S.L., and Randhawa, H.S. (2012). "Weathering and pre-harvest sprouting resistance.", *Canadian Journal of Plant Science*, 92, pp. 593. (Abstract)

Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2012). "Mapping quantitative trait loci for leaf angle in durum wheat.", *Canadian Journal of Plant Science*, 92, pp. 593. (Abstract)

Singh, A., Pandey, M.P., Singh, A.K., Clarke, J.M., Knox, R.E., Ammar, K., Singh, R.P., Pozniak, C.J., DePauw, R.M., Clarke, F.R., McCallum, B.D., Cuthbert, R.D., and Randhawa, H.S. (2012). "Molecular mapping of leaf rust and stripe rust resistance QTL in durum wheat.", *Canadian Journal of Plant Science*, 92, pp. 593. (Abstract)

DePauw, R.M., He, Y., Wang, H., Cutforth, H.W., Cuthbert, R.D., Singh, A.K., and Knox, R.E. (2012). "Pressures On Wheat To Produce Safe, Nutritious And Affordable Quantities At Sustainable Prices For Producers – Adapting to Change. Adapting Crops to Change — Technology Transfer in the 21st Century.", CSA-CSHS-CCA-AIC Conference, University of Saskatchewan, Saskatoon, Saskatchewan, Canada, July 16-19, 2012.

Fernandez, M.R. and Knox, R.E. (2012). "Diseases of durum wheat.", .

2011

Pozniak, C.J., Hucl, P.J., MacLachlan, R., Sharpe, A.G., Randhawa, H.S., Spaner, D.M., Knox, R.E., Jordan, M.C., and McCartney, C. (2011). "Applied Genomic Strategies for Wheat Improvement in Canada.", Conference on the Development and Use of Molecular Markers For Crop Improvement, New Delhi, India.

Fox, S.L., DePauw, R.M., Humphreys, D.G., Hucl, P.J., Singh, A.K., Pozniak, C.J., Brown, P.D., Graf, R.J., Randhawa, H.S., Voldeng, H.D., McCartney, C.A., Hiebert, C.W., Knox, R.E., Thomas, J.B., Townley-Smith, L., and Fetch Jr., T.G. (2011). "Canadian initiatives in breeding for stem rust resistance to race Ug99 and variants.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, pp. 121-126.

Knox, R.E. (2011). "Sample Tracking and Pedigree Management.", International Crop Information System (ICIS) Meeting, Hyderabad, India, 2011. (Presentation)

Maccaferri, M., Sanguineti, M.C., Cane, M.A., Buerstmayr, H., Buerstmayr, M., Clarke, F.R., Clarke, J.M., Fahima, T., Karsai, I., Knox, R.E., Korol, A., Massi, A., Pozniak, C.J., Xu, S.S., Vida, G., and Tuberosa, R. (2011). "A consensus map for durum wheat as a framework for linkage, association mapping studies and SNP development.", 21st International Research Initiative for Wheat Improvement (ITMI) Workshop, Mexico City, México, September 5-9, 2011.

DePauw, R.M., Somers, D.J., Cuthbert, R.D., McCallum, B.D., Knox, R.E., Voldeng, H.D., Humphreys, D.G., Fox, S.L., Singh, A.K., McCartney, C.A., and Fedak, G. (2011). "Are QTLs for fusarium head blight response additive?", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 70.

Singh, A.K., Knox, R.E., DePauw, R.M., Clarke, F.R., Martin, R.A., Xue, A.G., Gilbert, J., Brûlé-Babel, A.L., Campbell, H., and Cuthbert, R.D. (2011). "Validation of molecular markers linked to Sumai 3 resistance to DON and FDK in Canadian spring wheat populations.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 106.

DePauw, R.M., Singh, A., Singh, A.K., Knox, R.E., Singh, D., Bhavani, S., and Fetch Jr., T.G. (2011). "The SrCad and Sr2 locus influences reaction to stripe rust and Fusarium head blight.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, Poster #60. (Poster)

Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2011). "Leaf angle and its relationship with brassinosteroid response loci in durum wheat.", Plant & Animal Genome XX Conference, Town & Country Convention Center, San Diego, CA, USA, January 14-18, 2012.

Randhawa, H.S., Pozniak, C.J., Hucl, P.J., Knox, R.E., McCartney, C., and Spaner, D.M. (2011). "Application of Molecular Markers for Wheat Breeding in Canada.", Indo-US Science and Technology Forum (IUSSTF) Sponsored Conference On Development and Use of Molecular Markers for Crop Improvement, NASC Complex, New Delhi, India, October 29-31, 2011, Invited presentation.

McCartney, C., Pozniak, C.J., Sharpe, A.G., MacLachlan, R., Hucl, P.J., Jordan, M.C., Knox, R.E., Randhawa, H.S., Spaner, D.M., Bekkaoui, F., Galushko, V., and Gray, R. (2011). "Overview and Progress on the CTAG Project.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, Presentation.

DePauw, R.M., Singh, A., Singh, A.K., Knox, R.E., Singh, D., and Fetch Jr., T.G. (2011). "The presence of SrCad and Sr2 influences reaction to stripe rust and Fusarium head blight.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011. (Poster)

Knox, R.E. (2011). "How to get started using ICIS.", International Crop Information System (ICIS) Meeting, Hyderabad, India, 2011. (Presentation)

DePauw, R.M., Knox, R.E., Singh, A.K., Humphreys, D.G., Fox, S.L., and Hucl, P.J. (2011). "Breeding for Pre-Harvest Sprouting Resistance in Canadian Wheat: Challenges & Successes.", 12th International Symposium on Pre-Harvest Sprouting in Cereals (ISPHSC), Red Deer, AB, Canada, July 24-27, 2011.

Knox, R.E. (2011). "ICIS usage with AAFC users and further needs.", International Crop Information System (ICIS) Meeting, Hyderabad, India, 2011. (Presentation)

Kashaninejad, M., Knox, R.E., and Tabil, L.G. (2011). "Evaluation of Compression and Physical Properties of Wheat Straw Samples.", Annual General Meeting of Agricultural Biorefinery Innovation Network (ABIN), London, ON, Canada, January 9-11, 2011.

Knox, R.E., DePauw, R.M., Singh, A., Singh, A.K., Singh, D., Bhavani, S., Fetch Jr., T.G., and Campbell, H. (2011). "Investigating the role of SrCad and Sr2 on stem rust race TTKST in wheat.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, pp. 186.

Humphreys, D.G., DePauw, R.M., Knox, R.E., Singh, A.K., Cuthbert, R.D., Fox, S.L., and Randhawa, H.S. (2011). "Weathering and pre-harvest sprouting resistance.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Singh, M.P., Singh, A.K., Clarke, J.M., Knox, R.E., Ammar, K., Singh, R.P., Pozniak, C.J., DePauw, R.M., Clarke, F.R., McCallum, B.D., Cuthbert, J.L., and Randhawa, H.S. (2011). "Molecular mapping of leaf rust and stripe rust resistance QTL in durum wheat.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Isidro, J., Singh, A.K., Wang, H., DePauw, R.M., Pozniak, C.J., Knox, R.E., Cuthbert, R.D., Beres, B.L., and Johnson, E.N. (2011). "Effects of plant density on durum crop production.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2011). "Mapping quantitative trait loci for leaf angle in durum wheat.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., Krishna, P., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2011). "Brassinosteroid leaf unrolling QTL mapping in durum wheat.", 1st Congress of Cereal Biotechnology and Breeding, Szeged, Hungary, May 24-27, 2011. (Abstract)

DePauw, R.M., McCallum, B.D., Voldeng, H.D., Knox, R.E., Edwards, N., Fetch Jr., T.G., Lukow, O.M., Fox, S.L., Pozniak, C.J., Hucl, P.J., Singh, A.K., and Comeau, A. (2011). "Canadian Triticologists: the game changers.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Knox, R.E., Clarke, F.R., Clarke, J.M., Fox, S.L., DePauw, R.M., Singh, A.K., and Isidro-Sanchez, J. (2011). "Evaluation of methods of measurement of pre-harvest sprouting resistance in durum wheat", 12th International Symposium on Pre-Harvest Sprouting in Cereals (ISPHSC), Red Deer, AB, Canada, July 24-27, 2011.

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## Research Publications:

2013

Koenig, K.M., McGinn, S.M., and Beauchemin, K.A. (2013). "Ammonia emissions and performance of backgrounding and finishing beef feedlot cattle fed barley-based diets varying in dietary crude protein concentration and rumen degradability.", *Journal of Animal Science*, 91(5), pp. 2278-2294. doi : 10.2527/jas2012-5651

Beauchemin, K.A. and Koenig, K.M. (2013). "Nitrogen metabolism and route of excretion in beef feedlot cattle fed barley-based finishing diets varying in protein concentration and rumen degradability.", *Journal of Animal Science*, 91(5), pp. 2310-2320. doi : 10.2527/jas2012-5653

Koenig, K.M. and Beauchemin, K.A. (2013). "Nitrogen metabolism and route of excretion in beef feedlot cattle fed barley-based backgrounding diets varying in protein concentration and rumen degradability.", *Journal of Animal Science*, 91(5), pp. 2295-2309. doi : 10.2527/jas.2012-5652

2011

Koenig, K.M. and Beauchemin, K.A. (2011). "Optimum extent of barley grain processing and barley silage proportion in feedlot cattle diets: Growth, feed efficiency, and fecal characteristics.", *Canadian Journal of Animal Science*, 91(3), pp. 411-422. doi : 10.4141/CJAS2010-039

Mohammed, R., Zhou, M., Koenig, K.M., Beauchemin, K.A., and Guan, L.L. (2011). "Evaluation of rumen methanogen diversity in cattle fed diets containing dry corn distillers grains and condensed tannins using PCR-DGGE and qRT-PCR analyses.", *Animal Feed Science and Technology*, 166-167, pp. 122-131. doi : 10.1016/j.anifeedsci.2011.04.061

## Other Science Related Publications:

2013

Koenig, K.M., Beauchemin, K.A., and Yang, W.-Z. (2013). "Processing Feed Grains: Factors Affecting the Effectiveness of Grain Processing for Beef and Dairy Cattle Production.", *Western Nutrition Conference*, Saskatoon, SK, Canada, September 24-26, 2013.

Koenig, K.M., Beauchemin, K.A., and Yang, W.-Z. (2013). "Processing feed grains: factors affecting the effectiveness of grain processing for beef and dairy cattle production.", *34th Western Nutrition Conference – Processing, Performance & Profits*, Saskatoon, SK, Canada, September 24 - 26, 2013, pp. 62-73.

Koenig, K.M., McGinn, S.M., and Beauchemin, K.A. (2013). "Feeding tannins to reduce ammonia emissions from feedlot cattle fed high protein finishing diets containing corn distillers grains.", *CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013*, P56, pp. 48. (Poster)

2011

Koenig, K.M., Beauchemin, K.A., and McGinn, S.M. (2011). "Feeding tannins to reduce nitrogen losses from feedlot cattle fed high protein diets containing distillers grains 2. Nutrient digestibility and route of nitrogen excretion.", *ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 11-14, 2011*. (Poster)

Koenig, K.M., Beauchemin, K.A., and McGinn, S.M. (2011). "Feeding tannins to reduce nitrogen losses from feedlot cattle fed high protein diets containing distillers grains 1. Animal performance and plasma urea nitrogen.", *ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 11-14, 2011*. (Poster)

Koenig, K.M., Beauchemin, K.A., and McGinn, S.M. (2011). "Feeding tannins to reduce nitrogen losses from feedlot cattle fed high protein diets containing distillers grains 2. Nutrient digestibility and route of nitrogen excretion.", *Journal of Dairy Science (JDS)*, 94(E-Suppl. 1), pp. 111. (Abstract)

Koenig, K.M., Beauchemin, K.A., and McGinn, S.M. (2011). "Feeding tannins to reduce nitrogen losses from feedlot cattle fed high protein diets containing distillers grains 1. Animal performance and plasma urea nitrogen.", *Journal of Dairy Science (JDS)*, 94(E-Suppl. 1), pp. 111. (Abstract)

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## Research Publications:

2015

Mei, G.-Y., Tang, J., Carey, C.M., Bach, S., and Kostrzynska, M. (2015). "The effect of oxidative stress on gene expression of Shiga toxin-producing *Escherichia coli* (STEC) O157:H7 and non-O157 serotypes.", *International Journal of Food Microbiology*, 215, pp. 7-15. doi : 10.1016/j.ijfoodmicro.2015.07.029

2014

Orlowska, M., Koutchma, T., Kostrzynska, M., and Tang, J. (2014). "Surrogate organisms for pathogenic O157: H7 and non-O157 *Escherichia coli* strains for apple juice treatments by UV-C light at three monochromatic wavelengths.", *Food Control*, 47, pp. 647-655. doi : 10.1016/j.foodcont.2014.08.004

Orlowska, M., Koutchma, T., Kostrzynska, M., Tang, J., and Defelice, C. (2014). "Evaluation of mixing flow conditions to inactivate *Escherichia coli* in opaque liquids using pilot-scale Taylor-Couette UV unit", *Journal of Food Engineering*, 120(1), pp. 100-109. doi : 10.1016/j.jfoodeng.2013.07.020

2013

Carey, C.M. and Kostrzynska, M. (2013). "Lactic Acid Bacteria and Bifidobacteria Attenuate the Proinflammatory Response in Intestinal Epithelial Cells Induced by *Salmonella enterica* Serovar Typhimurium.", *Canadian Journal of Microbiology*, 59(1), pp. 9-17. doi : 10.1139/cjm-2012-0446

Mei, G.-Y., Tang, J., Bach, S., and Kostrzynska, M. (2013). "Viability and gene expression of verotoxin-producing *Escherichia coli* (VTEC) O111:NM and O26:H11 under oxidative stress on romaine lettuce.", 10th Annual GFSS Symposium, Food Safety: Compliance to Commitment, Guelph, ON, Canada, October 23, 2013.

2011

Mei, G.-Y., Carey, C.M., Tosh, S.M., and Kostrzynska, M. (2011). "Utilization of different types of dietary fibres by potential probiotics.", *Canadian Journal of Microbiology*, 57(10), pp. 857-865. doi : 10.1139/w11-077

## Other Science Related Publications:

2014

Tang, J., Mei, G.-Y., Bach, S.J., and Kostrzynska, M. (2014). "Biofilm formation by verotoxin-producing *Escherichia coli* (VTEC) O157:H7 and non-O157 strains on polypropylene and glass surfaces.", 11th Annual GFSS Symposium, Guelph, ON, Canada, October 22, 2014.

Mei, G.-Y., Tang, J., Bach, S., and Kostrzynska, M. (2014). "Differential gene expression and viability of verotoxin-producing *Escherichia coli* (VTEC) O157:H7 and O103:H2 in response to oxidative stress on lettuce.", Food Safety Research Forum, Guelph, ON, Canada, May 8, 2014. (Presentation)

Tang, J., Mei, G.-Y., and Kostrzynska, M. (2014). "Development and evaluation of bacteriophage cocktails against *Salmonella* Enteritidis.", Food Safety Research Forum, Guelph, ON, Canada, May 8, 2014. (Presentation)

2013

Tang, J., Mei, G.-Y., and Kostrzynska, M. (2013). "Comparison of species-specific PCR, ARDRA, rep-PCR and RAPD for the identification and characterization of bifidobacteria.", 2013 Food Safety Research Forum, Guelph, Ontario, Canada, May 9, 2013. (Poster)

Mei, G.-Y., Tang, J., Carey, C.M., Bach, S., and Kostrzynska, M. (2013). "Behaviour of verotoxin-producing *Escherichia coli* on lettuce treated with H<sub>2</sub>O<sub>2</sub>.", 2013 Food Safety Research Forum, Guelph, Ontario, Canada, May 9, 2013. (Poster)

Tang, J., Mei, G.-Y., and Kostrzynska, M. (2013). "Biocontrol of *Salmonella* Enteritidis using bacteriophages.", 10th Annual GFSS Symposium, Food Safety: Compliance to Commitment, Guelph, ON, Canada, October 23, 2013.

## 2012

Mei, G.-Y., Tang, J., and Kostrzynska, M. (2012). "The influence of oxidative stress on gene expression in Verotoxin-producing *Escherichia coli* (VTEC) O157:H7 and O145:NM.", 9th Annual Guelph Food Safety Series Symposium: Food Safety – Risky Business?, Guelph, ON, Canada, October 16, 2012, (Poster).

Tang, J. and Kostrzynska, M. (2012). "Sensitivity of various VTEC serotypes to oxidative stress.", 10th Annual OMAFRA Food Safety Research Forum, Guelph, ON, Canada, May 2, 2012.

Orlowska, M., Koutchma, T., Defelice, C., Kostrzynska, M., Bezanson, G.S., and Tang, J. (2012). "Application of the prototype Taylor-Couette UV reactor for the processing of opaque juices.", Canadian Institute of Food Science and Technology 50th National Conference (CIFST), Niagara Falls, ON, Canada, May 27 – 29, 2012, (Poster).

Tang, J., Mei, G.-Y., and Kostrzynska, M. (2012). "Comparative stress and virulence gene expression analysis following oxidant exposure of logarithmic and stationary phase Verotoxin-producing *Escherichia coli* (VTEC) O157:H7 and O103:H2.", 9th Annual Guelph Food Safety Series Symposium: Food Safety – Risky Business?, Guelph, ON, Canada, October 16, 2012, (Poster).

## 2011

Mei, G.-Y., Carey, C.M., Tosh, S.M., and Kostrzynska, M. (2011). "Development of novel synbiotic preparations.", 9th Annual OMAFRA Food Safety Research Forum, Guelph, ON, Canada, May 5, 2011.

Kostrzynska, M., Carey, C.M., Salesse, C., and Thompson, S. (2011). "Microbial ecology of enteric pathogens in leafy green vegetables.", 4th Congress of European Microbiologists (FEMS 2011), Geneva, Switzerland, June 26-30, 2011.

Delaquis, P.J., Bach, S., Bezanson, G.S., Kostrzynska, M., and Jones, S. (2011). "Escherichia coli population dynamics on Romaine lettuce contaminated with poultry manure.", 56th Annual Meeting of the International Association of Food Protection (IAFP 2011), Milwaukee, WI, USA, July 30-August 3, 2011, (Poster).

Kostrzynska, M., Carey, C.M., Salesse, C., and Thompson, S. (2011). "Ecology of enteric pathogens in leafy green vegetables.", 4th Congress of European Microbiologists (FEMS 2011), Geneva, Switzerland, June 26-30, 2011, #346. (Poster)

Kostrzynska, M. (2011). "Development of novel methods based on ecological approaches to control food-borne pathogens in fresh produce.", 4th Congress of European Microbiologists (FEMS 2011), Geneva, Switzerland, June 26-30, 2011, #345. (Poster)

Kostrzynska, M., Carey, C.M., and Mei, G.-Y. (2011). "Inhibitory effects of probiotic lactic acid bacteria on IL-8 gene expression and protein production in HT-29 cells.", 4th Congress of European Microbiologists (FEMS 2011), Geneva, Switzerland, June 26-30, 2011, #344. (Poster)

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## Research Publications:

2016

Balamurugan, S., Ahmed, A.A., Chibeu, A., Gao, A., Koutchma, T., and Strange, P. (2016). "Effect of salt types and concentrations on the high-pressure inactivation of *Listeria monocytogenes* in ground chicken.", *International Journal of Food Microbiology*, 218, pp. 51-56. doi: 10.1016/j.ijfoodmicro.2015.11.010

Hao, H.Y., Zhou, T., Koutchma, T., Wu, F., and Warriner, K. (2016). "High hydrostatic pressure assisted degradation of patulin in fruit and vegetable juice blends.", *Food Control*, 62, pp. 237-242. doi: 10.1016/j.foodcont.2015.10.042

2015

Alberini, F., Simmons, M.J.H., Parker, D.J., and Koutchma, T. (2015). "Validation of hydrodynamic and microbial inactivation models for UV-C treatment of milk in a swirl-tube 'SurePure Turbulator™'.", *Journal of Food Engineering*, 162, pp. 63-69. doi: 10.1016/j.jfoodeng.2015.04.009

Yin, F.G., Zhu, Y., Koutchma, T., and Gong, J. (2015). "Inactivation and potential reactivation of pathogenic *Escherichia coli* O157:H7 in apple juice following ultraviolet light exposure at three monochromatic wavelengths.", *Food Microbiology*, 46, pp. 329-335. doi: 10.1016/j.fm.2014.08.015

Yin, F.G., Zhu, Y., Koutchma, T., and Gong, J. (2015). "Inactivation and potential reactivation of pathogenic *Escherichia coli* O157:H7 in bovine milk exposed to three monochromatic ultraviolet UVC lights.", *Food Microbiology*, 49, pp. 74-81. doi: 10.1016/j.fm.2015.01.014

Cappozzo, J.C., Koutchma, T., and Barnes, G. (2015). "Chemical characterization of milk after treatment with thermal (HTST) and non-thermal (turbulent flow ultraviolet) processing technologies.", *Journal of Dairy Science (JDS)*, 98(8), pp. 5068-5079. doi: 10.3168/jds.2014-9190

Rodríguez-González, O., Buckow, R., Koutchma, T., and Balasubramanian, V.M. (2015). "Energy Requirements for Alternative Food Processing Technologies-Principles, Assumptions, and Evaluation of Efficiency.", *Comprehensive Reviews in Food Science and Food Safety*, 14(5), pp. 536-554. doi: 10.1111/1541-4337.12142

Jermann, C., Koutchma, T., Margas, E., Leadley, C., and Ros-Polski, V. (2015). "Mapping trends in novel and emerging food processing technologies around the world.", *Innovative Food Science and Emerging Technologies*. doi: 10.1016/j.ifset.2015.06.007

Hu, G., Zhu, Y., Hernandez, M., Koutchma, T., and Shao, S. (2015). "An efficient method for the simultaneous determination of furan, 2-methylfuran and 2-pentylfuran in fruit juices by headspace solid phase microextraction and gas chromatography-flame ionisation detector.", *Food Chemistry*, 192 (Article number 17782), pp. 9-14. doi: 10.1016/j.foodchem.2015.06.100

Ros-Polski, V., Koutchma, T., Xue, S.J., Defelice, C., and Balamurugan, S. (2015). "Effects of high hydrostatic pressure processing parameters and NaCl concentration on the physical properties, texture and quality of white chicken meat.", *Innovative Food Science and Emerging Technologies*, 30, pp. 31-42. doi: 10.1016/j.ifset.2015.04.003

Koutchma, T. and Zhu, Y. (2015). "Ultraviolet light Effects on Patulin Mycotoxin in Foods.", *IUVA News*, 16(2), pp. 20-21.

Crook, J.A., Rossitto, P.V., Parko, J., Koutchma, T., and Cullor, J.S. (2015). "Efficacy of ultraviolet (uv-c) light in a thin-film turbulent flow for the reduction of milkborne pathogens.", *Foodborne Pathogens and Disease*, 12(6), pp. 506-513. doi: 10.1089/fpd.2014.1843

2014

Koutchma, T. (2014). *Adapting High Hydrostatic Pressure For Food Processing Operations*, Elsevier. (Book)

Koutchma, T. (2014). *Preservation and Shelf Life Extension: UV Applications for Fluid Foods*, Canada: Elsevier Inc. Academic Press. (Book)

Orłowska, M., Koutchma, T., Kostrzyńska, M., and Tang, J. (2014). "Surrogate organisms for pathogenic O157:H7 and non-O157 *Escherichia coli* strains for apple juice treatments by UV-C light at three monochromatic wavelengths.", *Food Control*, 47, pp. 647-655. doi: 10.1016/j.foodcont.2014.08.004

Cilliers, F.P., Gouws, P.A., Koutchma, T., Engelbrecht, Y., Adriaanse, C., and Swart, P. (2014). "A microbiological, biochemical and sensory characterisation of bovine milk treated by heat and ultraviolet (UV) light for manufacturing Cheddar cheese.", *Innovative Food Science and Emerging Technologies*, 23, pp. 94-106. doi: 10.1016/j.ifset.2014.03.005

Koutchma, T. (2014). *Food Plant Safety: UV Applications for Food and Nonfood Surfaces*, Elsevier. (Book)

Koutchma, T. (2014). *Ultraviolet light for preservation and shelf life extension of fluid foods, drinks and beverages*, Elsevier. (Book)

Orłowska, M., Koutchma, T., Kostrzyńska, M., Tang, J., and Defelice, C. (2014). "Evaluation of mixing flow conditions to inactivate *Escherichia coli* in opaque liquids using pilot-scale Taylor-Couette UV unit", *Journal of Food Engineering*, 120(1), pp. 100-109. doi: 10.1016/j.jfoodeng.2013.07.020

Zhu, Y., Koutchma, T., Warriner, K., and Zhou, T. (2014). "Reduction of Patulin in Apple Juice Products by UV Light of Different Wavelengths in the UVC Range.", *Journal of Food Protection*, 77(6), pp. 963-971. doi: 10.4315/0362-028X.JFP-13-429

## 2013

Zhu, Y., Koutchma, T., Warriner, K., Shao, S., and Zhou, T. (2013). "Kinetics of patulin degradation in model solution, apple cider and apple juice by ultraviolet radiation", *Food Science and Technology International*, 19(4), pp. 291-303. doi: 10.1177/1082013212452414

Orłowska, M., Koutchma, T., Grapperhaus, M., Gallagher, J., Schaefer, R., and Defelice, C. (2013). "Continuous and Pulsed Ultraviolet Light for Nonthermal Treatment of Liquid Foods. Part 1: Effects on Quality of Fructose Solution, Apple Juice, and Milk", *Food and Bioprocess Technology*, 6(6), pp. 1580-1592. doi: 10.1007/s11947-012-0779-8

Keener, L., Nicholson-Keener, S.M., and Koutchma, T. (2013). "Harmonization of legislation and regulations to achieve food safety: US and Canada perspective.", *Journal of the Science of Food and Agriculture*, 94(10), pp. 1947-1953. doi: 10.1002/jsfa.6295

## 2012

Juliano, P., Bilbao-Sáinz, C., Koutchma, T., Balasubramaniam, V.M., Clark, S., Stewart, C.M., Dunne, C.P., and Barbosa-Cánovas, G.V. (2012). "Shelf-Stable Egg-Based Products Processed by High Pressure Thermal Sterilization.", *Food Engineering Reviews*, 4(1), pp. 55-67. doi: 10.1007/s12393-011-9046-4

Gómez-López, V.M., Koutchma, T., and Linden, K.G. (2012). "Ultraviolet & Pulsed White Light", in Cullen, P.J., Tiwari, B and Valdramidis, V. (eds.) - *Novel Thermal and Non-Thermal Technologies for Fluid Foods*, Elsevier.

## 2011

Rawson, A., Patras, A., Tiwari, B.K., Noci, F., Koutchma, T., and Brunton, N. (2011). "Effect of thermal and non thermal processing technologies on the bioactive content of exotic fruits and their products: Review of recent advances.", *Food Research International*, 44(7), pp. 1875-1887. doi: 10.1016/j.foodres.2011.02.053

Fomey, L.J., Koutchma, T., and Ye, Z. (2011). "Characterization and Simulation of Ultraviolet Processing of Liquid Foods Using Computational Fluid Dynamics.", in Knoerzer, K., Juliano, P., Roupas, P. and Versteeg, C. (eds.) - *Innovative Food Processing Technologies: Advances in Multiphysics Simulation*, John Wiley & Sons, Ltd, Chapter 14, pp. 303-323.

Koutchma, T. (2011). "High pressure process design.", in Ahmed, J. and Rahman, M.S. (eds.) - *Handbook of Food Process Design*, Wiley - Blackwell.

Koutchma, T. (2011). "Pasteurization and Sterilization.", in Da-Wen Sun (ed.) - *Handbook of Food Safety Engineering*, CRC Press.

## Other Science Related Publications:

### 2015

Koutchma, T. and Keener, L. (2015). "Novel Food Safety Technologies Emerge in Food Production.", *Food Safety Magazine*, 2015(January).

Balamurugan, S., Ahmed, R., Gao, A., Koutchma, T., and Strange, P. (2015). "Effect of salt concentrations on the high pressure inactivation of *Listeria monocytogenes*.", Annual meeting of the International Association of Food Protection, Portland, OR, USA, July 28, 2015, Invited oral presentation.



## 2014

Koutchma, T. (2014). ""Ultraviolet Treatment of Orange Juice to Inactivate E. coli O157:H7 as Affected by Native Microflora" by Juan M. Oteiza, Leda Giannuzzi, Noemí Zaritzky [Food and Bioprocess Technology 3-4 (2010) 603-614]: UV Irradiation Dose Corrections (Letter).", Food and Bioprocess Technology, 7(4), pp. 1215-1216.

Zhu, Y., Koutchma, T., Warriner, K., and Zhou, T. (2014). "Reduction of patulin in apple juice products by UV light of different wavelengths in the UVC range.", International Association for Food Protection (IAFP) Annual Meeting, Indianapolis, Indiana, USA, August 3-6, 2014.

Hao, H.Y., Koutchma, T., Alexandra, S., Zhou, T., and Warriner, K. (2014). "Patulin Determination at Screen Printed Electrodes by Square Wave Voltammetry.", International Association for Food Protection (IAFP) Annual Meeting, Indianapolis, Indiana, USA, August 3-6, 2014.

## 2013

Koutchma, T. (2013). "Non-thermal and non-chemical UV Purification Achieves Better Safety and Quality of Food and Drink Ingredients.", World of Food Ingredients.

Koutchma, T. and Barnes, G. (2013). "Shelf Life Enhancement of Milk Products.", published in Food Technology.

Koutchma, T. (2013). "Bridging Advantages of UV Technology for Better Safety and Quality of Fluid Foods and Beverages with Cost Saving and Sustainability Opportunities.", IFT 2103, Chicago, IL, USA. (Presentation)

## 2012

Koutchma, T. (2012). "UV Technologies for Food Processing.", CIFST, Niagara Falls, Canada, May 2012. (Presentation)

Orłowska, M., Koutchma, T., Defelice, C., Kostrzynska, M., Bezanson, G.S., and Tang, J. (2012). "Application of the prototype Taylor-Couette UV reactor for the processing of opaque juices.", Canadian Institute of Food Science and Technology 50th National Conference (CIFST), Niagara Falls, ON, Canada, May 27 – 29, 2012, (Poster).

Koutchma, T. and Orłowska, M. (2012). "Ultraviolet Light for Processing Fruits and Fruit Products.", in Rodrigues, S. and Fernandes, F.A.N. (eds.) - Advances in Fruit Processing Technologies, CRC Press Taylor & Francis, Boca Raton, FL, USA, Chapter 1, pp. 2-27.

Zhu, Y., Koutchma, T., and Zhou, T. (2012). "Kinetics of Patulin Degradation in Model Solution, Apple Cider and Apple Juice by Ultraviolet Light.", CoFE, VA, USA, April, 2012. (Presentation)

Koutchma, T. (2012). "Gaps in emerging food processing technologies Second International Food Safety Working Group Workshop – Advances and Trends.", CIGR, Valencia, Spain, July 2-5, 2012. (Presentation)

## 2011

Koutchma, T. (2011). "Merging food processing technologies in the age of global food safety: Approaches and Updates in Research, Regulations and Validation.", 1st International CIGR Workshop on Food Safety, Agrosup, Dijon, France, April 14-15, 2011.

Koutchma, T., Orłowska, M., and Defelice, C. (2011). "Theoretical and Experimental Approaches to Improve Performance of UV systems for Liquid Foods and Beverages.", 6th International CIGR Technical Symposium. Toward a Sustainable Food Chain. Food Process, Bioprocessing and Food Quality Management. Section VI, Nantes, France, April 18-20, 2011.

Koutchma, T., Orłowska, M., and Defelice, C. (2011). "Ultraviolet Light for Safety of Fluid Foods and Beverages.", 2nd North American Conference on Ozone, Ultraviolet & Advanced Oxidation Technologies, Toronto, ON, Canada, September 18-20, 2011.

Rodríguez-González, O., Buckow, R., Koutchma, T., and Balasubramaniam, V.M. (2011). "Energy efficiency of selected nonthermal food processes for preserving apple juice.", Nonthermal Processing Division Workshop, Osnabrück, Germany, October 11-14, 2011.

Koutchma, T. (2011). "Ultraviolet Light as Control Measure in Food Processing.", Nonthermal Processing Division Workshop, Osnabrück, Germany, October 11-14, 2011.

Zhu, Y., Fan, W., Koutchma, T., Zhou, T., and Warriner, K. (2011). "Degradation of patulin in model solution and apple juice by ultraviolet radiation.", FSFN, December 6, 2011. (Presentation)

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## Research Publications:

2014

Kowalenko, C.G., Bittman, S., Neilsen, G.H., Kenney, E., Hunt, D.E., and Neilsen, D. (2014). "Potential for improving sulfur tests on agricultural soils in contrasting ecoregions of British Columbia, Canada.", *Geoderma Regional*, 1(C), pp. 10-20. doi : 10.1016/j.geodrs.2014.06.001

Kowalenko, C.G., Benoît, D.-L., and Babuin, D. (2014). "Use of Lithium Metaborate to Determine Total Phosphorus and Other Element Concentrations in Soil, Plant, and Related Materials.", *Communications in Soil Science and Plant Analysis*, 45(1), pp. 15-28. doi : 10.1080/00103624.2013.848884

2013

Bittman, S., Hunt, D.E., Lau, A.K., and Kowalenko, C.G. (2013). "Grass Height Affects Emission of Ammonia from Applied Broiler Manure.", in Bittman, S and Hunt, D. (eds.) - *Cool Forages - Advanced management of temperate forages*, Pacific Field Corn Association, Agassiz, BC, Canada.

Kowalenko, C.G. and Ilnat, M. (2013). "Residual effects of combinations of limestone, zinc and manganese applications on soil and plant nutrients under mild and wet climatic conditions.", *Canadian Journal of Soil Science*, 93(1), pp. 113-125. doi : 10.4141/CJSS2011-044

Hunt, D.E., Bittman, S., and Kowalenko, C.G. (2013). "Can Slurry Manure Replace Commercial Fertilizer?", .

Hunt, D.E., Bittman, S., Kowalenko, C.G., Forge, T.A., Grant, C.A., Gawalko, E.J., and Raworth, D.A. (2013). "Long Term Effects of Manure.", in Bittman, S and Hunt, D. (eds.) - *Cool Forages - Advanced management of temperate forages*, Pacific Field Corn Association, Agassiz, BC, Canada.

Hunt, D.E., Bittman, S., Kowalenko, C.G., and van Vliet, L.J.P. (2013). "Aerating Grassland Prior to Manure Application Reduces Runoff and Nutrient Loads.", in Bittman, S. and Hunt, D.E. (eds.) - *Cool Forages: Advanced management of temperate forages*, Pacific Field Corn Association, Agassiz, BC, Canada.

2012

Kowalenko, C.G. and Babuin, D. (2012). "Inherent factors limiting the use of laser diffraction for determining particle size distributions of soil and related samples.", *Geoderma*, 193-194, pp. 22-28. doi : 10.1016/j.geoderma.2012.09.006

Bittman, S., Liu, A., Hunt, D.E., Forge, T.A., Kowalenko, C.G., Chantigny, M.H., and Buckley, K.E. (2012). "Precision Placement of Separated Dairy Sludge Improves Early Phosphorus Nutrition and Growth in Corn (*Zea mays* L.).", *Journal of Environmental Quality*, 41(2), pp. 582-591. doi : 10.2134/jeq2011.0284

2011

Bittman, S., Hunt, D.E., Kowalenko, C.G., Chantigny, M.H., Buckley, K.E., and Bounaix, F. (2011). "Removing solids improves response of grass to surface-banded dairy manure slurry: A multiyear study.", *Journal of Environmental Quality*, 40(2), pp. 393-401. doi : 10.2134/jeq2010.0177

Kowalenko, C.G. and Ilnat, M. (2011). "Fraser oat and soil extraction responses to zinc and manganese applied to a soil with historic limestone treatments.", *Canadian Journal of Soil Science*, 91(4), pp. 647-659. doi : 10.4141/cjss10097

## Other Science Related Publications:

2014

Kowalenko, C.G. (2014). "Kowalenko and Babuin reply to: Comments on "Inherent factors limiting the use of laser diffraction for determining particle size distributions of soil and related samples" (*Geoderma* 2013; 193-194:22-28).", *Geoderma*, 226-227(1), pp. 420-421.

## 2013

Hunt, D.E., Bittman, S., and Kowalenko, C.G. (2013). "Summer time nitrous oxide emissions from long term plots receiving separated and whole dairy slurry manure.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013. (Abstract)

Hunt, D.E., Bittman, S., Kowalenko, C.G., Chantigny, M.H., and Lemke, R.L. (2013). "Winter time nitrous oxide emission from grass receiving whole and separated dairy slurry or fertilizer in a mild maritime climate.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013. (Abstract)

Bittman, S., Hunt, D.E., Kowalenko, C.G., and Poon, D. (2013). "Effect of Local Food Production on Phosphorus Budgets and Flows in Metro Vancouver and Peri-Urban Lower Fraser Valley.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013. (Abstract)

Bittman, S., Hunt, D.E., and Kowalenko, C.G. (2013). "Precision-Placed Separated Slurry Sludge Provides P and N For Silage Corn.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013. (Abstract)

## 2012

Hunt, D.E., Bittman, S., Chantigny, M.H., Kowalenko, C.G., and Lemke, R.L. (2012). "Removing solids from dairy slurry: Effect on N use efficiency and emissions of N<sub>2</sub>O.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012. (Abstract)

Bittman, S., Hunt, D.E., Chantigny, M.H., Kowalenko, C.G., and Lemke, R.L. (2012). "Precision Manure Injection on Nitrogen Use and N<sub>2</sub>O Emissions in Corn.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012. (Abstract)

## 2011

Hunt, D.E., Bittman, S., and Kowalenko, C.G. (2011). "Emissions of N<sub>2</sub>O from grass stands: effects of historical nutrient applications and stand termination methods.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Abstract)

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## Research Publications:

2016

Chai, L.L., Kröbel, R., Macdonald, D.J., Bittman, S., Beauchemin, K.A., Janzen, H.H., McGinn, S.M., and VanderZaag, A.C. (2016). "An ecoregion-specific ammonia emissions inventory of Ontario dairy farming: Mitigation potential of diet and manure management practices.", *Atmospheric Environment*, 126, pp. 1-14. doi: 10.1016/j.atmosenv.2015.11.030

Kröbel, R., Bolinder, M.A., Janzen, H.H., Little, S.M., VandenBygaart, A.J., and Kätterer, T. (2016). "Canadian farm-level soil carbon change assessment by merging the greenhouse gas model Holos with the Introductory Carbon Balance Model (ICBM).", *Agricultural Systems*, 143, pp. 76-85. doi: 10.1016/j.agsy.2015.12.010

2015

Congreves, K.A., Grant, B.B., Campbell, C.A., Smith, W.N., VandenBygaart, A.J., Kröbel, R., Lemke, R.L., and Desjardins, R.L. (2015). "Measuring and modelling the long-term impact of crop management on soil C sequestration in the semiarid Canadian prairies.", *Agronomy Journal*, 107(3), pp. 1141-1154. doi: 10.2134/agronj15.0009

Smith, E.G., Janzen, H.H., and Kröbel, R. (2015). "Yield and profitability of fallow and fertilizer inputs in long-term wheat rotation plots at Lethbridge, Alberta.", *Canadian Journal of Plant Science*, 95(3), pp. 579-587. doi: 10.4141/CJPS-2014-356

Singh, B., Ryan, J.J., Campbell, C.A., and Kröbel, R. (2015). "Nutrient Management and Water Use Efficiency for Sustainable Production of Rainfed Crops in the World's Dry Areas.", in Drechsel, P., Heffer, P., Magen, H., Mikkelsen, R., Wichelns, D. (eds.) - *Managing Water and Fertilizer for Sustainable Agricultural Intensification*, First edition.

2014

Chai, L.L., Kröbel, R., Janzen, H.H., Beauchemin, K.A., McGinn, S.M., Bittman, S., Atia, A., Edeogu, I., MacDonald, D., and Dong, R.L. (2014). "A regional mass balance model based on total ammoniacal nitrogen for estimating ammonia emissions from beef cattle in Alberta Canada.", *Atmospheric Environment*, 92, pp. 292-302. doi: 10.1016/j.atmosenv.2014.04.037

Grant, B.B., Smith, W.N., Campbell, C.A., Desjardins, R.L., Lemke, R.L., Kröbel, R., McConkey, B.G., and Smith, E.G. (2014). "Comparison of DayCent and DNDC models: Case studies using data from long-term experiments on the Canadian prairies.", in Del Grosso, S., Parton, B., Lajpat, A. (eds.) - *Advances in Modeling Agricultural Systems: Trans-disciplinary Research, Synthesize, Modeling, and Applications*, Volume 5, ASA, CSSA, and SSSA, Madison, WI, USA.

Sansoulet, J.B., Pattey, E., Kröbel, R., Grant, B.B., Smith, W.N., Jégo, G., Desjardins, R.L., Tremblay, N., and Tremblay, G. (2014). "Comparing the performance of STICS, DNDC and DayCent models for predicting N uptake and biomass of spring wheat in Eastern Canada.", *Field Crops Research*, 156, pp. 135-150. doi: 10.1016/j.fcr.2013.11.010

Hünerberg, M., Little, S.M., Beauchemin, K.A., McGinn, S.M., O'Connor, D., Okine, E.K., Harstad, O.M., Kröbel, R., and McAllister, T.A. (2014). "Feeding high concentrations of corn dried distillers' grains decreases methane, but increases nitrous oxide emissions from beef cattle production.", *Agricultural Systems*, 127, pp. 19-27. doi: 10.1016/j.agsy.2014.01.005

Kröbel, R., Lemke, R.L., Campbell, C.A., Zentner, R.P., McConkey, B.G., Steppuhn, H., De Jong, R., and Wang, H. (2014). "Water use efficiency of spring wheat in the semi-arid Canadian Prairies: Effect of legume green manure, type of spring wheat, and cropping frequency.", *Canadian Journal of Soil Science*, 94(2), pp. 223-235. doi: 10.4141/CJSS2013-016

2013

Smith, W.N., Grant, B.B., Desjardins, R.L., Kröbel, R., Qian, B., Worth, D.E., McConkey, B.G., and Drury, C.F. (2013). "Assessing the effects of climate change on crop production and GHG emissions in Canada.", *Agriculture, Ecosystems and Environment*, 179, pp. 139-150. doi: 10.1016/j.agee.2013.08.015

Kröbel, R., Janzen, H.H., Beauchemin, K.A., Bonesmo, H., Little, S.M., and McAllister, T.A. (2013). "A proposed approach to estimate and reduce the environmental impact from whole farms.", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 62(4), pp. 225-232. doi: 10.1080/09064702.2013.770912

2012

Kröbel, R., Campbell, C.A., Zentner, R.P., Lemke, R.L., Desjardins, R.L., and Karimi-Zindashty, Y. (2012). "Effect of N, P and cropping frequency on nitrogen use efficiencies of spring wheat in the Canadian semi-arid Prairie.", *Canadian Journal of Plant Science*, 92(1), pp. 141-154. doi : 10.4141/CJPS2011-067

Kröbel, R., Campbell, C.A., Zentner, R.P., Lemke, R.L., Steppuhn, H., Desjardins, R.L., and DeJong, R. (2012). "Nitrogen and phosphorus effects on water use efficiency of spring wheat grown in a semi-arid region of the Canadian Prairies.", *Canadian Journal of Soil Science*, 92(4), pp. 573-587. doi : 10.4141/CJSS2011-055

Smith, W.N., Grant, B.B., Campbell, C.A., McConkey, B.G., Desjardins, R.L., Kröbel, R., and Malhi, S.S. (2012). "Crop residue removal effects on soil carbon: Measured and inter-model comparisons.", *Agriculture, Ecosystems and Environment*, 161, pp. 27-38. doi : 10.1016/j.agee.2012.07.024

2011

Kröbel, R., Smith, W.N., Grant, B.B., Desjardins, R.L., Campbell, C.A., Tremblay, N., Li, C.S., Zentner, R.P., and McConkey, B.G. (2011). "Development and evaluation of a new Canadian spring wheat sub-model for DNDC.", *Canadian Journal of Soil Science*, 91(4), pp. 503-520. doi : 10.4141/cjss2010-059

Sun, Q.P., Kröbel, R., Müller, T., Römheld, V., Cui, Z.L., Zhang, F.S., and Chen, X.P. (2011). "Optimisation of yield and water-use of different cropping systems for sustainable groundwater use in North China Plain.", *Agricultural Water Management*, 98(5), pp. 808-814. doi : 10.1016/j.agwat.2010.12.007

## Other Science Related Publications:

2015

Chai, L.L., Kröbel, R., Beauchemin, K.A., Macdonald, D.J., Janzen, H.H., McGinn, S.M., and Bittman, S. (2015). "Greenhouse gases and ammonia emissions from grazing beef cattle in Alberta and Ontario Canada.", *Canadian Society for Bioengineering Conference/CSBE/SCGAB 2015 Annual Conference*, Edmonton, AB, Canada, July 5-8, 2015, Presentation.

Alemu, A.W., Little, S.M., Hao, X., Iwaasa, A.D., Baron, V.S., Chai, L.L., Janzen, H.H., Beauchemin, K.A., Thompson, D., and Kröbel, R. (2015). "Application of life cycle assessment approach to beef production systems in the Canadian prairies with regard to environmental impact and energy use efficiency.", *LCA Conference XV - A bright green future*, Vancouver, Canada, October 6-8, 2015, Presentation.

Kröbel, R., Li, S., Little, S.M., Vanin, C., and Janzen, H.H. (2015). "Calculating greenhouse gases from the Black-Brook watershed, New Brunswick, using the Holosmodel.", *Conference "On Sustainability 2015"*, Copenhagen, Denmark.

Little, S.M., Beauchemin, K.A., Benchaar, C., Chai, L.L., Janzen, H.H., Kröbel, R., McGeough, E.J., and VanderZaag, A.C. (2015). "Demonstrating the effect of diet on the carbon footprint of a Canadian dairy scenario using whole-systems analysis and the Holos model: corn silage vs. alfalfa silage.", *LCA Conference XV - A bright green future*, Vancouver, Canada, October 6-8, 2015, Presentation.

Martel, M., Kröbel, R., Hrapovic, L., Janzen, H.H., McConkey, B.G., Glenn, A.J., and Wilson, H.F. (2015). "A Canadian water budget model for water footprint assessment of crop production.", *Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference*, Montreal, QC, Canada, July 5-10, 2015. (Poster)

Kröbel, R., Janzen, H.H., Ellert, B.H., Beauchemin, K.A., and McAllister, T.A. (2015). "Agriculture is neither the culprit nor the solution to Climate Change.", *"Our Common Future under Climate Change" Conference*, Paris, France, July 7-10, 2015. (Poster)

Chai, L.L., Kröbel, R., Macdonald, D.J., Bittman, S., Beauchemin, K.A., Janzen, H.H., and McGinn, S.M. (2015). "Developing nitrogen loss fractions for beef and dairy cattle manure storage systems in Canadian ecoregions: a comparison between West and East.", *Canadian Society for Bioengineering Conference/CSBE/SCGAB 2015 Annual Conference*, Edmonton, AB, Canada, July 5-8, 2015.

2014

Iwaasa, A.D., Baron, V.S., Lemke, R.L., Wang, H., Kröbel, R., Schellenberg, M.P., and McConkey, B.G. (2014). "AGGP Cropping System-Grassland Research and Extension: Semiarid Ecoregion.", *AGGP cropping system – grassland research and extension: Semiarid Ecoregion*, AAFC-Saskatoon, Saskatoon, Canada, March 20, 2014.

Desjardins, R.L., Worth, D.E., Vergé, X.P.C., VanderZaag, A.C., Kröbel, R., Janzen, H.H., Maxime, D., and Dyer, J.A. (2014). "The carbon footprint of agricultural products: A measure of the impact of agricultural production on climate change.", *International Conference on Promoting Weather and Climate Information for Agriculture and Food Security*, Antalya, Turkey, April 7-9, 2014.

Hazendonk, P., Brown, M., Byrne, J.M., Harrison, T., Mueller, R., Peacock, K., Usher, J., Yalamova, R., Kröbel, R., Larsen, J., and McNaughton, R. (2014). "Regional Renewable Energy Cooperatives.", American Geophysical Union Fall Meeting 2014, December 2014, Presentation. (Abstract)

## 2013

Kröbel, R., Janzen, H.H., Little, S.M., and Li, S. (2013). "Preliminary Holosmodel assessment of GHG emissions from crop production in the Black-Brook watershed, NB, during the years 1988 – 1997.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Chai, L.L., Kröbel, R., Janzen, H.H., Beauchemin, K.A., McGinn, S.M., Bittman, S., Atia, A., and Edeogu, I. (2013). "A mass balance model based on total ammoniacal nitrogen for estimating ammonia volatilization from beef cattle manure management in Alberta in Canada.", ASABE Annual International Meeting, Kansas City, MO, USA, July 21 -24, 2013, paper #:1596572.

Little, S.M., Beauchemin, K.A., Janzen, H.H., Kröbel, R., and Maclean, K. (2013). "Holos - Methodology & Algorithms for Version 2.0.", AAFC Lethbridge, Lethbridge, AB, March 21, 2013. (Presentation)

## 2012

Kröbel, R. (2012). "HOLOS – a GHG calculator growing up.", 50th Annual Alberta Soil Science Workshop, Lethbridge, AB, Canada, February 19-21, 2013. (Presentation)

Kröbel, R. (2012). "HOLOS – current projects and development visions.", NJF Seminar 453 Agriculture and greenhouse gases, Oslo, Norway, November 5-6, 2012. (Presentation)

Sansoulet, J.B., Pattey, E., Jégo, G., Kröbel, R., Grant, B.B., Smith, W.N., Tremblay, N., and Tremblay, G.F. (2012). "Comparing STICS, DNDC and DAYCENT model simulations to assess the impacts of fertilization and climate variations on N uptake and biomass production from spring wheat in Eastern Canada.", IXe Séminaire du modèle de culture STICS, Sainte-Montaine, France, October 16-19, 2012.

## 2011

Kröbel, R., Lemke, R.L., Campbell, C.A., Zentner, R.P., and Brandt, K. (2011). "Nitrogen and Phosphorus effect on water use - and nutrient use - efficiency in the Canadian semi-arid prairie.", Soils and Crops Workshop 2011, Prairieland Park, Saskatoon, SK, Canada, March 15-16, 2011, [CD-ROM]. (Workshop)

Smith, W.N., Grant, B.B., Campbell, C.A., McConkey, B.G., Desjardins, R.L., Kröbel, R., and Malhi, S.S. (2011). "Analysis and inter-model comparisons of crop residue removal effects on soil carbon.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Poster)

## **Kwabiah, Allan B., Ph.D., P. Agr.**

Research Scientist

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### **Other Science Related Publications:**

2011

Kwabiah, A.B. (2011). "Corn Silage Technology, manure management and efficiency of new land clearing.", Bryan Harvey and Michael Gosse and Company visit, AAFC Atlantic Cool Climate Crop Research Centre, St. John's, NL, Canada, September 20, 2011. (Presentation)

# Laberge, Serge, Ph.D.

Research Scientist

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## Research Publications:

2015

Ghobakhlou, A.F., Johnston, A., Harris, L.J., Antoun, H., and Laberge, S. (2015). "Microarray transcriptional profiling of Arctic Mesorhizobium strain N33 at low temperature provides insights into cold adaptation strategies.", *BMC Genomics*, 16(1 Article 383). doi: 10.1186/s12864-015-1611-4

2013

Ghobakhlou, A.F., Laberge, S., Antoun, H., Wishart, D.S., Xia, J., Krishnamurthy, R., and Mandal, R. (2013). "Metabolomic analysis of cold acclimation of arctic Mesorhizobium sp. Strain N33.", *PLoS ONE*, 8(12: Article number e84801), pp. 1-15. doi: 10.1371/journal.pone.0084801

Kolotilin, I., Kaldis, A., Pereira, E.O., Laberge, S., and Menassa, R. (2013). "Optimization of transplastomic production of hemicellulases in tobacco: effects of expression cassette configuration and tobacco cultivar used as production platform on recombinant.", *Biotechnology for Biofuels*, 6(65), pp. 1-15.

Castonguay, Y., Dubé, M.-P., Cloutier, J., Bertrand, A., Michaud, R., and Laberge, S. (2013). "Molecular physiology and breeding at the crossroads of cold hardiness improvement.", *Physiologia Plantarum*, 147(1), pp. 64-74. doi: 10.1111/j.1399-3054.2012.01624.x

2012

Mupondwa, E.K., Li, X., Tabil, L.G., Phani, A., Sokhansanj, S., Stumborg, M., Gruber, M.Y., and Laberge, S. (2012). "Technoeconomic analysis of wheat straw densification in the Canadian Prairie Province of Manitoba.", *Bioresource Technology*, 110, pp. 355-363. doi: 10.1016/j.biortech.2012.01.100

2011

Castonguay, Y., Dubé, M.-P., Cloutier, J., Michaud, R., Bertrand, A., and Laberge, S. (2011). "Intron-length polymorphism identifies a Y2K4 dehydrin variant linked to superior freezing tolerance in alfalfa.", *Theoretical and Applied Genetics (TAG)*, 124(5), pp. 809-819. doi: 10.1007/s00122-011-1735-0

Castonguay, Y., Bertrand, A., Michaud, R., and Laberge, S. (2011). "Cold-induced biochemical and molecular changes in alfalfa populations selectively improved for freezing tolerance.", *Crop Science*, 51(5), pp. 2132-2144. doi: 10.2135/cropsci2011.02.0060

## Other Science Related Publications:

2013

Kolotilin, I., Kaldis, A., Pereira, E.O., Laberge, S., and Menassa, R. (2013). "Diverse Effects of Chloroplast Expression Cassette Configuration on Transplastomic Production of Hemicellulases in Tobacco.", 3rd International Symposium on Chloroplast Genomics and Genetic Engineering, Rutgers University, New Brunswick, NJ, USA, May 8-11, 2013, L33, P603, Published in: *Biotechnology for Biofuels*. 6(1):65.

2012

Pouleur, S., Audy, P., Gilbert, G., and Laberge, S. (2012). "Première mention du Polymyxa graminis chez le maïs au Canada.", Congrès annuel de la Société de Protection des Plantes du Québec (SPPQ), Québec, QC, Canada, du 5 au 6 juin 2013.

Castonguay, Y., Dubé, M.-P., Cloutier, J., Michaud, R., Bertrand, A., and Laberge, S. (2012). "Intron-length polymorphism identifies a Y2K4 dehydrin variant linked to superior freezing tolerance in alfalfa (Erratum).", *Theoretical and Applied Genetics (TAG)*, 124(5), pp. 821-824.



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## Research Publications:

2016

Lacasse, P., Ollier, S., Lollivier, V., and Boutinaud, M. (2016). "New insights into the importance of prolactin in dairy ruminants.", *Journal of Dairy Science (JDS)*, 99(1), pp. 864-874. doi: 10.3168/jds.2015-10035

2015

Ollier, S., Zhao, X., and Lacasse, P. (2015). "Effects of feed restriction and prolactin-release inhibition at drying-off on susceptibility to new intramammary infection in cows.", *Journal of Dairy Science (JDS)*, 98(1), pp. 221-228. doi: 10.3168/jds.2014-8426

Lacasse, P. and Ollier, S. (2015). "The dopamine antagonist domperidone increases prolactin concentration and enhances milk production in dairy cows.", *Journal of Dairy Science (JDS)*, 98(11), pp. 7856-7864. doi: 10.3168/jds.2015-9865

Lollivier, V., Lacasse, P., Arizala, J.A., Lambertson, P., Wiart, S., Portanguen, J., Bruckmaier, R.M., and Boutinaud, M. (2015). "In vivo inhibition followed by exogenous supplementation demonstrates galactopoietic effects of prolactin on mammary tissue and milk production in dairy cows.", *Journal of Dairy Science (JDS)*. doi: 10.3168/jds.2015-9853

Veh, K.A., Klein, R.C., Ster, C., Keefe, G., Lacasse, P., Scholl, D., Roy, J.-P., Haine, D., Dufour, S., Talbot, B.G., Ribon, A.O.B., and Malouin, F. (2015). "Genotypic and Phenotypic characterization of *Staphylococcus aureus* causing persistent and non-persistent subclinical bovine intramammary infections during lactation or the dry period.", *Journal of Dairy Science (JDS)*, 98(1), pp. 155-168. doi: 10.3168/jds.2014-8044

2014

Ollier, S., Zhao, X., and Lacasse, P. (2014). "Effects of feed restriction and prolactin-release inhibition at drying off on metabolism and mammary gland involution in cows.", *Journal of Dairy Science (JDS)*, 97(8), pp. 4942-4954. doi: 10.3168/jds.2014-7914

Lacasse, P., Vinet, C.M., and Petitclerc, D. (2014). "Effect of prepartum photoperiod and melatonin feeding on milk production and prolactin concentration in dairy heifers and cows.", *Journal of Dairy Science (JDS)*, 97(6), pp. 3589-3598. doi: 10.3168/jds.2013-7615

Ponchon, B., Lacasse, P., Silanikove, N., Ollier, S., and Zhao, X. (2014). "Effects of intra-mammary infusions of casein hydrolysate, EGTA and lactose at drying-off on mammary gland involution.", *Journal of Dairy Science (JDS)*, 97(2), pp. 779-788. doi: 10.3168/jds.2013-7062

Palin, M.-F., Côrtes, C., Benchaar, C., Lacasse, P., and Petit, H.V. (2014). "mRNA Expression of lipogenic enzymes in mammary tissue and fatty acid profile in milk of dairy cows fed flax hulls and infused with flax oil in the abomasum.", *British Journal of Nutrition*, 111(6), pp. 1011-1020. doi: 10.1017/S0007114513003589

Lacasse, P. and Ollier, S. (2014). "Effect of premilking stimulation and milking frequency on milking-induced prolactin release in lactating dairy cows.", *Domestic Animal Endocrinology*, 47(1), pp. 47-54. doi: 10.1016/j.domaniend.2013.11.007

2013

Ollier, S., Zhao, X., and Lacasse, P. (2013). "Effect of prolactin-release inhibition on milk production and mammary gland involution at drying-off in cows.", *Journal of Dairy Science (JDS)*, 96(1), pp. 335-343. doi: 10.3168/jds.2012-5955

Ster, C., Allard, M., Boulanger, S., Lamontagne Boulet, M., Mulhbach, J., Lafontaine, D.A., Marsault, É., Lacasse, P., and Malouin, F. (2013). "Experimental treatment of *Staphylococcus aureus* bovine intramammary infection using a guanine riboswitch ligand analog.", *Journal of Dairy Science (JDS)*, 96(2), pp. 1000-1008. doi: 10.3168/jds.2012-5890

Schogor, A.L.B., Palin, M.-F., dos Santos, G.T.D., Benchaar, C., Lacasse, P., and Petit, H.V. (2013). "Mammary gene expression and activity of antioxidant enzymes and oxidative indicators in the blood, milk, mammary tissue and ruminal fluid of dairy cows fed flax meal.", *British Journal of Nutrition*, 110(10), pp. 1743-1750. doi: 10.1017/S0007114513001220

Allard, M., Ster, C., Jacob, C.L., Scholl, D.T., Diarra, M.S., and Lacasse, P. (2013). "The expression of a putative exotoxin and an ABC transporter during bovine intramammary infection contributes to the virulence of *Staphylococcus aureus*.", *Veterinary Microbiology*, 162(2-4), pp. 761-770. doi: 10.1016/j.vetmic.2012.09.029

Chedly, H.B., Lacasse, P., Mamet, P.-G., and Boutinaud, M. (2013). "The decrease in milk yield during once daily milking is due to regulation of synthetic activity rather than apoptosis of mammary epithelial cells in goats.", *Animal*, 7(1), pp. 124-133. doi : 10.1017/s1751731112001176

## 2012

Borucki Castro, S.I., Berthiaume, R.R., Robichaud, A., and Lacasse, P. (2012). "Effects of iodine intake and teat-dipping practices on milk iodine concentrations in dairy cows.", *Journal of Dairy Science (JDS)*, 95(1), pp. 213-220. doi : 10.3168/jds.2011-4679

Lacasse, P., Lollivier, V., Dessauge, F., Bruckmaier, R.M., Ollier, S., and Boutinaud, M. (2012). "New developments on the galactopoietic role of prolactin in dairy ruminants.", *Domestic Animal Endocrinology*, 43(2), pp. 154-160. doi : 10.1016/j.domaniend.2011.12.007

Ster, C., Loisel, M.C., and Lacasse, P. (2012). "Effect of postcalving serum nonesterified fatty acids concentration on the functionality of bovine immune cells.", *Journal of Dairy Science (JDS)*, 95(2), pp. 708-717. doi : 10.3168/jds.2011-4695

Côtes, C., Palin, M.-F., Gagnon, N., Benchaar, C., Lacasse, P., and Petit, H.V. (2012). "Mammary gene expression and activity of antioxidant enzymes and concentration of the mammalian lignan enterolactone in milk and plasma of dairy cows fed flax lignans and infused with flax oil in the abomasum.", *British Journal of Nutrition*, 108(8), pp. 1390-1398. doi : 10.1017/S0007114511006829

Carbonneau, E., de Passillé, A.M.B., Rushen, J.P., Talbot, B.G., and Lacasse, P. (2012). "The effect of incomplete milking or nursing on milk production, blood metabolites, and immune functions of dairy cows.", *Journal of Dairy Science (JDS)*, 95(1), pp. 6503-6512. doi : 10.3168/jds.2012-5643

Boutinaud, M., Lollivier, V., Finot, L., Bruckmaier, R.M., and Lacasse, P. (2012). "Mammary cell activity and turnover in dairy cows treated with the prolactin-release inhibitor quinagolide and milked once daily.", *Journal of Dairy Science (JDS)*, 95(1), pp. 177-187. doi : 10.3168/jds.2011-4461

## 2011

Chedly, H.B., Lacasse, P., Mamet, P.-G., Komara, M., Marion, S., and Boutinaud, M. (2011). "Use of milk epithelial cells to study regulation of cell activity and apoptosis during once-daily milking in goats.", *Animal*, 5(4), pp. 572-579. doi : 10.1017/S1751731110002284

Lacasse, P., Lollivier, V., Bruckmaier, R.M., Boisclair, Y.R., Wagner, G.F., and Boutinaud, M. (2011). "Effect of the prolactin-release inhibitor quinagolide on lactating dairy cows.", *Journal of Dairy Science (JDS)*, 94(3), pp. 1302-1309. doi : 10.3168/jds.2010-3649

Borucki Castro, S.I., Lacasse, P., Fouquet, A., Beraldin, F., Robichaud, A., and Berthiaume, R.R. (2011). "Feed iodine concentrations on farms with contrasting levels of iodine in milk.", *Journal of Dairy Science (JDS)*, 94(9), pp. 4684-4689. doi : 10.3168/jds.2010-3714

Bernier-Dodier, P., Girard, C.L., Talbot, B.G., and Lacasse, P. (2011). "Effect of dry period management on mammary gland function and its endocrine regulation in dairy cows.", *Journal of Dairy Science (JDS)*, 94(10), pp. 4922-4936. doi : 10.3168/jds.2010-4116

## Other Science Related Publications:

### 2014

Boutinaud, M., Lollivier, V., Yartl, J., Arizala, J.A., Lacasse, P., Mamet, P.-G., Dessauge, F., and Quesnel, H. (2014). "Un nouvel indicateur phénotypique de la persistance de la lactation des vaches laitières: le nombre de cellules épithéliales exfoliées dans le lait.", 21e Rencontres Recherches Ruminants, Paris, France, December 5-6, 2014.

Lacasse, P., Ster, C., Loisel, M.C., and Carbonneau, E. (2014). "Effect of postpartum milking management on metabolic dysfunctions and immune functions of dairy cows.", CBMRN Annual Scientific Meeting, Toronto, Canada, June 11-12, 2014.

Ollier, S. and Lacasse, P. (2014). "The dopamine antagonist domperidone increases prolactin concentration and milk production in dairy cows.", *Journal of Dairy Science (JDS)*, 97(E-Suppl.1: 203), pp. 407. (Abstract)

2012

Ollier, S., Zhao, X., and Lacasse, P. (2012). "Effects of feed restriction and prolactin-release inhibition at drying-off on milk production, metabolism and mammary gland involution.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, Published in: J. Dairy Sci. Vol. 95, E-Suppl. 1: 301 (T134). (Abstract)

Lacasse, P. and Zhao, X. (2012). "Régie novatrice destroupeaux laitiers québécois: repenser le tarissement.", Forum Technologique NOVALAIT / IDF Dairy Science and Technology Week 2012, Hôtel et Suites Le Dauphin, Drummondville, QC, Canada, May 29, 2012, P2012-02. (Abstract)

Ster, C., Côté-Gravel, J., Allard, M., Gagnon, S., Potter, A., Talbot, B.G., Lacasse, P., and Malouin, F. (2012). "A focus on genes expressed by Staphylococcus aureus during bovine intramammary infection for vaccine development.", World Dairy Summit 2012, Cape Town, South Africa, November 4-8, 2012.

Ollier, S., Zhao, X., Talbot, B.G., and Lacasse, P. (2012). "Management of Drying-off and susceptibility to new IMI.", Canadian Bovine Mastitis Research Network (CBMRN) Annual Scientific Meeting 2012, Montréal, QC, Canada, November 22-23, 2012, P14. (Poster)

Ollier, S., Zhao, X., Talbot, B.G., and Lacasse, P. (2012). "Effects of feed restriction and prolactin-release inhibition at drying-off on milk production, metabolism and mammary gland involution.", Canadian Bovine Mastitis Research Network (CBMRN) Annual Scientific Meeting 2012, Montréal, QC, Canada, November 22-23, 2012. (Poster)

Veh, K.A., Ster, C., Jacob, C.L., Talbot, B.G., Scholl, D., Roy, J.-P., Dufour, S., Keefe, G., Haine, D., Macdonald, K., Lacasse, P., and Malouin, F. (2012). "Validation of Staphylococcus aureus Virulence Markers as Prognostic Tools for Intramammary Persistence.", Canadian Bovine Mastitis Research Network (CBMRN) Annual Scientific Meeting 2012, Montréal, QC, Canada, November 22-23, 2012. (Poster)

Ponchon, B., Lacasse, P., Silanikove, N., and Zhao, X. (2012). "Effects of intra-mammary infusions of casein hydrolysate, EGTA, and lactose at drying-off on mammary gland involution.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, Published in: J. Dairy Sci. Vol. 95, E-Suppl. 1: 553 (W150). (Poster)

Malouin, F., Ster, C., Talbot, B.G., Scholl, D., Roy, J.-P., Dufour, S., Haine, D., Keefe, G., Macdonald, K., and Lacasse, P. (2012). "Validation of Staphylococcus aureus virulence markers as prognostic tools for intramammary persistence.", Canadian Bovine Mastitis Research Network (CBMRN) Annual Scientific Meeting 2012, Montréal, QC, Canada, November 22-23, 2012, pp. 8.

Côté-Gravel, J., Ster, C., Allard, M., Gagnon, S., Boulanger, S., Mulhbach, J., Lafontaine, D.A., Scholl, D., Diarra, M.S., Lacasse, P., and Malouin, F. (2012). "Mise en évidence de gènes utilisés par Staphylococcus aureus pendant l'infection intra-mammaire et utilisation de ceux-ci comme cibles thérapeutiques: développement d'une nouvelle classe d'antibiotique et d'un vaccin contre S. aureus pour le contrôle de la mammite bovine.", Forum Technologique NOVALAIT / IDF Dairy Science and Technology Week 2012, Hôtel et Suites Le Dauphin, Drummondville, QC, Canada, May 29, 2012.

Malouin, F., Ster, C., Talbot, B.G., Potter, A., and Lacasse, P. (2012). "Protective effect of vaccination using Staphylococcus aureus antigens that are only expressed during bovine intramammary infections: challenge in dairy cows.", Canadian Bovine Mastitis Research Network (CBMRN) Annual Scientific Meeting 2012, Montréal, QC, Canada, November 22-23, 2012, #P9. (Poster)

2011

Ster, C., Lacasse, P., Mulhbach, J., Allard, M., Brouillette, É., Lafontaine, D.A., and Malouin, F. (2011). "A Novel Class of Riboswitch-Targeting Antibiotics for the Treatment of Staphylococcus aureus Bovine Intra-Mammary Infections (IMI).", 51st Interscience conference on Antimicrobial agents and Chemotherapy (ICAAC), Chicago, IL, USA, September 17-20, 2011, pp. F1-1353.

Ster, C., Boulanger, S., Allard, M., Talbot, B.G., Lacasse, P., and Malouin, F. (2011). "Vaccine Potential of Proteins Encoded by Genes Expressed by Staphylococcus aureus During Bovine Mastitis.", Canadian Bovine Mastitis Research Network (CBMRN) Annual Scientific Meeting 2010, Toronto, ON, Canada, November 10-12, 2010. (Poster)

Ollier, S., Zhao, X., Talbot, B.G., and Lacasse, P. (2011). "Effect of drying-off management on milk production, metabolism and mammary gland involution.", Canadian Bovine Mastitis Research Network (CBMRN) Annual Scientific Meeting 2011, Montréal, QC, Canada, November 8-9, 2011. (Poster)

Ster, C., Scholl, D., Roy, J.-P., Keefe, G., Lacasse, P., Talbot, B.G., and Malouin, F. (2011). "Validation of Staphylococcus aureus virulence markers as prognostic tools for intramammary persistence.", Canadian Bovine Mastitis Research Network (CBMRN) Annual Scientific Meeting 2011, Montréal, QC, Canada, November 8-9, 2011. (Poster)

Ster, C., Lacasse, P., Talbot, B.G., and Malouin, F. (2011). "Finding the weapons used by Staphylococcus aureus during bovine intra-mammary infection and use of this knowledge for the development of a new class of antibiotics and a vaccine.", Canadian Bovine Mastitis Research Network (CBMRN) Annual Scientific Meeting 2011, Montréal, QC, Canada, November 8-9, 2011. (Poster)

Ollier, S., Maisonnasse, P., Bernier-Dodier, P., and Lacasse, P. (2011). "Factors affecting the milking-induced prolactin release in dairy cows.", 7th International Congress on Farm Animal Endocrinology (ICFAE 2011), Bern, Switzerland, August 24-26, 2011, pp. 21-22. (Abstract)

Bernier-Dodier, P., Lacasse, P., Tremblay, G.F., and Tremblay, G. (2011). "Characterization of a novel bovine mammary epithelial cell line.", *Journal of Dairy Science (JDS)*, 94(E-Suppl. 1), pp. 76 (#M196). (Abstract)

Borucki Castro, S.I., Berthiaume, R.R., Robichaud, A., and Lacasse, P. (2011). "Effects of predipping practices on milk iodine concentrations.", *Journal of Dairy Science (JDS)*, 94(E-Suppl. 1), pp. 301 (#T106). (Abstract)

Ollier, S., Zhao, X., and Lacasse, P. (2011). "Effect of prolactin-release inhibition on milk production and mammary gland involution at drying-off.", ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 10-14, 2011, Published in: *Journal of Dairy Science (JDS)*, 94(E-Suppl. 1), pp. 564 (#W147). (Abstract)

Ollier, S., Zhao, X., Talbot, B.G., and Lacasse, P. (2011). "Effect of drying-off management on milk production, metabolism and mammary gland involution.", Dairy Research Cluster: Communications and Consultation Workshop - Shaping a dairy research agenda for 2013 - 2018, Queen Elizabeth Hotel, Montréal, QC, Canada, November 16-17, 2011. (Poster)

Lacasse, P. (2011). "Improvement of cow wellbeing and resistance to mastitis.", Dairy Research Cluster: Communications and Consultation Workshop - Shaping a dairy research agenda for 2013 - 2018, Queen Elizabeth Hotel, Montréal, QC, Canada, November 16-17, 2011.

Ollier, S. and Lacasse, P. (2011). "Tarir sans réduire la capacité à combattre la mammite.", *Le Producteur de Lait Québécois*, 32(1), pp. 56-57.

Lacasse, P., Lollivier, V., Bruckmaier, R.M., Ollier, S., and Boutinaud, M. (2011). "New developments on the galactopoietic role of prolactin in dairy ruminants.", 7th International Congress on Farm Animal Endocrinology (ICFAE 2011), Bern, Switzerland, August 24-26, 2011, pp. 20-21.

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Biologist/Research Scientist

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## Research Publications:

2015

Bélanger, G., Ziadi, N., Pageau, D., Grant, C.A., Lafond, J., and Nyiraneza, J. (2015). "Shoot Growth, Phosphorus–Nitrogen Relationships, and Yield of Canola in Response to Mineral Phosphorus Fertilization.", *Agronomy Journal*, 107(4), pp. 1458-1464. doi : 10.2134/agronj15.0050

Paré, M., Lafond, J., and Pageau, D. (2015). "Best Management Practices in Northern Agriculture: A Twelve-Year Rotation and Soil Tillage Study in Saguenay–Lac-Saint-Jean.", *Soil & Tillage Research*, 150, pp. 83-92. doi : 10.1016/j.still.2015.01.012

Bélanger, G., Ziadi, N., Pageau, D., Grant, C.A., Högnäsbacka, M., Virkajärvi, P., Hu, Z.Y., Lu, J., Lafond, J., and Nyiraneza, J. (2015). "A Model of Critical Phosphorus Concentration in the Shoot Biomass of Wheat.", *Agronomy Journal*, 107(3), pp. 963-970. doi : 10.2134/agronj14.0451

2014

Messiga, A.J., Ba, Y., Ziadi, N., Bélanger, G., and Lafond, J. (2014). "Assessing the depletion of soil P following sequential extractions with Mehlich-3 and Olsen solutions.", *Archives of Agronomy and Soil Science*, 60(10), pp. 1445-1458. doi : 10.1080/03650340.2014.884709

Lafond, J. (2014). "Fertilisation calcique et magnésienne dans la production du bleuets nain sauvage au Québec.", *Canadian Journal of Soil Science*, 94(1), pp. 67-76. doi : 10.4141/CJSS2013-048

2013

Lafond, J. and Ziadi, N. (2013). "Soil nitrogen and phosphorus bioavailability to wild lowbush blueberry produced in Quebec.", *Canadian Journal of Soil Science*, 93(1), pp. 33-44. doi : 10.4141/CJSS2011-106

Parent, S.-É., Parent, L.-É., Egozcue, J.J., Rozane, D.-E., Hernandes, A., Lapointe, L., Hébert-Gentile, V., Naess, K., Marchand, S., Lafond, J., Mattos Jr., D., Barlow, P., and Natale, W. (2013). "The plant ionome revisited by the nutrient balance concept.", *Frontiers in Plant Science*, 4(Article #39), pp. 1-10. doi : 10.3389/fpls.2013.00039

Lafond, J. (2013). "Boundary-Line Approach to Determine Minimum and Maximum Leaf Micronutrient Concentrations in Wild Lowbush Blueberry in Quebec, Canada.", *International Journal of Fruit Science*, 13(3), pp. 345-355. doi : 10.1080/15538362.2013.748377

2011

Lafond, J. and Ziadi, N. (2011). "Nitrogen and phosphorus fertilization in wild lowbush blueberry in Quebec.", *Canadian Journal of Plant Science*, 91(3), pp. 535-544. doi : 10.4141/cjps10133

## Other Science Related Publications:

2015

Lafond, J. (2015). Fertilisation dans le bleuets sauvage : détermination des seuils de réponse de la culture selon les concentrations des éléments nutritifs dans les feuilles. Saison 2013-2014. Rapport préliminaire. 42p. (Report)

Abdi, D., Cade-Menun, B.J., Ziadi, N., Shi, Y.Z., Bélanger, G., Lajeunesse, J., and Lafond, J. (2015). "The influence of phosphorus fertilization on grassland soil phosphorus forms: A <sup>31</sup>P-NMR study.", *Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference*, Montreal, QC, Canada, July 5-10, 2015, Presentation.

Bélanger, G., Ziadi, N., Lajeunesse, J., and Lafond, J. (2015). "Fertilisation en phosphore des graminées: Trop ou pas assez?", *Conférence donnée à la Journée d'information scientifique Bovins laitiers et plantes fourragères*, Drummondville, QC, Canada, 25 février, 2015. (Presentation)

Lafond, J. (2015). "Quelle forme d'azote à utiliser dans la formulation d'engrais.", *Conférence présentée à la Journée d'information sur le bleuets sauvage* (250 personnes), Dolbeau-Mistassini, QC, Canada, 18 mars, 2015. (Presentation)

Lafond, J. (2015). Fertilisation dans le bleuets sauvage : détermination des seuils de réponse de la culture selon les concentrations des éléments nutritifs dans les feuilles. Saison 201-2015. Rapport préliminaire. 26 p. (Report)

Lafond, J. (2015). "Nutrient management in blueberry- Québec results.", Wild Blueberry Spring Meeting, Bangor, Maine, USA, March 20, 2015.

Lafond, J. (2015). "Nitrogen and phosphorus fertilization in wild lowbush blueberry in Quebec.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

Shi, Y., Ziadi, N., Hamel, C., Lajeunesse, J., and Lafond, J. (2015). "Growth of Timothy root and associated arbuscular mycorrhizae as affected by phosphorus fertilization in North Quebec.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

Shi, Y., Ziadi, N., Hamel, C., Lajeunesse, J., and Lafond, J. (2015). "Timothy root and associated arbuscular mycorrhizae as affected by phosphorus fertilization in eastern Canada.", 9th Symposium for the International Society of Root Research, Canberra, Australia, October 6-9, 2015.

Lafond, J. (2015). "Blueberry yield response to mineral fertilizers.", Wild blueberry research and extension workshop, Bar Harbor, Maine, USA, October 22, 2015.

## 2014

Cambouris, A.C., Perron, I., Ziadi, N., Lafond, J., Zebarth, B.J., Nyiraneza, J., Nelson, A., Carvers, C., and Tremblay, N. (2014). "Fertilisation azotée dans la production de pomme de terre du centre à l'est Canadien : saison 2013.", Congrès annuel de l'association québécoise des spécialistes en sciences du sol, Victoriaville, Québec, Canada, May 26-29, 2014, Oral presentation.

Lafond, J., Angers, D.A., Pageau, D., and Lajeunesse, J. (2014). "Impact de la rotation, du travail du sol et de la source d'éléments nutritifs sur les rendements en plantes fourragères et céréales.", Conférence présentée du congrès annuel de l'Association Québécoise des Spécialistes en Science du Sol (AQSSS), Victoriaville, QC, Canada, 26-29 mai 2014.

Paré, M., Lafond, J., and Pageau, D. (2014). "Rotation des cultures annuelles et travail du sol en climat nordique : Quelle combinaison semble la plus profitable au Saguenay-Lac-Saint-Jean?", Conférence présentée du congrès annuel de l'Association Québécoise des Spécialistes en Science du Sol (AQSSS), Victoriaville, QC, Canada, 26-29 mai 2014.

Vincent, C., Lemoyne, P., and Lafond, J. (2014). "Extreme temperatures and management of blueberry maggot, *Rhagoletis mendax*.", Wild Blueberry Research and Extension Workers (WBREW), Québec, QC, Canada, 22 octobre 2014.

Cambouris, A.N., Perron, I., Ziadi, N., Lafond, J., Zebarth, B.J., Nyiraneza, J., Nelson, A., Carvers, C., and Tremblay, N. (2014). "Fertilisation azotée du centre à l'est du Canada sous culture de la pomme de terre : saison 2013.", Congrès annuel de l'AQSSS, Victoriaville, QC, Canada. (Presentation)

Shi, Y.Z., Ziadi, N., Lalande, R., Hamel, C., Lajeunesse, J., Lafond, J., and Bélanger, G. (2014). "Seasonal variation of soil microbial biomass, activities and community structure as affected by mineral P fertilization in two grassland soils.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

Lafond, J. (2014). "Résultats des derniers essais de fertilisation dans le bleuets sauvage.", Journée d'information sur le bleuets, Dolbeau-Mistassini, Dolbeau-Mistassini, QC, Canada, 19 mars, 2014. (Presentation)

Shi, Y.Z., Ziadi, N., Lalande, R., Hamel, C., Lajeunesse, J., Lafond, J., and Bélanger, G. (2014). "Soil microbial biomass, activity, and community structure as affected by mineral P fertilization in two grassland soils.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014. (Poster)

Lafond, J., Angers, D.A., Pageau, D., and Lajeunesse, J. (2014). "Effets de la rotation, du travail du sol et de la source d'éléments nutritifs sur les rendements en plantes fourragères et céréales.", Congrès annuel de l'AQSSS à Victoriaville, Québec, Canada, du 26 au 29 mai 2014.

Lafond, J. (2014). "Wild blueberry response to different nitrogen sources.", WBREW, Québec, QC, Canada, October 22-23, 2014. (Presentation)

## 2013

Pageau, D., Lajeunesse, J., Lafond, J., Rioux, S., and Blackwell, B.A. (2013). "Effet des rotations sur le contenu en désoxynivalénol (DON) chez les céréales.", Conférence présentée lors du Colloque sur les Céréales, Beloeil, QC, Canada, 11 décembre 2013.

Pageau, D., Lajeunesse, J., and Lafond, J. (2013). "Optimizing Canola Production/Optimiser la culture du canola.", Conférence présentée au Atlantic Cereal & Oilseed Symposium/Symposium sur les céréales et oléagineuses de l'Atlantique., Fredericton, NB, Canada, 13-14 février 2013. (Presentation)

Ziadi, N., Bélanger, G., Grant, C.A., Cade-Menun, B.J., Lalande, R., Hamel, C., Lafond, J., Lajeunesse, J., Pageau, D., Tremblay, G.F., and Zhang, T.Q. (2013). Soil and plant phosphorus assessment and modeling in Canadian agro-ecosystems. Final report SAGES#1475. (Report)

2011

Grant, C.A., Beres, B.L., Malhi, S.S., Pageau, D., Lafond, J., Schoenau, J.J., Walley, F.L., Heard, J., Flaten, D.N., Hellegards, B., and Sahota, T.S. (2011). "New developments in nutrition research for canola.", Canola Research Summit meeting, Winnipeg, MB, Canada, April 12-13, 2011.

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## Research Publications:

2015

Lafontaine, J.D., Sullivan, J.B., and Schmidt, B.C. (2015). "A revision of the genus *Doryodes* Guenée, 1857, with descriptions of six new species (Lepidoptera, Erebidae, Catocalinae, Euclidiini).", *ZooKeys*, 2015(527), pp. 3-30. doi : 10.3897/zookeys.527.6087

Lafontaine, J.D. and Schmidt, B.C. (2015). "Additions and corrections to the checklist of the noctuoidea (Insecta, Lepidoptera) of North America North of Mexico III.", *ZooKeys*, 2015(527), pp. 127-147. doi : 10.3897/zookeys.527.6151

Schmidt, B.C. and Lafontaine, J.D. (2015). "Contributions to the systematics of New World macro-moths VI.", *ZooKeys*, 2015(527), pp. 1-2. doi : 10.3897/zookeys.527.6803

2014

Schmidt, B.C. and Lafontaine, J.D. (2014). "Contributions to the systematics of New World macro-moths V.", *ZooKeys*, 421, pp. 1-2. doi : 10.3897/zookeys.421.8050

2013

Lafontaine, J.D. and Schmidt, B.C. (2013). "Additions and corrections to the checklist of the Noctuoidea (Insecta, Lepidoptera) of North America north of Mexico.", *ZooKeys*, 264(Spec. Issue), pp. 227-236. doi : 10.3897/zookeys.264.4443

Lafontaine, J.D. and Schmidt, B.C. (2013). "Contributions to the systematics of New World macro-moths IV (Editorial).", *ZooKeys*, 264(1-2), pp. 1-2. doi : 10.3897/zookeys.264.4687

Lafontaine, J.D. and Schmidt, B.C. (2013). "Lepidoptera family-group names proposed by Thaddeus William Harris in 1841.", *ZooKeys*, 264(Spec. Issue), pp. 219-226. doi : 10.3897/zookeys.264.4442

Lafontaine, J.D. and Schmidt, B.C. (2013). "Comments on differences in classification of the superfamily Noctuoidea (Insecta, Lepidoptera) between Eurasia and North America.", *ZooKeys*, 264(Spec. Issue), pp. 209-217. doi : 10.3897/zookeys.264.4441

Metzler, E.H., Knudson, E.C., Poole, R.W., Lafontaine, J.D., and Pogue, M.G. (2013). "A review of the genus *Ogdoconta* Butler (Lepidoptera, Noctuidae, Condicinae, Condicini) from North America north of Mexico with descriptions of three new species.", *ZooKeys*, 264(Spec. Issue), pp. 165-191. doi : 10.3897/zookeys.264.4060

Lafontaine, J.D. and Walsh, J.B. (2013). "A revision of the genus *Ufeus* Grote with the description of a new species from Arizona (Lepidoptera, Noctuidae, Noctuinae, Xylenini, Ufeina).", *ZooKeys*, 264(Spec. Issue), pp. 193-207. doi : 10.3897/zookeys.264.3526

2012

Zahiri, R., Holloway, J.D., Kitching, I.J., Lafontaine, J.D., Mutanen, M., and Wahlberg, N. (2012). "Molecular phylogenetics of Erebidae (Lepidoptera, Noctuoidea).", *Systematic Entomology*, 37(1), pp. 102-124. doi : 10.1111/j.1365-3113.2011.00607.x

Ferris, C.D., Kruse, J.J., Lafontaine, J.D., Philip, K.W., Schmidt, B.C., and Sikes, D.S. (2012). "A Checklist of the Moths of Alaska.", *Zootaxa*, 3571(2012), pp. 1-25.

2011

van Nieukerken, E.J., Kaila, L., Kitching, I.J., Kristensen, N.P., Lees, D.C., Minet, J., Mitter, C., Mutanen, M., Regier, J.C., Simonsen, T.J., Wahlberg, N., Yen, S.-H., Zahiri, R., Adamski, D., Baixeras, J., Bartsch, D., Bengtsson, B.Å., Brown, J.W., Bucheli, S.R., Davis, D.R., De Prins, J., De Prins, W., Epstein, M.E., Gentili-Poole, P., Gielis, C., Hättenschwiler, P., Hausmann, A., Holloway, J.D., Kallies, A., Karsholt, O., Kawahara, A.Y., Koster, S.(J.C.), Kozlov, M., Lafontaine, J.D., Lamas, G., Landry, J.-F., Lee, S., Nuss, M., Penz, C., Rota, J., Schmidt, B.C., Schintlmeister, A., Sohn, J.-C., Solis, M.A., Tarmann, G.M., Warren, A.D., Weller, S., Yakovlev, R.V., Zolotuhin, V., and Zwick, A. (2011). "Order Lepidoptera.", *Zootaxa*, 3148, pp. 212-221.



Lafontaine, J.D. and Sullivan, J.B. (2011). "New synonymies and combinations in *Argyrostromis* Hübner (Lepidoptera, Erebidae, Erebininae, Poaphilini) II.", *ZooKeys*, 149, pp. 107-116. doi : 10.3897/zookeys.149.2347

Hall, P.W., Catling, P.M., and Lafontaine, J.D. (2011). "Insects at Risk in the Prairie Region.", in Floate, K.D. (ed.) - *Arthropods of Canadian Grasslands. Vol. 2: Inhabitants of a Changing Landscape*, Biological Survey of Canada (BSC), Chapter 13, pp. 323-349.

Lafontaine, J.D. and Schmidt, B.C. (2011). "Additions and corrections to the checklist of the Noctuoidea (Insecta, Lepidoptera) of North America north of Mexico.", *ZooKeys*, 149, pp. 145-161. doi: 10.3897/zookeys.149.1805

Zahiri, R., Kitching, I.J., Lafontaine, J.D., Mutanen, M., Kaila, L., Holloway, J.D., and Wahlberg, N. (2011). "A new molecular phylogeny offers hope for a stable family level classification of the Noctuoidea (Lepidoptera).", *Zoologica Scripta*, 40(2), pp. 158-173. doi: 10.1111/j.1463-6409.2010.00459.x

## **Other Science Related Publications:**

2013

Lafontaine, J.D. (2013). "Holarctic Lepidoptera: The Beringian Connection.", Diamond Jubilee Seminar Series, Central Experimental Farm, Neatby Building, Ottawa, ON, Canada, May 31, 2013. (Presentation)

2011

Lafontaine, J.D. (2011). "Karl Jordan Medal Address: Classifications – getting them righter!", 60th Annual Meeting of the Lepidopterists' Society, Yale University, New Haven, CT, USA, June 23-26, 2011.

Lafontaine, J.D. and Troubridge, J.T. (2011). "Moths and butterflies of the Montane Cordillera Ecozone.", in Scudder, G.G.E. and Smith, I.M. (eds.) - *Assessment of Species Diversity in the Montane Cordillera Ecozone. Series: Assessment of Species Diversity in Canadian Ecozones*, Royal British Columbia Museum, Canada, Chapter 18, pp. 1-89.

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## Research Publications:

2015

Berthiaume, R.R., Lafrenière, C., Girard, C.L., Campbell, C.P., Pivotto, L.M., and Mandell, I.B. (2015). "Effects of forage silage species on yearling growth performance, carcass and meat quality, and nutrient composition in a forage based beef production system.", *Canadian Journal of Animal Science*, 95(2), pp. 173-187. doi: 10.4141/CJAS-2014-107

2014

Brito, A.F., Tremblay, G.F., Bertrand, A., Castonguay, Y., Bélanger, G., Michaud, R., Lafrenière, C., Martineau, R., and Berthiaume, R.R. (2014). "Alfalfa baleage with increased concentration of nonstructural carbohydrates supplemented with a corn-based concentrate did not improve production and nitrogen utilization in early lactation dairy cows.", *Journal of Dairy Science (JDS)*, 97(11), pp. 6970-6990. doi: 10.3168/jds.2013-7305

2013

Berthiaume, R.R., Tremblay, G.F., Bélanger, G., Lafrenière, C., Bertrand, A., Castonguay, Y., Michaud, R., and Allard, G.C. (2013). "Taking advantage of diurnal shifts in the nutritive value of forages.", in Bittman, S and Hunt, D. (eds.) - *Cool Forages- Advanced management of temperate forages*, Pacific Field Corn Association, Agassiz, BC, Canada, Chapter 42, pp. 176-179.

2011

Lafrenière, C. and Drapeau, R. (2011). "Seeding patterns and companion grasses affect total forage yield and components of binary red clover-grass mixtures.", *Canadian Journal of Plant Science*, 91(1), pp. 91-97. doi: 10.4141/CJPS09085

## Other Science Related Publications:

2015

Lajeunesse, J., Papadopoulos, Y.A., Duynisveld, J.L., Bélanger, G., Tremblay, G.F., Lafrenière, C., Thomas, B., and Fillmore, S.A.E. (2015). "Productivity of eighteen legume-grass binary mixtures.", *Botany 2015 Joint Conference: Science and plants for people*, Edmonton, Alberta, Canada, July 25-29, 2015. (Poster)

2013

Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Berthiaume, R.R., Michaud, R., Pelletier, S., Morin, C., Lafrenière, C., and Allard, G.C. (2013). "Improving forage nonstructural carbohydrates through management and breeding.", 22nd International Grassland Congress, September 15-19, 2013, pp. 668-669.

Berthiaume, R.R., Brito, A.F., Tremblay, G.F., Bélanger, G., Lafrenière, C., Bertrand, A., Castonguay, Y., Michaud, R., and Allard, G.C. (2013). "High-sugar alfalfa for dairy cows.", 22nd International Grassland Congress, September 15-19, 2013, pp. 729-731.

Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Berthiaume, R.R., Michaud, R., Pelletier, S., Morin, C., Lafrenière, C., and Allard, G.C. (2013). "Improving forage nonstructural carbohydrates through management and breeding.", *Symposium de l'industrie laitière*, Moncton, NB, Canada, November 13-14, 2013.

Berthiaume, R.R., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Michaud, R., Pelletier, S., Brito, A.F., Lafrenière, C., and Allard, G. (2013). "High quality forages: How sweet should they be?", *Advances in Dairy Technology (Western Canadian Dairy Seminar Proceedings)*, 25, pp. 235-252.

Tremblay, G.F., Berthiaume, R.R., Bélanger, G., Audy, P., Lafrenière, C., Charbonneau, É., and Allard, G.C. (2013). *Sélection des fourrages sur la base de la valeur alimentaire et de l'ensilabilité pour mieux les valoriser en production laitière. Rapport final de projet de recherche, 2012-2013, Direction générale de la science et de la technologie d'AAC, Programme d'innovation en agriculture (PIA), Rapport final, Projet de recherche #, 26 pages. (Report)*

## 2012

Brito, A.F., Régimbald, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Bélanger, G., Michaud, R., Lafrenière, C., and Berthiaume, R.R. (2012). "High-total nonstructural carbohydrates timothy enhanced performance of mid-lactation dairy cows.", Western Canadian Dairy Seminar, Red Deer, Alberta, Canada, 6-9 mars, 2012, WCDS Advances in Dairy Technology, Volume 24, Abstract, page 399.

Berthiaume, R.R., Tremblay, G.F., Bélanger, G., Audy, P., Lafrenière, C., Charbonneau, É., and Allard, G. (2012). "Des variétés de fourrages performantes aux champs et à l'étable, est-ce possible?", Réunion annuelle des représentants Semican - Lallemand 2012, Victoriaville, QC, Canada, July 17, 2012.

Tremblay, G.F., Berthiaume, R.R., Allard, G., Bertrand, A., Brito, A.F., Castonguay, Y., Chouinard-Michaud, C., Drapeau, R., Lafrenière, C., Lefebvre, D.M., Michaud, R., Pellerin, D., Fournier, A., Morin, C., and Pelletier, S. (2012). "Du fourrage sucré pour mieux performer.", Analyse de groupe de lait 2011 et valorisation des fourrages: Du champ au réservoir à lait, Hôtel du jardin, Saint-Félicien, QC, Canada, April 24, 2012, pp. 1-10.

Berthiaume, R.R., Lafrenière, C., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Allard, G., Pellerin, D., Fournier, A., and Lefebvre, D.M. (2012). "Forages: Cows like them sweet!", Thunder Bay District Soil and Crop Improvement Association's Spring Farm Conference 2012, Thunder Bay, ON, Canada, April 11, 2012.

Berthiaume, R.R., Bélanger, G., Tremblay, G.F., and Lafrenière, C. (2012). "Investir dans les fourrages: ça vaut le coût?", Le rendez-vous laitier. Association québécoise des industries de nutrition animale et céréalière (AQINAC) 2012, Best Western Hôtel Universel, Drummondville, QC, Canada, March 27, 2012, pp. 69-81.

Berthiaume, R.R., Lafrenière, C., Fortin, J., Gariépy, C., Mandell, I.B., and Faucitano, L. (2012). "Growth, feed efficiency, carcass quality and consumer perception of beef cattle fed PM vs AM cut grass or a red clover-grass mixture.", XVI International Silage Conference, Hämeenlinna, Finland, July 2-4, 2012. (Abstract)

## 2011

Ould-Ahmed, M., Prud'homme, M.-P., Drouin, P., and Lafrenière, C. (2011). "Identification and sequencing of fructan exohydrolase genes isolated from *Phleum pratense*, an important forage grass of North-Eastern America.", Scandinavian Plant Physiology Society (SPPS) Congress, Stavanger, Norway, August 20-24, 2011. (Abstract)

Tremblay, G.F., Berthiaume, R.R., Bélanger, G., Audy, P., Lafrenière, C., Charbonneau, É., and Allard, G. (2011). "Valeur alimentaire des ensilages fabriqués à partir de fourrages plus sucrés.", Réunion annuelle des représentants Semican - Lallemand 2011, Victoriaville, QC, Canada, June 15, 2011.

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## Research Publications:

2015

Tremblay, G.F., Bélanger, G., Lajeunesse, J., Chouinard, P.Y., and Charbonneau, É. (2015). "Timothy response to increasing rates of selenium fertilizer in eastern Canada.", *Agronomy Journal*, 107(1), pp. 211-220. doi : 10.2134/agronj14.0397

2014

Bélanger, G., Castonguay, Y., and Lajeunesse, J. (2014). "Benefits of mixing timothy with alfalfa for forage yield, nutritive value, and weed suppression in northern environments.", *Canadian Journal of Plant Science*, 94(1), pp. 51-60. doi : 10.4141/CJPS2013-228

Simili da Silva, M., Tremblay, G.F., Bélanger, G., Lajeunesse, J., Papadopoulos, Y.A., Fillmore, S.A.E., and Jobim, C.C. (2014). "Forage energy to protein ratio of several legume-grass complex mixtures.", *Animal Feed Science and Technology*, 188, pp. 17-27. doi : 10.1016/j.anifeedsci.2013.11.006

2013

Simili da Silva, M., Tremblay, G.F., Bélanger, G., Lajeunesse, J., Papadopoulos, Y.A., Fillmore, S.A.E., and Jobim, C.C. (2013). "Energy to protein ratio of grass-legume binary mixtures under frequent clipping.", *Agronomy Journal*, 105(2), pp. 482-492. doi : 10.2134/agronj2012.0281

Tremblay, G.F., Bélanger, G., Pelletier, S., Lajeunesse, J., and Pageau, D. (2013). "Dietary Cation-Anion Difference of Forage Species after Chloride Fertilization.", *Agronomy Journal*, 105(2), pp. 455-462. doi : 10.2134/agronj2012.0355

2011

Pageau, D. and Lajeunesse, J. (2011). "Effect of seeding date on oilseed flax grown in a cool climate.", *Canadian Journal of Plant Science*, 91(1), pp. 29-35. doi : 10.4141/CJPS10021

Yan, W., Pageau, D., Frégeau-Reid, J.A., Lajeunesse, J., Goulet, J., Durand, J., and Marois, D. (2011). "Oat mega-environments and test locations in Quebec.", *Canadian Journal of Plant Science*, 91(4), pp. 643-649. doi : 10.4141/CJPS10139

## Other Science Related Publications:

2015

Dos Passos Bernardes, A., Bélanger, G., Tremblay, G.F., Papadopoulos, Y.A., Fillmore, S.A.E., Lajeunesse, J., and Duynisveld, J.L. (2015). "Dix-huit associations d'une légumineuse avec une graminée évaluées au pâturage pendant trois ans à plusieurs sites.", *Journée d'information scientifique sur les bovins laitiers et les plantes fourragères*, Drummondville, QC, Canada, 25 février 2015, Présentation.

Séguin, P., Tremblay, G.F., Claessens, A., Bélanger, G., Lajeunesse, J., Berthiaume, R.R., Martel, H., and Wood, S. (2015). "Adaptabilité du système PEAQ aux conditions québécoises.", *Journée d'information scientifique sur les bovins laitiers et les plantes fourragères*, Drummondville, QC, Canada, 25 février 2015, Présentation.

Lajeunesse, J. (2015). "Agronomic potential of wild Saskatoon berry in Northern Quebec.", *Botany 2015 Joint Conference: Science and plants for people*, Edmonton, Alberta, Canada, July 25-29, 2015. (Poster)

Lajeunesse, J., Papadopoulos, Y.A., Duynisveld, J.L., Bélanger, G., Tremblay, G.F., Lafrenière, C., Thomas, B., and Fillmore, S.A.E. (2015). "Productivity of eighteen legume-grass binary mixtures.", *Botany 2015 Joint Conference: Science and plants for people*, Edmonton, Alberta, Canada, July 25-29, 2015. (Poster)

Abdi, D., Cade-Menun, B.J., Ziadi, N., Shi, Y.Z., Bélanger, G., Lajeunesse, J., and Lafond, J. (2015). "The influence of phosphorus fertilization on grassland soil phosphorus forms: A <sup>31</sup>P-NMR study.", *Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference*, Montreal, QC, Canada, July 5-10, 2015, Presentation.

Shi, Y., Ziadi, N., Hamel, C., Lajeunesse, J., and Lafond, J. (2015). "Growth of Timothy root and associated arbuscular mycorrhizae as affected by phosphorus fertilization in North Quebec.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

Shi, Y., Ziadi, N., Hamel, C., Lajeunesse, J., and Lafond, J. (2015). "Timothy root and associated arbuscular mycorrhizae as affected by phosphorus fertilization in eastern Canada.", 9th Symposium for the International Society of Root Research, Canberra, Australia, October 6-9, 2015.

Bélanger, G., Ziadi, N., Lajeunesse, J., and Lafond, J. (2015). "Fertilisation en phosphore des graminées: Trop ou pas assez?", Conférence donnée à la Journée d'information scientifique Bovins laitiers et plantes fourragères, Drummondville, QC, Canada, 25 février, 2015. (Presentation)

Tremblay, G.F., da Silva, M.S., Bélanger, G., Lajeunesse, J., Papadopoulos, Y.A., Fillmore, S.A.E., and Jobim, C.C. (2015). "Les associations d'espèces fourragères comme moyen d'améliorer le ratio énergie/protéine du fourrage.", Journée d'information scientifique sur les bovins laitiers et les plantes fourragères, Drummondville, QC, Canada, 25 février 2015, Presentation.

## 2014

Shi, Y.Z., Ziadi, N., Lalonde, R., Hamel, C., Lajeunesse, J., Lafond, J., and Bélanger, G. (2014). "Seasonal variation of soil microbial biomass, activities and community structure as affected by mineral P fertilization in two grassland soils.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

Lafond, J., Angers, D.A., Pageau, D., and Lajeunesse, J. (2014). "Impact de la rotation, du travail du sol et de la source d'éléments nutritifs sur les rendements en plantes fourragères et céréales.", Conférence présentée au congrès annuel de l'Association Québécoise des Spécialistes en Science du Sol (AQSSS), Victoriaville, QC, Canada, 26-29 mai 2014.

Tremblay, G.F., Bélanger, G., Lajeunesse, J., Chouinard, P.Y., and Charbonneau, É. (2014). "Response of timothy Se concentration to increasing rates of a slow-release Se fertilizer in eastern Canada.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

Tremblay, G.F., Bélanger, G., Lajeunesse, J., Chouinard, P.Y., and Charbonneau, É. (2014). "Un fourrage enrichi en sélénium pour les vaches laitières: Aspects agronomiques.", Demi-journée d'information scientifique sur les fourrages, Victoriaville, QC, Canada, 12 février, 2014, pp. 4-6.

Bélanger, G., Ziadi, N., Sinaj, S., Virkajärvi, P., Jouany, C., Lajeunesse, J., and Nyiraneza, J. (2014). "Critical P concentration of forage grasses.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014. (Poster)

Shi, Y.Z., Ziadi, N., Lalonde, R., Hamel, C., Lajeunesse, J., Lafond, J., and Bélanger, G. (2014). "Soil microbial biomass, activity, and community structure as affected by mineral P fertilization in two grassland soils.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014. (Poster)

Bélanger, G., Castonguay, Y., and Lajeunesse, J. (2014). "Une espèce fourragère c'est bien, mais deux c'est mieux.", Demi-journée d'information scientifique sur les fourrages, Victoriaville, QC, Canada, 12 février, 2014.

Lafond, J., Angers, D.A., Pageau, D., and Lajeunesse, J. (2014). "Effets de la rotation, du travail du sol et de la source d'éléments nutritifs sur les rendements en plantes fourragères et céréales.", Congrès annuel de l'AQSSS à Victoriaville, Québec, Canada, du 26 au 29 mai 2014.

Lajeunesse, J. and Drapeau, R. (2014). "Effects of a 2- or 3-cut system on perennial grasses grown in pure stands or in mixture with legume.", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014. (Poster)

Claessens, A., Bélanger, G., Lalonde, O., Martel, H., Séguin, P., Lajeunesse, J., Allard, G.C., Lemay, I., and Bertrand, A. (2014). "Genetic variability and potential of switchgrass as feedstock for the bioindustry in eastern Canada.", 4th Pan-American Congress on Plants and Bioenergy, Guelph, Ontario, Canada, June 4-7, 2014.

## 2013

Pageau, D., Lajeunesse, J., Lafond, J., Rioux, S., and Blackwell, B.A. (2013). "Effet des rotations sur le contenu en désoxynivalénol (DON) chez les céréales.", Conférence présentée lors du Colloque sur les Céréales, Beloeil, QC, Canada, 11 décembre 2013.

Pageau, D., Lajeunesse, J., and Lafond, J. (2013). "Optimizing Canola Production/Optimiser la culture du canola.", Conférence présentée au Atlantic Cereal & Oilseed Symposium/Symposium sur les céréales et oléagineuses de l'Atlantique., Fredericton, NB, Canada, 13-14 février 2013. (Presentation)

Ziadi, N., Bélanger, G., Grant, C.A., Cade-Menun, B.J., Lalonde, R., Hamel, C., Lafond, J., Lajeunesse, J., Pageau, D., Tremblay, G.F., and Zhang, T.Q. (2013). Soil and plant phosphorus assessment and modeling in Canadian agro-ecosystems. Final report SAGES#1475. (Report)

Lajeunesse, J., Drapeau, R., Trépanier, M., and Rioux, J.A. (2013). Rendement en fruits de quelques cultivars d'argousier au site de Normandin en 2010 et 2011. (<http://www.argousier.qc.ca/fra/la-culture-de-largousier/la-culture.asp>). (Report)

Bélanger, G., Tremblay, G.F., Jégo, G., and Lajeunesse, J. (2013). "Forage management research.", 2013 CFGA Conference & AGM, December 9-11, 2013, Oral presentation.

## 2012

Lajeunesse, J., Bélanger, G., Tremblay, G.F., Papadopoulos, Y.A., and Fillmore, S.A.E. (2012). "Évaluation de mélanges simples et complexes de plantes fourragères pour le pâturage.", Journée d'analyse de groupe vache-veau, Saint-Félicien, QC, Canada, December 12, 2012.

Bélanger, G., Ziadi, N., Sinaj, S., Virkajärvi, P., Jouany, C., Lajeunesse, J., and Nyiraneza, J. (2012). "Critical P concentration of timothy and multispecies swards.", 24th General Meeting of the European Grassland Federation, Lublin, Poland, June 3-7, 2012. (Poster)

## 2011

Pageau, D., Lajeunesse, J., Rioux, S., Vanasse, A., and Blackwell, B.A. (2011). "Les maladies du canola et des céréales: mieux vaut prévenir que guérir!", Journée Végétale – La Coop 2011, Alma, QC, Canada, November 30, 2011.

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## Research Publications:

2016

Shi, Y.Z., Ziadi, N., Messiga, A.J., and Lalande, R. (2016). "Non-growing season soil surface nitrate and phosphate dynamics in a corn-soybean rotation in eastern Canada: In-situ evaluation using anionic exchange membranes.", *Canadian Journal of Soil Science*.

2015

Shi, Y., Ziadi, N., Messiga, A.J., Lalande, R., and Hu, Z.Y. (2015). "Soil Phosphorus Fractions Change in Winter in a Corn-Soybean Rotation with Tillage and Phosphorus Fertilization.", *Pedosphere*, 25(1), pp. 1-11. doi : 10.1016/S1002-0160(14)60071-0

Shi, Y., Lalande, R., Hamel, C., and Ziadi, N. (2015). "Winter effect on soil microorganisms under different tillage and phosphorus management practices in eastern Canada.", *Canadian Journal of Microbiology*, 61(5), pp. 315-326. doi : 10.1139/cjm-2014-0821

2014

Ziadi, N., Angers, D.A., Gagnon, B., Lalande, R., Morel, C., Rochette, P., and Chantigny, M.H. (2014). "Long-term tillage and synthetic fertilization affect soil functioning and crop yields in a corn-soybean rotation in eastern Canada.", *Canadian Journal of Soil Science*, 94(3), pp. 365-376. doi : 10.4141/CJSS2013-067

2013

Shi, Y., Ziadi, N., Messiga, A.J., Lalande, R., and Hu, Z.Y. (2013). "Changes in Soil P Fractions for a Long-Term Corn-Soybean Rotation with Tillage and P Fertilization.", *Soil Science Society of America Journal*, 77(4), pp. 1402-1412. doi : 10.2136/sssaj2012.0427

Sheng, M., Lalande, R., Hamel, C., and Ziadi, N. (2013). "Effect of long-term tillage and mineral phosphorus fertilization on arbuscular mycorrhizal fungi in a humid continental zone of Eastern Canada.", *Plant and Soil*. doi : 10.1007/s11104-013-1585-4

Shi, Y., Lalande, R., Hamel, C., Ziadi, N., Gagnon, B., and Hu, Z.Y. (2013). "Seasonal variation of microbial biomass, activity, and community structure in soil under different tillage and phosphorus management practices.", *Biology and Fertility of Soils*. doi : 10.1007/s00374-013-0773-y

2012

Sheng, M., Lalande, R., Hamel, C., Ziadi, N., and Shi, Y. (2012). "Growth of Corn Roots and Associated Arbuscular Mycorrhizae Are Affected by Long-Term Tillage and Phosphorus Fertilization.", *Agronomy Journal*, 104(6), pp. 1672-1678. doi : 10.2134/agronj2012.0153

Shi, Y., Lalande, R., Ziadi, N., Sheng, M., and Hu, Z.Y. (2012). "An assessment of the soil microbial status after 17 years of tillage and mineral P fertilization management.", *Applied Soil Ecology*, 62, pp. 14-23. doi : 10.1016/j.apsoil.2012.07.004

## Other Science Related Publications:

2014

Shi, Y.Z., Ziadi, N., Lalande, R., Hamel, C., Lajeunesse, J., Lafond, J., and Bélanger, G. (2014). "Soil microbial biomass, activity, and community structure as affected by mineral P fertilization in two grassland soils.", *ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014. (Poster)*

Shi, Y.Z., Ziadi, N., and Lalande, R. (2014). "Effects of tillage and fertilization on nitrate and phosphate desorbed from an ionic exchange membranes over winter.", *20th World Congress of Soil Science, Jeju, South Korea, June 8-13, 2014. (Poster)*

Ziadi, N., Shi, Y.Z., Messiga, A.J., and Lalande, R. (2014). "Disponibilité du phosphore du sol tôt au printemps: effet de l'hiver québécois.", Congrès annuel de l'association québécoise des spécialistes en sciences du sol, Victoriaville, Québec, Canada, May 26-29, 2014, Oral presentation.

Shi, Y.Z., Ziadi, N., Lalande, R., Hamel, C., Lajeunesse, J., Lafond, J., and Bélanger, G. (2014). "Seasonal variation of soil microbial biomasses, activities and community structure as affected by mineral P fertilization in two grassland soils.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

2013

Ziadi, N., Bélanger, G., Grant, C.A., Cade-Menun, B.J., Lalande, R., Hamel, C., Lafond, J., Lajeunesse, J., Pageau, D., Tremblay, G.F., and Zhang, T.Q. (2013). Soil and plant phosphorus assessment and modeling in Canadian agro-ecosystems. Final report SAGES#1475. (Report)



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## Research Publications :

2013

Lai, Y.P., Mondor, M., Moresoli, C., Drolet, H., Gros-Louis, M., Ippersiel, D., Lamarche, F., and Arcand, Y. (2013). "Production of soy protein isolates with low phytic acid content by membrane technologies: Impact of the extraction and ultrafiltration/diafiltration conditions.", *Journal of Food Engineering*, 114(2), pp. 221-227. doi: 10.1016/j.jfoodeng.2012.08.012

2012

Mercier, S., Villeneuve, S., Mondor, M., Drolet, H., Ippersiel, D., Lamarche, F., and DesMarchais, L.-P. (2012). "Mixing Properties and Gluten Yield of Dough Enriched with Pea Protein Isolates.", *Journal of Food Research*, 1(1), pp. 13-23. doi: 10.5539/jfr.v1n1p13

Ippersiel, D., Mondor, M., Lamarche, F., Tremblay, F., Dubreuil, J., and Masse, L. (2012). "Nitrogen potential recovery and concentration of ammonia from swine manure using electrodialysis coupled with air stripping.", *Journal of Environmental Management*, 95(Suppl.), pp. S165-S169. doi: 10.1016/j.jenvman.2011.05.026

2011

Fustier, P., St-Germain, F., Lamarche, F., and Mondor, M. (2011). "Non-enzymatic browning and ascorbic acid degradation of orange juice subjected to electroreduction and electro-oxidation treatments.", *Innovative Food Science and Emerging Technologies*, 12(4), pp. 491-498. doi: 10.1016/j.ifset.2011.07.014

Tahérian, A.R., Mondor, M., Labranche, J., Drolet, H., Ippersiel, D., and Lamarche, F. (2011). "Comparative study of functional properties of commercial and membrane processed yellow pea protein isolates.", *Food Research International*, 44(8), pp. 2505-2514. doi: 10.1016/j.foodres.2011.01.030

Ali, F., Mondor, M., Ippersiel, D., and Lamarche, F. (2011). "Production of low-phytate soy protein isolate by membrane technologies: Impact of salt addition to the extract on the purification process.", *Innovative Food Science and Emerging Technologies*, 12(2), pp. 171-177. doi: 10.1016/j.ifset.2011.01.013

## Other Science Related Publications :

2012

Tahérian, A.R., Mondor, M., and Lamarche, F. (2012). "Enhancing nutritional value and functional properties of yellow pea protein via membrane processing.", in Comstock, A.M. and Lothrop, B.E. (eds.) - *Peas: Cultivation, Varieties and Nutritional Uses*. Series: Food Science and Technology, Nova Science Publishers Inc.

Lai, Y.P., Mondor, M., Moresoli, C., Drolet, H., Gros-Louis, M., Ippersiel, D., and Lamarche, F. (2012). "Production of soy protein isolates with low phytic acid content by membrane technologies: Impact of the extraction and ultrafiltration/diafiltration conditions.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012. (Poster)

Mondor, M., Lamarche, F., Tahérian, A.R., Ippersiel, D., Drolet, H., Villeneuve, S., and DesMarchais, L.-P. (2012). "Production of new health ingredients/ food products by membrane technologies.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012. (Presentation)

Mondor, M., Tahérian, A.R., Villeneuve, S., Drolet, H., Ippersiel, D., DesMarchais, L.-P., and Lamarche, F. (2012). "Development of value-added pea protein isolate by membrane technology and its potential uses for functional food formulation.", 11th Conference of Food Engineering (CoFE 2012), National Conference Center, Leesburg, VA, USA, April 2-4, 2012. (Poster)

Power, K.A., Villeneuve, S., Mondor, M., Fustier, P., Arcand, Y., Lamarche, F., Britten, M., Cui, S.W., Tsao, R., Fofana, B., and Wanasundara, J.P.D. (2012). "Recent progress on the incorporation of flaxseed into cereal based matrices: delivery of bioactives to target sites and a comprehensive assessment of their biological effects.", 64th Flax Institute of the United States, Doublewood Inn, Fargo, ND, USA, March 29-30, 2012. (Presentation)

Mondor, M., Ippersiel, D., and Lamarche, F. (2012). "Electrodialysis in food processing.", in Boye, J.I. and Arcand, Y. (eds.) - Green Technologies in Food Production and Processing (Food Engineering Series), Springer, Chapter 12, pp. 295-326.

2011

Tahérian, A.R., Mondor, M., Faure, M., Drolet, H., Ippersiel, D., and Lamarche, F. (2011). "A comparative study on physical characteristics of commercial or membrane processed pea protein isolates and maltodextrine stabilized fish-oil-in water emulsions A comparative study on physical characteristics of commercial or membrane processed pea protein isolates and maltodextrine stabilized fish-oil-in water emulsions.", 11th Annual Meeting of the Institute of Food Technologists (IFT), New Orleans, LA, USA, June 11-14, 2011.

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## Research Publications:

2015

Sohn, J.-C., Regier, J.C., Mitter, C., Adamski, D., Landry, J.-F., Heikkilä, M., Park, K., Harrison, T., Mitter, K.T., Zwick, A., Kawahara, A.Y., Cho, S., Cummings, M.P., and Schmitz, P. (2015). "Phylogeny and feeding trait evolution of the mega-diverse Gelechioidea (Lepidoptera: Obtectomera): New insight from 19 nuclear genes.", *Systematic Entomology*. doi : 10.1111/syen.12143

2014

Baldizzone, G., Nel, J., and Landry, J.-F. (2014). "Coleophora nepetellae Baldizzone & Nel, a new species of the C. lixella group (Lepidoptera: Coleophoridae) from France and Italy.", *ZooKeys*, 459, pp. 119-135. doi : 10.3897/zookeys.459.7983

Adamski, D., Landry, J.-F., Nazari, V., and Priest, R.J. (2014). "Three new species of leaf-mining Gelechiidae (Lepidoptera) from Canada and northeastern United States", *Journal of the Lepidopterists' Society*, 68(2), pp. 101-123.

2013

Sohn, J.-C., Regier, J.C., Mitter, C., Davis, D.R., Landry, J.-F., Zwick, A., and Cummings, M.P. (2013). "A Molecular Phylogeny for Yponomeutoidea (Insecta, Lepidoptera, Ditrysia) and Its Implications for Classification, Biogeography and the Evolution of Host Plant Use.", *PLoS ONE*, 8(1, Article No. e55066). doi: 10.1371/journal.pone.0055066

Firlej, A., Légaré, J.-P., Landry, J.-F., Hogue, R., Chouinard, G., and Cormier, D. (2013). "DNA barcoding: an innovative tool to identify internal lepidopterans in apples.", *IOBC - WPRS Bulletin*, 91, pp. 269-271.

Landry, J.-F. and Hebert, P.D.N. (2013). "Plutella australiana (Lepidoptera: Plutellidae), an overlooked diamondback moth revealed by DNA barcodes.", *ZooKeys*, 327, pp. 43-63. doi : 10.3897/zookeys.327.5831

Landry, J.-F., Nazari, V., deWaard, J.R., Mutanen, M., Vaamonde, C.L., Huemer, P., and Hebert, P.D.N. (2013). "Shared but overlooked: 30 species of Holarctic Microlepidoptera revealed by DNA barcodes and morphology.", *Zootaxa*, 3749(1), pp. 1-93. doi : 10.11646/zootaxa.3749.1.1

2012

Baldizzone, G. and Landry, J.-F. (2012). "Kasyniana shardana Baldizzone, sp. n. (Lepidoptera: Oecophoridae).", *SHILAP Revista de Lepidopterología*, 40(158), pp. 197-205.

Mutanen, M., Aarvik, L., Landry, J.-F., Segerer, A., and Karsholt, O. (2012). "Epinotia cinerea (Haworth, 1811) bona sp., a Holarctic tortricid distinct from E. nisella (Clerck, 1759) (Lepidoptera: Tortricidae: Eucosmini) as evidenced by DNA barcodes, morphology and life history.", *Zootaxa*, 3318, pp. 1-25.

Davis, D.R. and Landry, J.-F. (2012). "A review of the North American genus Epimartyria (Lepidoptera, Micropterigidae) with a discussion of the larval plastron.", *ZooKeys*, 183, pp. 37-83. doi : 10.3897/zookeys.183.2556

Palmqvist, G., Landry, J.-F., and Johansson, R. (2012). "Coleophora paeltsaella Palmqvist & Hellberg, 1999 a junior synonym of Coleophora derasofasciella Klimesch, 1952. [Coleophora paeltsaella Palmqvist & Hellberg, 1999 är en synonym till Coleophora derasofasciella Klimesch, 1952.]", *Entomologisk Tidskrift*, 132(4), pp. 225-230.

Yang, Z., Landry, J.-F., Handfield, L., Zhang, Y., Solis, M.A., Handfield, D., Scholtens, B.G., Mutanen, M., Nuss, M., and Hebert, P.D.N. (2012). "DNA barcoding and morphology reveal three cryptic species of Anania (Lepidoptera: Crambidae: Pyraustinae) in North America, all distinct from their European counterpart.", *Systematic Entomology*, 37(4), pp. 686-705. doi : 10.1111/j.1365-3113.2012.00637.x

Mutanen, M., Hausmann, A., Hebert, P.D.N., Landry, J.-F., de Waard, J.R., and Huemer, P. (2012). "Allopatry as a Gordian Knot for Taxonomists: Patterns of DNA Barcode Divergence in Arctic-Alpine Lepidoptera.", *PLoS ONE*, 7(10, Article No. e47214). doi : 10.1371/journal.pone.0047214

2011

Baldizzone, G. and Landry, J.-F. (2011). "Sulla identità di *Coleophora pyrrehulipennella* Zeller, 1839 e descrizione di *Coleophora pulchripennella* Baldizzone n. sp. (Lepidoptera, Coleophoridae).", *Rivista Piemontese di Storia Naturale*, 32, pp. 111-134.

Shokralla, S., Zhou, X., Janzen, D.H., Hallwachs, W., Landry, J.-F., Jacobus, L.M., and Hajibabaei, M. (2011). "Pyrosequencing for Mini-Barcoding of Fresh and Old Museum Specimens.", *PLoS ONE*, 6(7, Article No. e21252). doi : 10.1371/journal.pone.0021252

Mason, P.G., Weiss, R.M., Olfert, O.O., Appleby, M.E., and Landry, J.-F. (2011). "Actual and potential distribution of *Acrolepiopsis assectella* (Lepidoptera: Acrolepiidae), an invasive alien pest of *Allium* spp. In Canada.", *Canadian Entomologist*, 143(2), pp. 185-196. doi: 10.4039/n10-058

van Nieuwerkerken, E.J., Kaila, L., Kitching, I.J., Kristensen, N.P., Lees, D.C., Minet, J., Mitter, C., Mutanen, M., Regier, J.C., Simonsen, T.J., Wahlberg, N., Yen, S.-H., Zahir, R., Adamski, D., Baixeras, J., Bartsch, D., Bengtsson, B.Å., Brown, J.W., Bucheli, S.R., Davis, D.R., De Prins, J., De Prins, W., Epstein, M.E., Gentili-Poole, P., Gielis, C., Hättenschwiler, P., Hausmann, A., Holloway, J.D., Kallies, A., Karsholt, O., Kawahara, A.Y., Koster, S.(J.C.), Kozlov, M., Lafontaine, J.D., Lamas, G., Landry, J.-F., Lee, S., Nuss, M., Penz, C., Rota, J., Schmidt, B.C., Schintlmeister, A., Sohn, J.-C., Solis, M.A., Tarmann, G.M., Warren, A.D., Weller, S., Yakovlev, R.V., Zolotuhin, V., and Zwick, A. (2011). "Order Lepidoptera.", *Zootaxa*, 3148, pp. 212-221.

## Other Science Related Publications:

2013

Hayden, J., Lee, S., Passoa, S., Young, J., Landry, J.-F., Nazari, V., Mally, R., Somma, L., and Ahlmark, K. (2013). "Digital Identification of Microlepidoptera on Solanaceae. USDA-APHIS-PPQ Identification Technology Program (ITP)."

Landry, J.-F., Light, M.H.S., and MacConaill, M. (2013). "*Paralobesia cypripediana* (Lepidoptera, Tortricidae), a stealthy micromoth attacking *Cypripedium reginae* (Orchidaceae).", Symposium on Insect-Orchid Interactions at the joint meeting of the Entomological Society of Canada and Entomological Society of Ontario, Guelph, Ontario, Canada, October 20-23, 2013. (Presentation)

Firlej, A., Légaré, J.-P., Landry, J.-F., Hogue, R., Chouinard, G., and Cormier, D. (2013). "DNA barcoding: an innovative tool to identify internal lepidopterans in apples.", 2nd Global Conference on Entomology, Kuching, Sarawak, Malaysia, November 8-12, 2013. (Poster)

Landry, J.-F. and Hebert, P.D.N. (2013). "468 DNA sequences for distinguishing new species of diamondback, *Plutella australiana*, moth from other *Plutella* species." doi: 10.5883/DS-PLUT1

Landry, J.-F., Nazari, V., deWaard, J.R., Mutanen, M., Lopez-Vaamonde, C., Huemer, P., and Hebert, P.D.N. (2013). "1416 DNA barcodes for distinguishing 90 species of Microlepidoptera, including 30 newly revealed Holarctic species." doi: 10.5883/DS-28NHM

Pohl, G.R., Bird, C.D., Nazari, V., and Landry, J.-F. (2013). "Update to the Checklist of the Lepidoptera of Alberta.", *Alberta Lepidopterists' Guild Newsletter*(Fall), pp. 15-24. (Newsletter)

2012

Pohl, G.R., Bird, C.D., Nazari, V., and Landry, J.-F. (2012). "2012 update to the Checklist of the Lepidoptera of Alberta.", *Alberta Lepidopterists' Guild Newsletter*, Spring 2012, pp. 7-13.

2011

Nazari, V., Landry, J.-F., and Hebert, P.D.N. (2011). "New records of European micromoths in North America detected through DNA barcoding.", XVIIth European Congress of Lepidopterology, Luxembourg, Luxembourg, May 9-13, 2011. (Presentation)

deWaard, J.R., Landry, J.-F., Nazari, V., and Humble, L.H. (2011). "The detection of 30 new Nearctic moths: support for incorporating DNA barcoding into the surveillance of non-indigenous species.", 4th International Barcode of Life Conference, Adelaide, South Australia, Australia, November 28-December 3, 2011. (Presentation)

Landry, J.-F. and Sugisima, K. (2011). "Kaila, L. and Sugisima, K. (2011) *Elachistine Moths of Australia: (Lepidoptera: Gelechioidea: Elachistidae)*", ISBN 978-0643103054. (Book Review).", *Nota Lepidopterologica*, 34(2), pp. 111-114.

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## Research Publications:

2015

Jokinen, C.C., Koot, J.M., Cole, L., Desruisseau, A., Edge, T.A., Khan, I.U.H., Koning, W., Lapen, D.R., Pintar, K.D.M., Reid-Smith, R., Thomas, J.L., Topp, E., Wang, L.Y., Wilkes, G.A., Ziebell, K.A., van Bochove, É., and Gannon, V.P.J. (2015). "The distribution of *Salmonella enterica* serovars and subtypes in surface water from five agricultural regions across Canada.", *Water Research*, 76, pp. 120-131. doi: 10.1016/j.watres.2015.02.038

Kross, A., McNair, H., Lapen, D.R., Sunohara, M., and Champagne, C. (2015). "Assessment of RapidEye vegetation indices for estimation of leaf area index and biomass in corn and soybean crops.", *International Journal of Applied Earth Observation and Geoinformation*, 34(1), pp. 235-248. doi: 10.1016/j.jag.2014.08.002

El-Khoury, A., Seidou, O., Lapen, D.R., Que, Z., Mohammadi, M., and Sunohara, M. (2015). "Combined impacts of future climate and land use changes on discharge, nitrogen and phosphorus loads for a Canadian river basin.", *Journal of Environmental Management*, 151, pp. 76-86. doi: 10.1016/j.jenvman.2014.12.012

Al-Rajab, A.J., Sabourin, L., Lapen, D.R., and Topp, E. (2015). "Dissipation of triclosan, triclocarban, carbamazepine and naproxen in agricultural soil following surface or sub-surface application of dewatered municipal biosolids.", *Science of the Total Environment*, 512-513, pp. 480-488. doi: 10.1016/j.scitotenv.2015.01.075

Que, Z., Seidou, O., Droste, R.L., Wilkes, G.A., Sunohara, M., Topp, E., and Lapen, D.R. (2015). "Using AnnAGNPS to Predict the Effects of Tile Drainage Control on Nutrient and Sediment Loads for a River Basin.", *Journal of Environmental Quality*, 44, pp. 1-13. doi: 10.2134/jeq.2014.06.0246

Frey, S.K., Topp, E., Khan, I.U.H., Ball, B., Edwards, M., Gottschall, N., Sunohara, M.D., and Lapen, D.R. (2015). "Quantitative *Campylobacter* spp., antibiotic resistance gene, and veterinary antibiotic movement to surface and ground water following manure application: Influences of Tile Drainage Control.", *Science of the Total Environment*, 532, pp. 138-153. doi: 10.1016/j.scitotenv.2015.03.114

Sunohara, M., Gottschall, N., Wilkes, G.A., Craiovan, E., Topp, E., Que, Z., Seidou, O., Frey, S.K., and Lapen, D.R. (2015). "Long Term Observations of Nitrogen and Phosphorus Export in Paired-Agricultural Watersheds Under Controlled and Conventional Tile Drainage.", *Journal of Environmental Quality*. doi: 10.2134/jeq2015.01.0008

Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Cloutier, M., Tambong, J.T., Xu, R., Topp, E., Arts, M.T., Chao, J., Adam, Z., Lévesque, C.A., Lapen, D.R., Villemur, R., Talbot, G., and Khan, I.U.H. (2015). "*Arcobacter lanthieri* sp. nov., isolated from pig and dairy cattle manure.", *International Journal of Systematic and Evolutionary Microbiology (IJSEM)*. doi: 10.1099/ijs.0.000318

Kross, A., Lapen, D.R., McNair, H., Sunohara, M.D., Champagne, C., and Wilkes, G.A. (2015). "Satellite and in situ derived corn and soybean biomass and leaf area index: response to controlled tile drainage under varying weather condition.", *Agricultural Water Management*, 160, pp. 118-131. doi: 10.1016/j.agwat.2015.06.007

Dring, C., Devlin, J.F., Boag, G., Sunohara, M.D., Fitzgibbon, J., Topp, E., and Lapen, D.R. (2015). "Incentives and disincentives identified by producers and drainage contractors/experts on the adoption of controlled tile drainage in eastern Ontario, Canada.", *Water Quality Research Journal of Canada*. doi: 10.2166/wqrj.2015.047

Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Cloutier, M., Tambong, J.T., Xu, R., Topp, E., Arts, M.T., Chao, J., Adam, Z., Lévesque, C.A., Lapen, D.R., Villemur, R., and Khan, I.U.H. (2015). "Identification, characterization and description of *Arcobacter faecis* sp. Nov., isolated from a human waste septic tank.", *Systematic and Applied Microbiology*. doi: 10.1016/j.syapm.2015.12.002

2014

Rahube, T.O., Marti, R., Scott, A., Tien, Y.C., Murray, R.L., Sabourin, L., Zhang, Y., Duenk, P.W., Lapen, D.R., and Topp, E. (2014). "Impact of Fertilizing With Raw or Anaerobically-Digested Sewage Sludge on the Abundance of Antibiotic-Resistant Coliforms, Antibiotic Resistance Genes and Pathogenic Bacteria in Soil, and on Vegetables at Harvest.", *Applied and Environmental Microbiology*, 80(22), pp. 6898-6907. doi: 10.1128/AEM.02389-14

Sunohara, M., Craiovan, E., Topp, E., Gottschall, N., Drury, C.F., and Lapen, D.R. (2014). "Comprehensive Nitrogen Budgets for Corn and Soybean Fields Under Controlled Tile Drainage for Wetter and Drier Cropping Seasons.", *Journal of Environmental Quality*, 43(2), pp. 617-630. doi: 10.2134/jeq2013.04.0117

Adam, Z., Whiteduck-Leveillee, K., Cloutier, M., Chen, W., Lewis, C.T., Lévesque, C.A., Topp, E., Lapen, D.R., Tambong, J.T., Talbot, G., and Khan, I.U.H. (2014). "Draft genome sequences of two *Arcobacter* strains isolated from human feces", *Genome Announcements*, 2(2:e00113-14). doi: 10.1128/genomeA.00113-14

Adam, Z., Whiteduck-Leveillee, K., Cloutier, M., Tambong, J.T., Chen, W., Lewis, C.T., Lévesque, C.A., Topp, E., Lapen, D.R., Talbot, G., and Khan, I.U.H. (2014). "Draft genome sequences of three *Arcobacter* strains of pig and dairy cattle manure origin.", *Genome Announcements*, 2(3:e00377-14). doi: 10.1128/genomeA.00377-14

Wilkes, G.A., Brassard, J., Edge, T.A., Gannon, V.P.J., Gottschall, N., Jokinen, C.C., Jones, T.H., Khan, I.U.H., Marti, R., Sunohara, M., Topp, E., and Lapen, D.R. (2014). "Long-term monitoring of waterborne pathogens and microbial source tracking markers in paired-agricultural watersheds under controlled and conventional tile drainage management.", *Applied and Environmental Microbiology*, 80(12), pp. 3708-3720. doi: 10.1128/AEM.00254-14

Macherius, A., Lapen, D.R., Reemtsma, T., Römbke, J., Topp, E., and Coors, A. (2014). "Triclocarban, triclosan and its transformation product methyl triclosan in native earthworm species four years after a commercial-scale biosolids application.", *Science of the Total Environment*, 472, pp. 235-238. doi: 10.1016/j.scitotenv.2013.10.113

Khan, I.U.H., Gannon, V.P.J., Jokinen, C.C., Kent, R., Koning, W., Lapen, D.R., Medeiros, D.T., Miller, J.J., Neumann, N.F., Phillips, R., Schreier, H., Topp, E., van Bochove, É., Wilkes, G.A., and Edge, T.A. (2014). "A National Investigation of the Prevalence and Diversity of Thermophilic *Campylobacter* Species in Agricultural Watersheds in Canada", *Water Research*, 61, pp. 243-252. doi: 10.1016/j.watres.2014.05.027

Adam, Z., Whiteduck-Leveillee, K., Cloutier, M., Chen, W., Lewis, C.T., Lévesque, C.A., Topp, E., Lapen, D.R., Tambong, J.T., Talbot, G., and Khan, I.U.H. (2014). "Draft genome sequence of *Arcobacter cibarius* Strain LMG21996(SUP)T{/SUP} isolated from broiler carcasses.", *Genome Announcements*, 2(1), pp. e00034-14. doi: 10.1128/genomeA.00034-14

McNaim, H., Kross, A., Lapen, D.R., Caves, R., and Shang, J. (2014). "Early Season Monitoring of Corn and Soybeans with TerraSAR-X and RADARSAT-2.", *International Journal of Applied Earth Observation and Geoinformation*, 28(1), pp. 252-259. doi: 10.1016/j.jag.2013.12.015

Frey, S.K., Gottschall, N., Wilkes, G.A., Gregoire, D., Topp, E., Pintar, K.D.M., Sunohara, M.D., Romain, M., and Lapen, D.R. (2014). "Rainfall-Induced Runoff From Exposed Streambed Sediments: An Important Source of Water Pollution.", *Journal of Environmental Quality*, 44(1), pp. 236-247. doi: 10.2134/jeq2014.03.0122

Chantigny, M.H., Lamey, F.J., Bittman, S., Lapen, D.R., Angers, D.A., Rochette, P., and Hunt, D.E. (2014). "Transformations and fate of fall-applied nitrogen as a function of winter conditions – a multi-site experiment", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014, Extended Abstract – reviewed. (Abstract)

Gregorich, E.G., McLaughlin, N.B., Lapen, D.R., Ma, B.-L., and Rochette, P. (2014). "Soil Compaction, Both an Environmental and Agronomic Culprit Increased Nitrous Oxide Emissions and Reduced Plant Nitrogen Uptake.", *Soil Science Society of America Journal*, 78(6), pp. 1913-1923. doi: 10.2136/sssaj2014.03.0117

El-Khoury, A., Seidou, O., Lapen, D.R., Sunohara, M., Que, Z., Mohammadian, M., and Daneshfar, B. (2014). "Prediction of land-use conversions for use in watershed-scale hydrological modeling: a Canadian case study.", *Canadian Geographer*, 58(4), pp. 499-516. doi: 10.1111/cag.12105

## 2013

Nangia, V., Sunohara, M., Topp, E., Gregorich, E.G., Drury, C.F., Gottschall, N., and Lapen, D.R. (2013). "Measuring and Modeling the Effects of Drainage Water Management on Soil Greenhouse Gas Fluxes from Corn and Soybean Fields.", *Journal of Environmental Management*, 129, pp. 652-664. doi: 10.1016/j.jenvman.2013.05.040

Gottschall, N., Topp, E., Edwards, M., Payne, M., Kleywegt, S., Russell, P., and Lapen, D.R. (2013). "Hormones, sterols, and fecal indicator bacteria in groundwater, soil, and subsurface drainage following a high single application of municipal biosolids to a field.", *Chemosphere*, 91(3), pp. 275-286. doi: 10.1016/j.chemosphere.2012.10.108

Marti, R., Zhang, Y., Tien, Y.C., Lapen, D.R., and Topp, E. (2013). "Assessment of a new *Bacteroidales* marker targeting North American Beaver (*Castor Canadensis*) fecal pollution by real-time PCR.", *Journal of Microbiological Methods*, 95(2), pp. 201-206. doi: 10.1016/j.mimet.2013.08.016

Frey, S.K., Topp, E., Edge, T.A., Fall, C., Gannon, V.P.J., Jokinen, C.C., Marti, R., Neumann, N.F., Ruecker, N.J., Wilkes, G.A., and Lapen, D.R. (2013). "Using SWAT, *Bacteroidales* microbial source tracking markers, and fecal indicator bacteria to predict waterborne pathogen occurrence in an agricultural watershed.", *Water Research*, 47(16), pp. 6326-6337. doi: 10.1016/j.watres.2013.08.010

Wilkes, G.A., Ruecker, N.J., Neumann, N.F., Gannon, V.P.J., Jokinen, C.C., Sunohara, M., Topp, E., Pintar, K.D.M., Edge, T.A., and Lapen, D.R. (2013). "Spatiotemporal Analysis of *Cryptosporidium* Species/Genotypes and Relationships with Other Zoonotic Pathogens in Surface Water from Mixed use Watersheds.", *Applied and Environmental Microbiology*, 79(2), pp. 434-448. doi: 10.1128/AEM.01924-12

- Wilkes, G.A., Brassard, J., Edge, T.A., Gannon, V.P.J., Jokinen, C.C., Jones, T.H., Marti, R., Neumann, N.F., Ruecker, N.J., Sunohara, M., Topp, E., and Lapen, D.R. (2013). "Coherence among different microbial source tracking markers in a small agricultural stream with and without livestock exclusion practices.", *Applied and Environmental Microbiology*, 79(20), pp. 6207-6219. doi: 10.1128/AEM.01626-13
- Zoski, E.D., Lapen, D.R., Gottschall, N., Murrell, R.S., and Schuba, B. (2013). "Nitrogen, Phosphorus, and Bacteria Removal in Laboratory-Scale Woodchip Bioreactors Amended with Drinking Water Treatment Residuals.", *Transactions of the ASABE*, 56(4), pp. 1339-1347. doi: 10.13031/trans.56.9836
- Parmley, E.J., Pintar, K.D.M., Majowicz, S.E., Avery, B., Cook, A., Jokinen, C.C., Gannon, V.P.J., Lapen, D.R., Topp, E., Edge, T.A., Gilmour, M., Pollari, F., Reid-Smith, R., and Irwin, R. (2013). "A Canadian Application of One Health: Integration of Salmonella Data from Various Canadian Surveillance Programs (2005–2010).", *Foodborne Pathogens and Disease*, 10, pp. 747-756. doi: 10.1089/fpd.2012.1438
- Schmidt, P.J., Pintar, K.D.M., Fazil, A.M., Flemming, C.A., Lanthier, M., Laprade, N., Sunohara, M., Simhon, A., Thomas, J.L., Wilkes, G.A., Topp, E., and Lapen, D.R. (2013). "Using *Campylobacter* spp. and *E. coli* Data and Bayesian Microbial Risk Assessment to Examine Public Health Risks in Agricultural Watersheds under Tile Drainage Management.", *Water Research*, 47(10), pp. 3255–3272. doi: 10.1016/j.watres.2013.02.002
- Marti, R., Gannon, V.P.J., Jokinen, C.C., Lanthier, M., Lapen, D.R., Neumann, N.F., Ruecker, N.J., Scott, A., Wilkes, G.A., Zhang, Y., and Topp, E. (2013). "Quantitative multi-year elucidation of fecal sources of waterborne pathogen contamination in the South Nation River basin using Bacteroidales microbial source tracking markers.", *Water Research*, 47(7), pp. 2315-2324. doi: 10.1016/j.watres.2013.02.009
- Frey, S.K., Ball, B., Edwards, M., Gottschall, N., Sunohara, M., Zoski, E.D., and Lapen, D.R. (2013). "Tile drainage management influences on surface-water and groundwater quality following liquid manure application.", *Journal of Environmental Quality*. doi: 10.2134/jeq2012.0261
- Ruecker, N.J., Matsune, J.C., Lapen, D.R., Topp, E., Edge, T.A., and Neumann, N.F. (2013). "The detection of *Cryptosporidium* and the resolution of mixtures of species and genotypes from water.", *Infection, Genetics and Evolution*, 15, pp. 3-9. doi: 10.1016/j.meegid.2012.09.009
- Wilkes, G.A., Brassard, J., Edge, T.A., Gannon, V.P.J., Jokinen, C.C., Jones, T.H., Neumann, N.F., Pintar, K.D.M., Ruecker, N.J., Schmidt, P.J., Sunohara, M., Topp, E., and Lapen, D.R. (2013). "Bacteria, viruses, and parasites in an intermittent stream protected from and exposed to pasturing cattle: prevalence, densities, and quantitative microbial risk assessment.", *Water Research*, 47(16), pp. 6244-6257.
- Frey, S.K., Topp, E., Ball Coelho, B.R., Edwards, M., Gottschall, N., Sunohara, M., Zoski, E.D., and Lapen, D.R. (2013). "Tile drainage management influences on surface-water and groundwater quality following liquid manure application.", *Journal of Environmental Quality*, 42, pp. 881-892.
- Wilkes, G.A., Brassard, J., Edge, T.A., Gannon, V.P.J., Jokinen, C.C., Jones, T.H., Neumann, N.F., Pintar, K.D.M., Ruecker, N.J., Schmidt, P.J., Sunohara, M., and Lapen, D.R. (2013). "Bacteria, viruses, and parasites in an intermittent stream protected from and exposed to pasturing cattle: Prevalence, densities, and quantitative microbial risk assessment.", *Water Research*. doi: 10.1016/j.watres.2013.07.041
- 2012
- Ruecker, N.J., Matsune, J.C., Wilkes, G.A., Lapen, D.R., Topp, E., Edge, T.A., Sensen, C.W., Xiao, L., and Neumann, N.F. (2012). "Molecular and phylogenetic approaches for assessing sources of *Cryptosporidium* contamination in water.", *Water Research*, 46(16), pp. 5135-5150. doi: 10.1016/j.watres.2012.06.045
- Sabourin, L., Duenk, P.W., Bonte-Gelok, S., Payne, M., Lapen, D.R., and Topp, E. (2012). "Uptake of pharmaceuticals, hormones and parabens into vegetables grown in soil fertilized with municipal biosolids.", *Science of the Total Environment*, 431, pp. 233-236. doi: 10.1016/j.scitotenv.2012.05.017
- Crabbé, P., Lapen, D.R., Clark, H., Sunohara, M., and Liu, Y. (2012). "Economic benefits of controlled tile drainage: watershed evaluation of beneficial management practices, South Nation river basin, Ontario.", *Water Quality Research Journal of Canada*, 47(1), pp. 30-41. doi: 10.2166/wqrj.2012.007
- Frey, S.K., Rudolph, D.R., Lapen, D.R., and Ball Coelho, B.R. (2012). "Viscosity dependant dual-permeability modelling of liquid manure movement in layered, macroporous, tile drained soil.", *Water Resources Research*, 48(W00L11). doi: 10.1029/2011WR010809
- Sunohara, M., Topp, E., Wilkes, G.A., Gottschall, N., Neumann, N.F., Ruecker, N.J., Jones, T.H., Edge, T.A., Marti, R., and Lapen, D.R. (2012). "Impact of Riparian Zone Protection From Cattle on Nutrient, Bacteria, F5 coliphage, *Cryptosporidium*, and *Giardia* Loading of an Intermittent Stream.", *Journal of Environmental Quality*, 41(4), pp. 1301-1314. doi: 10.2134/jeq2011.0407
- Gottschall, N., Topp, E., Metcalfe, C.D., Edwards, M., Payne, M., Kleywegt, S., Russell, P., and Lapen, D.R. (2012). "Pharmaceutical and personal care products in groundwater, subsurface drainage, soil, and wheat grain, following a high single application of municipal biosolids to a field.", *Chemosphere*, 87(2), pp. 194-203. doi: 10.1016/j.chemosphere.2011.12.018

Edge, T.A., El-Shaarawi, A., Gannon, V.P.J., Jokinen, C.C., Kent, R., Khan, I.U.H., Koning, W., Lapen, D.R., Miller, J.J., Neumann, N.F., Phillips, R., Robertson, W.J., Schreier, H., Scott, A., Shtepani, I., Topp, E., Wilkes, G.A., and van Bochove, É. (2012). "Investigation of an Escherichia coli Environmental Benchmark for Waterborne Pathogens in Agricultural Watersheds in Canada.", *Journal of Environmental Quality*, 41(1), pp. 21-30. doi : 10.2134/jeq2010.0253

Lyautey, E., Hartmann, A., Lapen, D.R., and Topp, E. (2012). "A comparison of enrichment and direct plating methods for isolation of *Listeria monocytogenes* from surface water.", *Canadian Journal of Microbiology*, 58(12), pp. 1405-1410. doi : 10.1139/cjm-2012-0418

Ball Coelho, B.R., Lapen, D.R., Murray, R.L., Topp, E., Bruin, A.J., and Khan, B. (2012). "Nitrogen loading to offsite waters from liquid swine manure application under different drainage and tillage practices.", *Agricultural Water Management*, 104, pp. 40-50. doi : 10.1016/j.agwat.2011.11.014

Jokinen, C.C., Edge, T.A., Koning, W., Laing, C.R., Lapen, D.R., Miller, J.J., Mutschall, S.K., Scott, A., Taboada, E.N., Thomas, J.E., Topp, E., Wilkes, G.A., and Gannon, V.P.J. (2012). "Spatial and Temporal Drivers of Zoonotic Pathogen Contamination of an Agricultural Watershed.", *Journal of Environmental Quality*, 41(1), pp. 242-252. doi : 10.2134/jeq2011.0203

## 2011

Marti, R., Zhang, Y., Lapen, D.R., and Topp, E. (2011). "Development and validation of a microbial source tracking marker for the detection of fecal pollution by muskrats.", *Journal of Microbiological Methods*, 87(1), pp. 82-88. doi : 10.1016/j.mimet.2011.07.013

Wilkes, G.A., Edge, T.A., Gannon, V.P.J., Jokinen, C.C., Lyautey, E., Neumann, N.F., Ruecker, N.J., Scott, A., Sunohara, M., Topp, E., and Lapen, D.R. (2011). "Associations among Pathogenic Bacteria, Parasites, and Environmental and Land use Factors in Multiple Mixed-Use Watersheds, Eastern Ontario Canada.", *Water Research*, 45(18), pp. 5807-5825. doi : 10.1016/j.watres.2011.06.021

Gregorich, E.G., Lapen, D.R., Ma, B.-L., McLaughlin, N.B., and VandenBygaart, A.J. (2011). "Soil and Crop Response to Varying Levels of Compaction, Nitrogen Fertilization, and Clay Content.", *Soil Science Society of America Journal*, 75(4), pp. 1483-1492. doi : 10.2136/sssaj2010.0395

Sabourin, L., Al-Rajab, A.J., Chapman, R.A., Lapen, D.R., and Topp, E. (2011). "Fate of the antifungal drug clotrimazole in agricultural soil.", *Environmental Toxicology and Chemistry*, 30(3), pp. 582-587. doi : 10.1002/etc.432

Edwards, M., Topp, E., Bolton, P., and Lapen, D.R. (2011). "Practical considerations optically sensing rhodamine WT in water impacted by municipal biosolids.", *Environmental Monitoring and Assessment*, 173(1-4), pp. 37-44. doi : 10.1007/s10661-010-1368-9

Lyautey, E., Wilkes, G.A., Miller, J.J., van Bochove, É., Schreier, H., Koning, W., Edge, T.A., Lapen, D.R., and Topp, E. (2011). "Variation of an indicator of *Escherichia coli* persistence from surface waters of mixed-use watersheds, and relationship with population density and other factors.", *Annales de Limnologie - International Journal of Limnology*, 47(1), pp. 1-9. doi : 10.1051/limn/2010033

Lanthier, M., Scott, A., Cloutier, M., Durie, D., Henderson, V.C., Wilkes, G.A., Lapen, D.R., and Topp, E. (2011). "Distribution of selected virulence genes and antibiotic resistance in *Enterococcus* species isolated from the South Nation River drainage basin, Ontario, Canada.", *Journal of Applied Microbiology*, 110(2), pp. 407-421. doi : 10.1111/j.1365-2672.2010.04893.x

Ball Coelho, B.R., Murray, R.L., Lapen, D.R., Topp, E., and Bruin, A.J. (2011). "Phosphorus and sediment loading to surface waters from liquid swine manure application under different drainage and tillage practices.", *Agricultural Water Management*, 104, pp. 51-61. doi : 10.1016/j.agwat.2011.10.020

## Other Science Related Publications:

### 2015

Frey, S.K., Park, Y.-J., Hwang, H.-T., Berg, S., Lapen, D.R., and Sudicky, E.A. (2015). "Hyper-Resolution Simulation of Field-Scale Physical Processes in Watershed-Scale Integrated Hydrologic Models.", *Grand Challenges in Modeling Soil Processes Symposium: Soil Science Society of America Annual Meeting, Minneapolis, MN, USA, November 15-18, 2015.*

Hussain, S., Lapen, D.R., Frey, S.K., Gottschall, N., Blowes, D., and Ptacek, C. (2015). "Reactive Transport Modeling of Nitrogen Fate in a Structured Clay Loam Subject to Liquid Swine Manure Application: Implications of Tile Drainage Management.", *ASA-CSSA-SSSA International Annual Meeting: Synergy in Science. Partnering for Solutions, Minneapolis, MN, USA, November 15-18, 2015.*



2014

Khan, I.U.H., Cloutier, M., Topp, E., Lapen, D.R., Lévesque, C.A., Edge, T.A., Tambong, J.T., Talbot, G., and Wilkes, G.A. (2014). "Quantitative Detection and Identification of Arcobacter, Campylobacter and Helicobacter Species in a Canadian Agricultural Watershed.", XVIth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada, July 27-August 1, 2014.

Chantigny, M.H., Lamey, F.J., Bittman, S., Lapen, D.R., Angers, D.A., Rochette, P., and Hunt, D.W.A. (2014). "Transformation and fate of fall-applied nitrogen as a function of winter conditions – a multi-site experiment.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014. (Poster)

2013

Léveillé, K., Laprade, N., Léveillé, W.J., Topp, E., Lapen, D.R., Tambong, J.T., Talbot, G., Wilkes, G.A., and Khan, I.U.H. (2013). "Antimicrobial resistance profiling of Arcobacter butzleri isolates from faecal sources and an agricultural watershed.", 63rd Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013, Abstract AE87.

Laprade, N., Whiteduck-Leveillee, J., Whiteduck-Leveillee, K., Cloutier, M., Tambong, J.T., Topp, E., Lapen, D.R., Wilkes, G.A., and Khan, I.U.H. (2013). "Detection of virulence, toxin and tet(O) resistant genes in thermophilic Campylobacter species using multiplex PCR assays.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.

Whiteduck-Leveillee, K., Laprade, N., Whiteduck-Leveillee, J., Topp, E., Kaneza, C.A., Lapen, D.R., Tambong, J.T., Guylaine, T., Wilkes, G.A., and Khan, I.U.H. (2013). "Antimicrobial resistance profiling of Arcobacter butzleri isolated from a Canadian agricultural watershed.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.

Kaneza, C.A., Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Identification and detection of Arcobacter spp. from water and fecal matter using genus- and species-specific PCR assays.", La Cité Collégiale, Ottawa, ON, Canada, April 26, 2013. (Poster)

Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Kaneza, C.A., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Development of genus-specific PCR assay for rapid identification of Arcobacter species: Optimization of PCR Primers and Conditions, and Restriction Pattern Analysis.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.

Whiteduck-Leveillee, J., Whiteduck-Leveillee, K., Kaneza, C.A., Cloutier, M., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Multiplex PCR assay for the detection and identification of virulent genes in Arcobacter species.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.

Khan, I.U.H., Cloutier, M., Edge, T.A., Schellhorn, H.E., Gupta, R.S., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Wilkes, G.A., Nowak, E.K., and Hill, S. (2013). "A comparative study on the prevalence of the thermophilic Campylobacter spp. in agricultural and recreational waters.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.

Léveillé, W.J., Kaneza, C.A., Léveillé, K., Talbot, G., Topp, E., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Optimization of multiplex PCR assays for the detection of virulence genes in Arcobacter species isolated from fecal samples.", 63rd Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013, Abstract AE86.

Léveillé, W.J., Kaneza, C.A., Léveillé, K., Talbot, G., Topp, E., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Optimization of a genus-specific PCR assay and restriction fragment length polymorphism (RFLP) analysis for rapid detection.", 63rd Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013, Abstract AE88.

Chantigny, M.H., Lamey, F.J., Angers, D.A., Bittman, S., Lapen, D.R., and Rochette, P. (2013). "Overwinter transformation and fate of fall-applied nitrogen in various Canadian ecozones.", Canadian Society of Soil Science - Manitoba Soil Science Soc. - Can. Soc. Agric. Forest Meteorology Joint Ann. Meeting, Winnipeg, MB, Canada, July 22-25, 2013, pp. 46. (Abstract)

Kaneza, C.A., Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Identification and detection of Arcobacter spp. From water and fecal matter using genus- and species-specific PCR assays.", La Cité Collégiale, Ottawa, ON, Canada, April 26, 2013.

## 2012

Sollicec, D.M., Massé, D.I., Lapen, D.R., and Sauvé, S. (2012). "Analysis of trimethoprim, lincomycin and sulfadoxin using Laser Diode Thermal Desorption Atmospheric Pressure Chemical Ionization Tandem Mass Spectrometry in manure.", 60th Annual Conference of the American Society for Mass Spectrometry (ASMS), Vancouver, BC, Canada, May 19-24, 2012.

Sollicec, D.M., Massé, D.I., Lapen, D.R., and Sauvé, J.P. (2012). "Analysis of trimethoprim, lincomycin and sulfadoxin using Laser Diode Thermal Desorption Atmospheric Pressure Chemical Ionization Tandem Mass Spectrometry in manure.", 16e colloque annuel du Chapitre Saint-Laurent, Hôtel Château Laurie, Québec City, QC, Canada, June 7-8, 2012.

Sollicec, D.M., Massé, D.I., Lapen, D.R., and Sauvé, J.P. (2012). "Analysis of trimethoprim, lincomycin and sulfadoxin using Laser Diode Thermal Desorption Atmospheric Pressure Chemical Ionization Tandem Mass Spectrometry in manure.", Montreal Post-ASMS Symposium, Montréal, QC, Canada, September 20, 2012.

Ruecker, N.J., Matsune, J.C., Lapen, D.R., Schreier, H., van Bochove, É., Koning, W., Edge, T.A., Topp, E., Sensen, C.W., Xiao, L., and Neumann, N.F. (2012). "Phylogenetic processes for analyzing the sequence diversity of *Cryptosporidium* from environmental samples used for source tracking.", American Water Works Association (AWWA) Water Quality Technology Conference and Exposition 2011, Phoenix Convention Center, Phoenix, Arizona, USA, November 13-17, 2011, pp. 2106-2117.

## 2011

Nangia, V., Sunohara, M., Topp, E., Gregorich, E.G., Gottschall, N., Drury, C.F., and Lapen, D.R. (2011). "Measuring the effects of water table management on soil greenhouse gas emissions from corn and soybean fields in Eastern Canada.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Nangia, V., Sunohara, M., Topp, E., Gregorich, E.G., Gottschall, N., Drury, C.F., Toussef, M.A., and Lapen, D.R. (2011). "Assessing field-scale effects of controlled tile drainage on N mass balance from corn and soybean fields in Eastern Ontario, Canada.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

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## Research Publications:

2015

Giallongo, F., Hristov, A.N., Oh, J., Frederick, T., Weeks, H., Werner, J., Lapierre, H., Patton, R.A., Gehman, A., and Parys, C. (2015). "Effects of slow-release urea and rumen-protected methionine and histidine on performance of dairy cows.", *Journal of Dairy Science (JDS)*, 98(5), pp. 3292-3308. doi: 10.3168/jds.2014-8791

Larsen, M., Galindo, C.E., Ouellet, D.R., Maxin, G., Kristensen, N.B., and Lapierre, H. (2015). "Abomasal amino acid infusion in postpartum dairy cows: Effect on whole-body, splanchnic, and mammary amino acid metabolism.", *Journal of Dairy Science (JDS)*, 98(11), pp. 7944-7961. doi: 10.3168/jds.2015-9439

Galindo, C.E., Larsen, M., Ouellet, D.R., Maxin, G., Pellerin, D., and Lapierre, H. (2015). "Abomasal amino acid infusion in postpartum dairy cows: Effect on whole-body, splanchnic, and mammary glucose metabolism.", *Journal of Dairy Science (JDS)*, 98(11), pp. 7962-7974. doi: 10.3168/jds.2014-9013

Lee, C., Giallongo, F., Hristov, A.N., Lapierre, H., Cassidy, T.W., Heyler, K. S., Varga, G. A., and Parys, C. (2015). "Effect of dietary protein level and rumen-protected amino acid supplementation on amino acid utilization for milk protein in lactating dairy cows.", *Journal of Dairy Science (JDS)*, 98(3), pp. 1885-1902. doi: 10.3168/jds.2014-8496

Loncke, C., Nozi ere, P., Bahloul, L., Vernet, J., Lapierre, H., Sauv ant, D., and Ortigues-Marty, I. (2015). "Empirical prediction of net splanchnic release of ketogenic nutrients, acetate, butyrate and  $\beta$ -hydroxybutyrate in ruminants: A meta-analysis.", *Animal*, 9(3), pp. 449-463. doi: 10.1017/S1751731114002638

Patton, R.A., Hristov, A.N., Parys, C., and Lapierre, H. (2015). "Relationships between circulating plasma concentrations and duodenal flows of essential amino acids in lactating dairy cows.", *Journal of Dairy Science (JDS)*. doi: 10.3168/jds.2014-9000

2014

Martineau, R., C ortes, C., Ortigues-Marty, I., Ouellet, D.R., and Lapierre, H. (2014). "Evaluation of equations predicting the net portal appearance of amino acid nitrogen in ruminants.", *Journal of Dairy Science (JDS)*, 97(3), pp. 1670-1681. doi: 10.3168/jds.2013-7249

Martineau, R., Ouellet, D.R., and Lapierre, H. (2014). "The effect of feeding canola meal on concentrations of plasma amino acids.", *Journal of Dairy Science (JDS)*, 97(3), pp. 1603-1610. doi: 10.3168/jds.2013-7125

Patton, R.A., Hristov, A.N., and Lapierre, H. (2014). "Protein Feeding and Balancing for Amino Acids in Lactating Dairy Cattle.", *Veterinary Clinics of North America: Food Animal Practice*, 30(3), pp. 599-621. doi: 10.1016/j.cvfa.2014.07.005

Larsen, M., Lapierre, H., and Kristensen, N.B. (2014). "Abomasal protein infusion in postpartum transition dairy cows: Effect on performance and mammary metabolism.", *Journal of Dairy Science (JDS)*, 97(9), pp. 5608-5622. doi: 10.3168/jds.2013-7247

Columbus, D.A., Lapierre, H., Htoo, J.K., and de Lange, C.F.M. (2014). "Nonprotein nitrogen is absorbed from the large intestine and increases nitrogen balance in growing pigs fed a valine-limiting diet.", *Journal of Nutrition*, 144(5), pp. 614-620. doi: 10.3945/jn.113.187070

2013

Iroshan, I.H., Lapierre, H., and Doepel, L. (2013). "The effect of a limited supply of phenylalanine, threonine, and tryptophan on milk yield and composition.", in Olthjen, J.W., Kebreab, E. and Lapierre, H. (eds.) - *Energy and protein metabolism and nutrition in sustainable animal production*. EAAP publication No. 134., Wageningen Academic Publishers, The Netherlands, pp. 115-116.

Ouellet, D.R., Valkeners, D., and Lapierre, H. (2013). "Effects of metabolizable protein supply on N efficiency; plasma amino acid concentrations in dairy cows.", in Olthjen, J.W., Kebreab, E. and Lapierre, H. (eds.) - *Energy and protein metabolism and nutrition in sustainable animal production*. EAAP publication No. 134., Wageningen Academic Publishers, The Netherlands, pp. 453-454.

Lapierre, H., Lemosquet, S., and Ouellet, D.R. (2013). "Contribution of essential amino acids to glucose metabolism and lactose secretion in late lactation dairy cows.", in Oltjen, J.W., Kebreab, E. and Lapierre, H. (eds.) - Energy and protein metabolism and nutrition in sustainable animal production. EAAP publication No. 134., Wageningen Academic Publishers, The Netherlands, pp. 447-448.

Larsen, M., Galindo, C.E., Ouellet, D.R., Maxin, G., Kristensen, N.B., and Lapierre, H. (2013). "Effect of abomasal amino acid infusion on splanchnic metabolism in postpartum transition dairy cows.", in Oltjen, J.W., Kebreab, E. and Lapierre, H. (eds.) - Energy and protein metabolism and nutrition in sustainable animal production. EAAP publication No. 134., Wageningen Academic Publishers, The Netherlands, pp. 409-410.

Bahloul, L., Ortigues-Marty, I., Vernet, J., Lapierre, H., Nozière, P., and Sauvant, D. (2013). "Prediction of net hepatic release of glucose using a « hybrid » mechanistic model in ruminants applied to positive energy balance.", in Oltjen, J.W., Kebreab, E. and Lapierre, H. (eds.) - Energy and protein metabolism and nutrition in sustainable animal production. EAAP publication No. 134., Wageningen Academic Publishers, The Netherlands, pp. 349-350.

Maxin, G., Ouellet, D.R., and Lapierre, H. (2013). "Effect of substitution of soybean meal by canola meal or distillers grain in dairy rations on amino acid and glucose availability.", *Journal of Dairy Science (JDS)*, 96(12), pp. 7806-7817. doi : 10.3168/jds.2013-6976

Maxin, G., Ouellet, D.R., and Lapierre, H. (2013). "Ruminal degradability of dry matter, crude protein, and amino acids in soybean meal, canola meal, corn, and wheat dried distillers grains.", *Journal of Dairy Science (JDS)*, 96(8), pp. 5151-5160. doi : 10.3168/jds.2012-6392

Martineau, R., Ouellet, D.R., and Lapierre, H. (2013). "Feeding canola meal to dairy cows: A meta-analysis on lactational responses.", *Journal of Dairy Science (JDS)*, 96(3), pp. 1701-1714. doi : 10.3168/jds.2012-5740

Maxin, G., Ouellet, D.R., and Lapierre, H. (2013). "Contribution of amino acids to glucose and lactose synthesis in lactating dairy cows.", in Oltjen, J.W., Kebreab, E. and Lapierre, H. (eds.) - Energy and protein metabolism and nutrition in sustainable animal production. EAAP publication No. 134., Wageningen Academic Publishers, The Netherlands, pp. 443-445.

Galindo, C.E., Larsen, M., Ouellet, D.R., Maxin, G., Pellerin, D., and Lapierre, H. (2013). "Effect of amino acid supply on whole body and tissue glucose kinetics in postpartum dairy cows.", in Oltjen, J.W., Kebreab, E. and Lapierre, H. (eds.) - Energy and protein metabolism and nutrition in sustainable animal production. EAAP publication No. 134., Wageningen Academic Publishers, The Netherlands, pp. 451-452.

## 2012

Lee, C., Hristov, A.N., Heyler, K. S., Cassidy, T.W., Lapierre, H., Varga, G. A., and Parys, C. (2012). "Effects of metabolizable protein supply and amino acid supplementation on nitrogen utilization, milk production, and ammonia emissions from manure in dairy cows.", *Journal of Dairy Science (JDS)*, 95(9), pp. 5253-5268. doi : 10.3168/jds.2012-5366

Lapierre, H., Holtrop, G., Calder, A.G., Renaud, J., and Loble, G.E. (2012). "Is D-methionine bioavailable to the dairy cow?", *Journal of Dairy Science (JDS)*, 95(1), pp. 353-362. doi : 10.3168/jds.2011-4553

Pacheco, D., Patton, R.A., Parys, C., and Lapierre, H. (2012). "Ability of commercially available dairy ration programs to predict duodenal flows of protein and essential amino acids in dairy cows.", *Journal of Dairy Science (JDS)*, 95(2), pp. 937-963. doi : 10.3168/jds.2011-4171

Lapierre, H., Loble, G.E., Doepel, L., Raggio, G., Rulquin, H., and Lemosquet, S. (2012). "Triennial lactation symposium: Mammary metabolism of amino acids in dairy cows.", *Journal of Animal Science*, 90(5), pp. 1708-1721. doi : 10.2527/jas.2011-4645

Lee, C., Hristov, A.N., Cassidy, T.W., Heyler, K. S., Lapierre, H., Varga, G. A., de Veth, M.J., Patton, R.A., and Parys, C. (2012). "Rumen-protected lysine, methionine, and histidine increase milk protein yield in dairy cows fed a metabolizable protein-deficient diet.", *Journal of Dairy Science (JDS)*, 95(10), pp. 6042-6056. doi : 10.3168/jds.2012-5581

Columbus, D., Lapierre, H., Fuller, K.D., Fuller, M.F., Htoo, J.K., and de Lange, C.F.M. (2012). "The impact of lower gut nitrogen supply on nitrogen balance and urea kinetics in growing pigs fed a valine-limiting diet.", *Journal of Animal Science*, 90(Suppl. 4), pp. 62-64. doi : 10.2527/jas.51843

## 2011

Lapierre, H., Vázquez-Añón, M., Parker, D., Dubreuil, P., Holtrop, G., and Loble, G.E. (2011). "Metabolism of 2-hydroxy-4-(methylthio)butanoate (HMTBA) in lactating dairy cows.", *Journal of Dairy Science (JDS)*, 94(3), pp. 1526-1535. doi : 10.3168/jds.2010-3914

Martineau, R., Sauvant, D., Ouellet, D.R., Côrtes, C., Vernet, J., Ortigues-Marty, I., and Lapierre, H. (2011). "Relation of net portal flux of nitrogen compounds with dietary characteristics in ruminants: A meta-analysis approach.", *Journal of Dairy Science (JDS)*, 94(6), pp. 2986-3001. doi : 10.3168/jds.2010-3438

Galindo, C.E., Ouellet, D.R., Pellerin, D., Lemosquet, S., Ortigues-Marty, I., and Lapierre, H. (2011). "Effect of amino acid or casein supply on whole-body, splanchnic, and mammary glucose kinetics in lactating dairy cows.", *Journal of Dairy Science (JDS)*, 94(11), pp. 5558-5568. doi : 10.3168/jds.2010-3978

Doepel, L. and Lapierre, H. (2011). "Deletion of arginine from an abomasal infusion of amino acids does not decrease milk protein yield in Holstein cows.", *Journal of Dairy Science (JDS)*, 94(2), pp. 864-873. doi : 10.3168/jds.2010-3497

## Other Science Related Publications :

### 2015

Ouellet, D.R. and Lapierre, H. (2015). "Endogenous Nitrogen Secretion in Dairy Cows: Transaction along the digestive tract and implication in amino acid requirements.", 29th ADSA Discover Conference on Amino Acid Requirements, Chicago, USA, May 26-29, 2015.

Lapierre, H. and Ouellet, D.R. (2015). "How the efficiency of utilization of histidine varies with supply in dairy cows?", *Journal of Dairy Science (JDS)*, 98(Suppl. 2), pp. 609. (Abstract)

Ouellet, D.R., Maxin, M., and Lapierre, H. (2015). "Urea kinetics in dairy cows fed soybean meal (SBM), canola meal (CM), corn high protein dried distillers grains (HPDDG) or wheat dried distillers grains with solubles (WDDGS).", *Journal of Dairy Science (JDS)*, 98(Suppl. 2), pp. 462. (Abstract)

Lapierre, H., Ouellet, D.R., and Martineau, R. (2015). "Challenges to determine the true net supply of amino acids.", 29th ADSA Discover Conference on Amino Acid Requirements, Chicago, USA, May 26-29, 2015.

### 2014

Lapierre, H., Ouellet, D.R., and Lobley, G.E. (2014). "Estimation of histidine requirement in lactating dairy cows.", *Journal of Dairy Science (JDS)*, 97(E-Suppl.1), pp. 757. (Abstract)

Artegoitia, V.M., Girard, C.L., Lapierre, H., Campagna, S.R., Harte, F., and de Veth, M.J. (2014). "Evaluation of choline metabolites in milk as potential biomarkers for choline absorption in the lactating dairy cow.", *Journal of Dairy Science (JDS)*, 97(E-Suppl.1), pp. 361. (Abstract)

Ouellet, D.R., Lobley, G.E., and Lapierre, H. (2014). "Histidine requirement of dairy cows determined by the indicator amino acid oxidation (AAO) technique.", *Journal of Dairy Science (JDS)*, 97(E-Suppl.1), pp. 757. (Abstract)

Iroshan, I.H., Lapierre, H., and Doepel, L. (2014). "Effect of a limited supply of phenylalanine, threonine, and tryptophan on mammary metabolism of dairy cows.", *Journal of Dairy Science (JDS)*, 97(E-Suppl.1), pp. 751. (Abstract)

Giallongo, F., Oh, J., Frederick, T., Weeks, H., Hristov, A.N., Lapierre, H., Patton, R.A., Gehman, A., and Parys, C. (2014). "Effects of slow-release urea, rumen-protected methionine, and histidine on performance of dairy cows fed metabolizable protein-deficient diets.", *Journal of Dairy Science (JDS)*, 97(E-Suppl.1), pp. 174. (Abstract)

Lapierre, H., Doepel, L., Pacheco, D., and Ouellet, D.R. (2014). "Amino acid requirement and post-absorptive metabolism in cattle: implications for ration formulation.", *Florida Ruminant Nutrition Symposium, University of Florida, Florida, USA*, pp. 167-168.

Lapierre, H., Ouellet, D.R., Fournier, A., and Pellerin, D. (2014). "Comment maximiser l'utilisation de l'azote des vaches laitières: répercussions environnementales et monétaires.", 38e Symposium sur les bovins laitiers. CRAAQ, Québec, QC, Canada, pp. 35-53.

Ouellet, D.R. and Lapierre, H. (2014). Endogenous secretions in dairy cows - Advance Report (Period: October 22th, 2013 – July 21th, 2014). (Report)

### 2013

Patton, R.A., Lapierre, H., and Parys, C. (2013). "Relationships between circulating plasma amino acid concentrations and milk protein production in lactating dairy cows.", *Journal of Animal Science*, 96(E-Suppl. 2/J). (Abstract)

Lapierre, H., Doepel, L., Pacheco, D., and Ouellet, D.R. (2013). "Update on protein and amino acid requirements for lactating dairy cows.", *Eastern Nutrition Conference, Animal Nutrition Association of Canada, Québec, Canada*, pp. 225-236.

### 2012

Lapierre, H., Doepel, L., and Ouellet, D.R. (2012). "Update on protein and amino acid requirements for lactating dairy cows (no.864).", *ADSA-AMPA-ASAS-CSAS-WSASAS Joint Annual Meeting, Phoenix, AZ, USA, July 15-19, 2012. (Presentation)*

Lee, C., Hristov, A.N., Cassidy, T.W., Heyler, K. S., Lapierre, H., Varga, G. A., and Parys, C. (2011). "Effect of dietary protein level and rumen-protected methionine supplementation on performance of lactating dairy cows.", *Journal of Animal Science*, 89(E-Suppl. 1), pp. 181 (#79). (Abstract)

Lapierre, H., Ouellet, D.R., Doepel, L., and Lobley, G.E. (2011). "Lysine in dairy cows: From digestion to milkprotein.", 2011 Dairy Cattle Nutrition Workshop, Penn State, Holiday Inn, Grantville, PA, USA, November 9-10, 2011, pp. 19-25. (Workshop)

Lapierre, H., Raggio, G., Ouellet, D.R., Martineau, R., and Doepel, L. (2011). "The study of amino acid metabolism, from absorption to milkprotein secretion.", III Simposio internacional avanço em técnicas de pesquisa em nutrição para ruminantes, Pirassununga, Brazil, March 24-25, 2011, pp. 115-136.

Lee, C., Hristov, A.N., Heyler, K. S., Cassidy, T.W., Lapierre, H., Varga, G. A., and Parys, C. (2011). "Effect of dietary protein level and rumen-protected amino acid supplementation on ruminal fermentation and nitrogen utilization in lactating dairy cows.", *Journal of Animal Science*, 89(E-Suppl. 1), pp. 609 (#W279). (Abstract)

Lee, C., Hristov, A.N., Cassidy, T.W., Heyler, K. S., Lapierre, H., Varga, G. A., and Parys, C. (2011). "Effect of dietary protein level and rumen-protected amino acid supplementation on dietary amino acid apparent digestibility and recovery in milk in lactating dairy cows.", *Journal of Animal Science*, 89(E-Suppl. 1), pp. 666 (#C689). (Abstract)

Lapierre, H., Doepel, L., Raggio, G., and Lemosquet, S. (2011). "Mammary metabolism of amino acids in dairy cows.", *Journal of Animal Science*, 89(E-Suppl. 1), pp. 2 (#6). (Abstract)

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## Research Publications:

2015

Lessard, M., Savard, C., Deschêne, K., Lauzon, K., Pinilla, V.A., Gagnon, C.A., Lapointe, J., Guay, F., and Chorfi, Y. (2015). "Impact of deoxynivalenol (DON) contaminated feed on intestinal integrity and immune response in swine.", *Food and Chemical Toxicology*, 80, pp. 7-16. doi : 10.1016/j.fct.2015.02.013

Bueno-Dalto, D, Roy, M., Audet, I., Palin, M.-F., Guay, F., Lapointe, J., and Matte, J.J. (2015). "Interaction between vitamin B6 and source of selenium on the response of the selenium-dependent glutathione peroxidase system to oxidative stress induced by oestrus in pubertal pig.", *Journal of Trace Elements in Medicine and Biology*, 32, pp. 21-29. doi : 10.1016/j.jtemb.2015.05.002

2014

Farmer, C., Lapointe, J., and Palin, M.-F. (2014). "Effects of the plant extract silymarin on prolactin concentrations mammary gland development, and oxidative stress in gestating gilts.", *Journal of Animal Science*, 92(7), pp. 2922-2930. doi : 10.2527/jas.2013-7118

Lapointe, J., Hughes, B.G., Bigras, E., and Hekimi, S. (2014). "Compensatory elevation of voluntary activity in mouse mutants with impaired mitochondrial energy metabolism.", *Physiological Reports*, 2(11: e12214). doi : 10.14814/phy2.12214

Lapointe, J. (2014). "Mitochondria as promising targets for nutritional interventions aiming to improve performance and longevity of sows.", *Journal of Animal Physiology and Animal Nutrition*, 98(5), pp. 809-821. doi : 10.1111/jpn.12160

2011

Hekimi, S., Lapointe, J., and Wen, Y. (2011). "Taking a "good" look at free radicals in the aging process.", *Trends in Cell Biology*, 21(10), pp. 569-576. doi : 10.1016/j.tcb.2011.06.008

## Other Science Related Publications:

2014

Morissette, B., Lessard, M., Yergeau, E., Lapointe, J., Guay, F., Bissonnette, N., Matte, J.J., Letellier, A., Quessy, S., Bergeron, N., Beaulieu, C., and Talbot, G. (2014). "Influence of Feed Additives as an Alternative to Antibiotics on Gut Microbiota of Weaned Piglets Infected with Salmonella Typhimurium.", 114th General Meeting of the American Society for Microbiology, Boston, Massachusetts, USA, May 17-20, 2014.

Morissette, B., Lessard, M., Yergeau, E., Lapointe, J., Guay, F., Bissonnette, N., Matte, J.J., Letellier, A., Quessy, S., Bergeron, N., and Talbot, G. (2014). "Influence of Feed Additives as an Alternative to Antibiotics on Gut Microbiota of Weaned Piglets Infected with Salmonella Typhimurium.", 7ième Symposium du CRIPA, Hyacinthe, Québec, Canada, 3-4 juin 2014. (Poster)

Lessard, M., Deschêne, K., Savard, C., Lapointe, J., Guay, F., and Chorfi, Y. (2014). "Effect of deoxynivalenol (DON) ingestion on expression of genes involved in intestinal integrity and immune response.", 2014 ADSA-ASAS Midwest Meeting, Iowa Events Center, Des Moines, Iowa, USA, March 17-19, 2014, # 163; Oral Présentation. (Abstract)

Lessard, M., Deschêne, K., Savard, C., Gagnon, A.-È., Lapointe, J., Pinilla, V.A., Guay, F., and Chorfi, Y. (2014). "Effect of deoxynivalenol (DON) ingestion on expression of genes involved in intestinal barrier and immune functions.", 7ième Symposium du CRIPA, Hyacinthe, Québec, Canada, 3-4 juin 2014, Présentation orale.

Morissette, B., Lessard, M.-H., Yergeau, E., Lapointe, J., Guay, F., Bissonnette, N., Matte, J.J., Letellier, A., Quessy, S., Bergeron, N., Beaulieu, C., and Talbot, G. (2014). "Influence of Feed Additives as an Alternative to Antibiotics on Gut Microbiota of Weaned Piglets Infected with Salmonella Typhimurium.", 114th General Meeting of the American Society for Microbiology, Boston, Massachusetts, USA, May 17-20, 2014. (Abstract)

## 2013

Lapointe, J. and Farmer, C. (2013). "Dietary supplementation with the plant extract silymarin protects gestating gilts from oxidative stress-related damage without affecting mitochondrial antioxidant defenses.", 7th Congress of the International Society of Nutrigenetics/Nutrigenomics (ISNN), Quebec City Convention Centre, Quebec City, Canada, October 5-8, 2013.

Lapointe, J. (2013). "Improving sows longevity by using targeted nutritional interventions.", 49th Annual Eastern Nutrition Conference of the Animal Nutrition Association of Canada (ANAC), Hôtel Château Laurier, Québec City, QC, Canada, May 15-16, 2013, pp. 119-136.

## 2012

Lapointe, J. (2012). "Improving productivity and longevity of livestock by using a nutrigenomics approach targeting mitochondrial energy metabolism and oxidative stress status.", AAFC Scientific Symposium: Let's talk science at DSRDC, Sherbrooke, QC, Canada, November 28, 2012.

Lapointe, J. and Palin, M.-F. (2012). "Nutrigenomics: What? Why? and What's in it for me?", 30th Anniversary Jefe Symposium, Saint-Hyacinthe, QC, Canada, August 29, 2012. (Presentation)

Van Calsteren, M.-R., Gagnon, F., Lapointe, J., Guertin, N., and LaPointe, G. (2012). "Structure determination of the exopolysaccharide produced by *Lactococcus lactis* subsp. *cremoris* strain JFR1.", MOOT XXV Mini NMR Symposium, Université Laval, Québec City, QC, Canada, October 20-21, 2012.

Lapointe, J., Roy, M., Audet, I., Beaudry, D., Palin, M.-F., Quesnel, H., Guay, F., and Matte, J.J. (2012). "Organic selenium and vitamin B6 synergize to up-regulate glutathione peroxidases (GPx) expression in dietary supplemented gilts.", Society for the Study of Reproduction 45th Annual Meeting and 18th Ovarian Workshop, Pennsylvania State University, State College, PA, USA, August 12-15, 2012, Abs. 469. (Abstract)



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## Research Publications:

2015

Smith, E.G., Janzen, H.H., and Larney, F.J. (2015). "Long-term cropping system impact on quality and productivity of a Dark Brown Chernozem in southern Alberta.", *Canadian Journal of Soil Science*, 95(2), pp. 177-186. doi: 10.4141/CJSS-2014-104

Sura, S., Degenhardt, D., Cessna, A.J., Larney, F.J., Olson, A.F., and McAllister, T.A. (2015). "Transport of three veterinary antimicrobials from feedlot pens via simulated rainfall runoff.", *Science of the Total Environment*, 521-522, pp. 191-199. doi: 10.1016/j.scitotenv.2015.03.080

Xu, S., Sura, S., Zaheer, R., Wang, G., Smith, A., Cook, S.R., Olson, A.F., Cessna, A.J., Larney, F.J., and McAllister, T.A. (2015). "Dissipation of Antimicrobial Resistance Determinants in Composted and Stockpiled Beef Cattle Manure.", *Journal of Environmental Quality*. doi: 10.2134/jeq2015.03.0146

Forge, T.A., Larney, F.J., Kawchuk, L.M., Pearson, D.C., Koch, C.A., and Blackshaw, R.E. (2015). "Crop rotation effects on *Pratylenchus neglectus* populations in the root zone of irrigated potatoes in southern Alberta.", *Canadian Journal of Plant Pathology*, 37(3), pp. 363-368. doi: 10.1080/07060661.2015.1066864

Miller, J.J., Beasley, B.W., Drury, C.F., Larney, F.J., and Hao, X. (2015). "Influence of long-term manure application on mineral composition of irrigated barley silage.", *Canadian Journal of Plant Science*, 95(4), pp. 759-770. doi: 10.4141/cjps-2014-329

Li, L., Larney, F.J., Angers, D.A., Pearson, D.C., and Blackshaw, R.E. (2015). "Surface soil quality attributes following 12 years of conventional and conservation management on irrigated rotations in southern Alberta.", *Soil Science Society of America Journal*, 79(3), pp. 930-942. doi: 10.2136/sssaj2015.02.0051

Miller, J.J., Beasley, B.W., Drury, C.F., Larney, F.J., and Hao, X. (2015). "Influence of Long-Term (9 yr) Composted and Stockpiled Feedlot Manure Application on Selected Soil Physical Properties of a Clay Loam Soil in Southern Alberta.", *Compost Science & Utilization*, 23(1), pp. 1-10. doi: 10.1080/1065657X.2014.963741

Miller, J.J., Beasley, B.W., Drury, C.F., Larney, F.J., and Hao, X. (2015). "Influence of Long-Term Application of Manure Type and Bedding on Yield, Protein, Fiber, and Energy Value of Irrigated Feed Barley.", *Agronomy Journal*, 107(1), pp. 121-128. doi: 10.2134/agnonj14.0321

2014

Larney, F.J., Olson, A.F., Miller, J.J., and Tovell, B.C. (2014). "Nitrogen and Phosphorus in Runoff from Cattle Manure Compost Windrows of Different Maturities.", *Journal of Environmental Quality*, 43(2), pp. 671-680. doi: 10.2134/jeq2013.06.0230

Miller, J.J., Beasley, B.W., Drury, C.F., Hao, X., and Larney, F.J. (2014). "Soil properties following long-term application of stockpiled feedlot manure containing straw or wood-chip bedding to barley silage production.", *Canadian Journal of Soil Science*, 94(3), pp. 389-402. doi: 10.4141/CJSS2013-087

Miller, J.J., Beasley, B.W., Drury, C.F., Larney, F.J., and Hao, X. (2014). "Nitrogen budgets following land application of composted or stockpiled feedlot manure containing wood-chips or straw bedding to barley silage for 12 years.", *Compost Science & Utilization*, 22(2), pp. 57-67. doi: 10.1080/1065657X.2014.895453

Chantigny, M.H., Larney, F.J., Bittman, S., Lapen, D.R., Angers, D.A., Rochette, P., and Hunt, D.E. (2014). "Transformations and fate of fall-applied nitrogen as a function of winter conditions – a multi-site experiment", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014, Extended Abstract – reviewed. (Abstract)

Pageni, B.B., Lupwayi, N.Z., Akter, Z., Larney, F.J., Kawchuk, L.M., and Gan, Y.T. (2014). "Plant growth-promoting and phytopathogen-antagonistic properties of bacterial endophytes from potato (*Solanum tuberosum* L.) cropping systems.", *Canadian Journal of Plant Science*, 94(5), pp. 835-844. doi: 10.4141/CJPS2013-356

Amarakoon, I.D., Zvomuya, F., Cessna, A.J., Degenhardt, D., Larney, F.J., and McAllister, T.A. (2014). "Runoff Losses of Excreted Chlorotetracycline, Sulfamethazine, and Tylosin from Surface-Applied and Soil-Incorporated Beef Cattle Feedlot Manure.", *Journal of Environmental Quality*, 43, pp. 549-557. doi: 10.2134/jeq2013.02.0039

Sura, S., Degenhardt, D., Cessna, A.J., Lamey, F.J., Olson, A.F., and McAllister, T.A. (2014). "Dissipation of three veterinary antimicrobials in beef cattle feedlot manure stockpiled over winter.", *Journal of Environmental Quality*, 43(3), pp. 1061-1070. doi : 10.2134/jeq2013.11.0455

Hao, X., Hill, B.R., Caffyn, P.R., Travis, G.R., Olson, A.F., Lamey, F.J., McAllister, T.A., and Alexander, T.W. (2014). "Co-composting of beef cattle feedlot manure with construction and demolition waste.", *Journal of Environmental Quality*, 43(5), pp. 1799-1808. doi : 10.2134/jeq2014.02.0087

Lamey, F.J., Olson, A.F., Miller, J.J., and Tovell, B.C. (2014). "Soluble salts, copper, zinc, and solids constituents in surface runoff from cattle manure compost windrows.", *Canadian Journal of Soil Science*, 94(4), pp. 515-527. doi : 10.4141/CJSS2013-114

## 2013

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Kawchuk, L.M., and Gan, Y.T. (2013). "Populations, diversity and identities of bacterial endophytes in potato (*Solanum tuberosum* L.) cropping systems.", *Canadian Journal of Plant Science*, 93, pp. 1125-1142. doi : 10.4141/CJPS2013-166

Miller, J.J., Beasley, B.W., Drury, C.F., Hao, X., and Lamey, F.J. (2013). "Transport of Residual Nitrogen and Carbon through Intact Soil Cores Amended with Stockpiled Feedlot Manure with Wood-Chip or Straw Bedding.", *Journal of Environmental Quality*, 42(6), pp. 1881-1888. doi : 10.2134/jeq2013.02.0061

## 2012

Lamey, F.J. and Angers, D.A. (2012). "The role of organic amendments in soil reclamation: A review.", *Canadian Journal of Soil Science*, 92(1), pp. 19-38. doi : 10.4141/CJSS2010-064

Gagnon, B., Demers, I., Ziadi, N., Chantigny, M.H., Parent, L.-É., Forge, T.A., Lamey, F.J., and Buckley, K.E. (2012). "Forms of phosphorus in composts and in compost amended soils following incubation.", *Canadian Journal of Soil Science*, 92(5), pp. 711-721. doi : 10.4141/CJSS2012-032

Miller, J.J., Bremer, E., Beasley, B.W., Drury, C.F., Zebarth, B.J., and Lamey, F.J. (2012). "Long-term effect of fresh and composted cattle manure on the size and nutrient composition of dry-sieved soil aggregates.", *Canadian Journal of Soil Science*, 92(4), pp. 673-683. doi : 10.4141/CJSS2011-056

Smith, E.G., Lamey, F.J., Nakonechny, D.J., Barbieri, J.M., and Lindwall, C.W. (2012). "Productivity of Long-Term No-Till Plots - Lethbridge Alberta.", *Prairie Soils and Crops*, 5, pp. 123-131.

Lamey, F.J. and Janzen, H.H. (2012). "Long-Term Erosion-Productivity Relationships: The Lethbridge Soil Scalping Studies.", *Prairie Soils and Crops*, 5, pp. 139-146.

Lamey, F.J., Olson, A.F., and DeMaere, P.R. (2012). "Residual effects of topsoil replacement depths and one-time application of organic amendments in natural gas well site reclamation.", *Canadian Journal of Soil Science*, 92(6), pp. 883-891. doi : 10.4141/cjss2012-028

Janzen, H.H., Olson, B.M., Zvomuya, F., Lamey, F.J., and Ellert, B.H. (2012). "Long-term Field Bioassay of Soil Quality.", *Prairie Soils and Crops*, 5, pp. 165-168.

## 2011

Hao, X., Benke, M.B., Lamey, F.J., and McAllister, T.A. (2011). "Greenhouse gas emissions when composting manure from cattle fed wheat dried distillers' grains with solubles.", *Nutrient Cycling in Agroecosystems*, 89(1), pp. 105-114. doi : 10.1007/s10705-010-9380-6

Zvomuya, F., Lamey, F.J., Willms, W.D., Beck, R.K., and Olson, A.F. (2011). "Vegetation response to one-time spent drilling mud application to semiarid, mixed-grass prairie.", *Rangeland Ecology & Management*, 64(4), pp. 375-383. doi : 10.2111/REM-D-10-00028.1

Gilroyed, B.H., Hao, X., Lamey, F.J., and McAllister, T.A. (2011). "Greenhouse Gas Emissions from Cattle Feedlot Manure Composting and Anaerobic Digestion as a Potential Mitigation Strategy.", in Lei Guo, L., Gunasekara, A.S. and McConnell, L.L. (eds.) - *Emissions from Agricultural Management*. ACS Symposium Series. Vol. 1072, American Chemical Society (ACS), Chapter 22, pp. 419-441.

Lamey, F.J., Hao, X., and Topp, E. (2011). "Manure Management", in Hatfield, J.L. and Sauer, T.J. (eds.) - *Soil Management: Building a Stable Base for Agriculture*, Soil Science Society of America (SSSA), Chapter 16, pp. 247-263.

Hao, X., Benke, M.B., Li, C.L., Lamey, F.J., Beauchemin, K.A., and McAllister, T.A. (2011). "Nitrogen transformations and greenhouse gas emissions during composting of manure from cattle fed diets containing corn dried distillers grains with soluble and condensed tannins.", *Animal Feed Science and Technology*, 166-167, pp. 539-549. doi : 10.1016/j.anifeedsci.2011.04.038

Hao, X., Xu, S., Lamey, F.J., Stanford, K.I.M., Cessna, A.J., and McAllister, T.A. (2011). "Inclusion of antibiotics in feed alters greenhouse gas emissions from feedlot manure during composting.", *Nutrient Cycling in Agroecosystems*, 89(2), pp. 257-267. doi : 10.1007/s10705-010-9391-3

Lamey, F.J., Janzen, H.H., and Olson, A.F. (2011). "Residual effects of one-time manure, crop residue and fertilizer amendments on a desurfaced soil.", *Canadian Journal of Soil Science*, 91(6), pp. 1029-1043. doi : 10.4141/CJSS10065

Cessna, A.J., Lamey, F.J., Kuchta, S.L., Hao, X., Entz, T., Topp, E., and McAllister, T.A. (2011). "Veterinary antimicrobials in feedlot manure: dissipation during composting, effects on composting processes and extent in ground water.", *Journal of Environmental Quality*, 40(1), pp. 188-198. doi : 10.2134/jeq2010.0079

Sharma, R., Ryan, K., Hao, X., Lamey, F.J., McAllister, T.A., and Topp, E. (2011). "Real-time quantification of *mcrA*, *pmoA* for methanogen, methanotroph estimations during composting.", *Journal of Environmental Quality*, 40(1), pp. 199-205. doi : 10.2134/jeq2010.0088

## Other Science Related Publications:

2015

Hao, X., Lamey, F.J., Ellert, B.H., Alexander, T.W., and McAllister, T.A. (2015). "Co-composting cattle feedlot manure with construction and demolition waste.", *International Compost Conference*, Beijing, China, November 22-25, 2015. (Abstract)

Beres, B.L., Pageau, D., Dion, Y., Turkington, T.K., Lupwayi, N.Z., Lamey, F.J., Ellert, B.H., and Smith, E.G. (2015). "Rotational diversity effects in a cereal-based cropping system.", *Canadian Journal of Plant Science*. (Abstract)

Beres, B.L., Pageau, D., Dion, Y., Turkington, T.K., Lupwayi, N.Z., Lamey, F.J., Ellert, B.H., and Smith, E.G. (2015). "Rotational Diversity Effects in a Cereal-Based Cropping System.", *Botany 2015*, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015.

McAllister, T.A., Xu, S., Lamey, F.J., Reuter, T.R., and Stanford, K. (2015). "A green goodbye to dead stock: Historical lin kages of dead stock composting research in Lethbridge over 20 years.", *3rd Annual Biology Graduate Research Symposium*, University of Lethbridge, Lethbridge, AB, Canada, January 30, 2015.

McAllister, T.A., Sura, S., Lamey, F.J., Cessna, A.J., Amarakoon, I.D., Tymensen, L.D., Charest, J., Olson, A.F., Headley, J.V., and Zvomuya, F. (2015). "The Fate of Antimicrobial Residues in Livestock Manure.", *Manure Management Update 2015*, Lethbridge, AB, Canada, January 19, 2015.

2014

Amarakoon, I.D., Sura, S., Zvomuya, F., Cessna, A.J., Lamey, F.J., and McAllister, M. (2014). "Microwave-assisted extraction of chlortetracycline, sulfamethazine and tylosin. Abstr. Poster presentation.", *57th Annual Manitoba Soil Science Society Conference*, Winnipeg, Manitoba, Canada, February 6-7, 2014.

Lamey, F.J., Olson, A.F., Miller, J.J., and Tovell, B.C. (2014). "Soluble salts, copper and zinc in simulated rain runoff from beef cattle manure compost windrows.", *51st Annual Alberta Soil Science Workshop*, Calgary, AB, Canada, February 12-14, 2014, pp. 29. (Abstract)

Amarakoon, I.D., Sura, S., Zvomuya, F., Lamey, F.J., Cessna, A.J., and McAllister, T.A. (2014). "Dissipation of chlortetracycline, sulfamethazine and tylosin in manure-amended soil following field application of beef cattle manure.", *EmCon 2014: 4th Int. Conf. on Occurrence, Fate, Effects & Analysis of Emerging Contaminants in the Environment*, Iowa City, IA, USA, August 19-22, 2014. (Abstract)

Amarakoon, I.D., Zvomuya, F., Sura, S., Lamey, F.J., Cessna, A.J., and McAllister, T.A. (2014). "Persistence of excreted veterinary antimicrobials in soils amended with beef cattle manure.", *Manitoba Environmental Industries Association*, Winnipeg, Canada.

Lamey, F.J., Li, L., Lupwayi, N.Z., Angers, D.A., Pearson, D.C., and Blackshaw, R.E. (2014). "Irrigated crop rotations: soil quality.", *Irrigated Crop Production Update*, Lethbridge, AB, Canada, January 21-22, 2014.

Hao, X., Lamey, F.J., Alexander, T.W., and McAllister, T.A. (2014). "Co-composting beef cattle feedlot manure with construction & demolition (C&D) waste.", *ASA, CSSA and SSSA International Annual Meeting 2014*, Long Beach, CA, USA, November 2-5, 2014, Oral presentation. (Abstract)

Hao, X., Hill, B.D., Caffyn, P.R., Travis, G.R., Olsen, P.A., Lamey, F.J., McAllister, T.A., and Alexander, T.W. (2014). "Co-composting of beef cattle feedlot manure with construction and demolition waste.", *51st Annual Alberta Soil Science Workshop*, Calgary, AB, Canada, February 12-14, 2014. (Abstract)

Lamey, F.J., Li, L., Lupwayi, N.Z., Angers, D.A., Pearson, D.C., and Blackshaw, R.E. (2014). "Soil quality changes over 12 years of conservation management on irrigated crop rotations in southern Alberta.", *Canadian Geophysical Union-Canadian Society of Soil Science (CGU/CSSS) Joint Annual Meeting*, Banff, AB, Canada, May 4-8, 2014, Poster. (Abstract)

Miller, J.J., Beasley, B.W., Drury, C.F., Zebarth, B.J., Bremer, E., Hao, X., and Lamey, F.J. (2014). "Influence of long-term composted or stockpiled feedlot manure application on crop and soil.", *Canadian Geophysical Union-Canadian Society of Soil Science (CGU/CSSS) Joint Annual Meeting*, Banff, AB, Canada, May 4-8, 2014. (Abstract)

Sura, S., Degenhardt, D., Peru, K.M., Bailey, J., Cessna, A.J., Lamey, F.J., McAllister, T.A., and Headley, J.V. (2014). "Analysis of veterinary antimicrobials in stockpiled feedlot manure using LC-ESI/MS/MS.", 62nd American Society Mass Spectrometry Conference, Baltimore, MD, USA, June 15-19, 2014, Poster. (Abstract)

Chantigny, M.H., Lamey, F.J., Bittman, S., Lapen, D.R., Angers, D.A., Rochette, P., and Hunt, D.W.A. (2014). "Transformation and fate of fall-applied nitrogen as a function of winter conditions – a multi-site experiment.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014. (Poster)

Xu, S., Sura, S., Wang, G.P., Smith, A.M., Zaheer, R., Cook, S.R., Olson, A.F., Cessna, A.J., Lamey, F.J., and McAllister, T.A. (2014). "Degradation of antimicrobial resistance determinants during windrow composting and stockpiling of manure from cattle administered sub-therapeutic antimicrobials.", XVth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada, July 27-August 1, 2014.

Lamey, F.J., Li, L., Pearson, D.C., Blackshaw, R.E., and Balasubramanian, P.M. (2014). "Conservation management practices and rotations for irrigated dry bean production in southern Alberta.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

Sura, S., Degenhardt, D., Cessna, A.J., Lamey, F.J., Olson, A.F., and McAllister, T.A. (2014). "Transport of three veterinary antimicrobials from feedlot pens via simulated rainfall runoff.", SETAC North America 35th Annual Meeting, Society of Environmental Toxicology and Chemistry (SETAC), Vancouver, BC, Canada, November 9-13, 2014, Oral Presentation.

Sura, S., Degenhardt, D., Cessna, A.J., Lamey, F.J., Olson, A.F., and McAllister, T.A. (2014). "Transport of three veterinary antimicrobials in combined surface runoff and leachate from windrows of composting cattle manure.", SETAC North America 35th Annual Meeting, Society of Environmental Toxicology and Chemistry (SETAC), Vancouver, BC, Canada, November 9-13, 2014. (Poster)

Lamey, F.J. (2014). "Adding longevity to soil health.", *Potatoes in Canada*, 2014 (March), pp. 24-25.

Charest, J., Sheedy, C., Tymensen, L.D., Jokinen, C.C., and Lamey, F.J. (2014). "Water Quality in Alberta's Irrigation Districts 2011 to 2015: 2013 Progress Report.", in Charest, J., Olson, B., Kalischuk, A., and Gross, D. (eds.) - *Water Quality in Alberta's Irrigation Districts 2011 to 2015: 2013 Progress Report*, Alberta Agriculture, Food and Rural Development, Edmonton, AB, Canada, pp. 29-83.

Lamey, F.J. (2014). "Ask the Pro. Question: Should producers consider using compost on irrigated land?", *Irrigating Alberta*, 18(2), pp. 12.

Lamey, F.J. and Miller, J.J. (2014). "Researcher perfects compost recipe.", *Western Producer*, 2014 (December 25), pp. 10-11.

Hao, X. and Lamey, F.J. (2014). "Calgary project recycles construction waste materials.", *Western Producer*, 2014 (December 25), pp. 11.

Melody, C., Lamey, F.J., and Schmidt, O. (2014). "Isotopic analysis of earthworms after large one-time remedial organic residue applications to artificially eroded soils including a comparison of *A. turgida* and *A. tuberculata*. Poster presentation.", 10th International Symposium Earthworm Ecology, Athens, GA, USA, June 22-27, 2014.

Lamey, F.J. (2014). "Adding longevity to soil health.", *Top Crop Manager (Western edition)*, 40(5), pp. 48-50.

Lupwayi, N.Z., Harker, K.N., Lamey, F.J., Blackshaw, R.E., and O'Donovan, J.T. (2014). "Correlating soil microbial properties with crop yields in the Canadian prairies: two case studies.", *Soil's Role in Restoring Ecosystem Services Conference*, Sacramento, CA, USA, March 6-9, 2014. (Abstract)

Lupwayi, N.Z., Lamey, F.J., Pearson, D.C., Kanashiro, D.A., and Blackshaw, R.E. (2014). "Shifts in soil microbial community structure after 12 years of conservation management on irrigated crop rotations.", 51st Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 12-14, 2014, pp. 37. (Abstract)

Miller, J.J., Beasley, B.W., Hao, X., Lamey, F.J., and Drury, C.F. (2014). "Transport of chemicals through intact soil cores amended with composted or stockpiled feedlot manure with wood-chip or straw bedding.", 51st Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 12-14, 2014, pp. 31. (Abstract)

Hao, X., Hill, B.D., Caffyn, P.R., Travis, G.R., Olson, A.F., Lamey, F.J., McAllister, T.A., and Alexander, T.W. (2014). "Co-composting of beef cattle feedlot manure with housing construction waste for value-added organic fertilizer.", 51st Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 12-14, 2014, pp. 30. (Abstract)

Beres, B.L., Pageau, D., Dion, Y., Turkington, T.K., Lupwayi, N.Z., Lamey, F.J., Ellert, B.H., and Smith, E.G. (2014). "Rotational Diversity Effects in a Triticale-Based Cropping System.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

2013

Lamey, F.J. (2013). "Closing loops and cycling nutrients with feedlot manure compost.", *Manure Management Update* 2013, Lethbridge, AB, Canada, January 14, 2013.

Sura, S., Degenhardt, D., Peru, K.M., Bailey, J., Cessna, A.J., Lamey, F.J., McAllister, T.A., and Headley, J.V. (2013). "Analysis of veterinary antimicrobials in stockpiled feedlot manure using LC-ESI/MS/MS.", 26th Tandem Mass Spectrometry Workshop, Lake Louise, AB, Canada, December 4-7, 2013. (Poster)

Sura, S., Degenhardt, D., Cessna, A.J., Lamey, F.J., Olson, A.F., and McAllister, T.A. (2013). "Transport of three veterinary antimicrobials from feedlot pens via simulated rainfall runoff.", 40th Aquatic Toxicology Workshop, Moncton, NB, Canada, October 6-9, 2013.

Li, L., Janzen, H.H., Lamey, F.J., and Angers, D.A. (2013). "Long-term recovery of soil organic matter and aggregate stability in an artificially eroded soil under various one-time amendments.", Canadian Society of Soil Science-Manitoba Soil Science Soc.-Can. Soc. Agric. Forest Meteorology Joint Ann. Meeting, Winnipeg, MB, Canada, July 22-25, 2013, pp. 111. (Abstract)

Chantigny, M.H., Lamey, F.J., Angers, D.A., Bittman, S., Lapen, D.R., and Rochette, P. (2013). "Overwinter transformation and fate of fall-applied nitrogen in various Canadian ecozones.", Canadian Society of Soil Science-Manitoba Soil Science Soc.-Can. Soc. Agric. Forest Meteorology Joint Ann. Meeting, Winnipeg, MB, Canada, July 22-25, 2013, pp. 46. (Abstract)

Amarakoon, I.D., Sura, S., Zvomuya, F., McAllister, T.A., Lamey, F.J., Degenhardt, D., Cessna, A.J., and Xu, S. (2013). "Degradation kinetics of spiked vs. excreted chlortetracycline, sulfamethazine and tylosin during composting of beef cattle manure.", Canadian Society of Soil Science-Manitoba Soil Science Soc.-Can. Soc. Agric. Forest Meteorology Joint Ann. Meeting, Winnipeg, MB, Canada, July 22-25, 2013. (Abstract)

Miller, J.J., Beasley, B.W., Lamey, F.J., Drury, C.F., Zebarth, B.J., and Bremer, E. (2013). "Long-term effect of fresh and composted cattle manure on the size and nutrient composition of dry-sieved soil aggregates.", 50th Annual Alberta Soil Science Workshop, Lethbridge, AB, Canada, February 19-21, 2013. (Abstract)

Li, L., Angers, D.A., and Lamey, F.J. (2013). "Effects of conservation management practices and rotations on soil organic matter fractions and aggregation of irrigated land in southern Alberta.", 50th Annual Alberta Soil Science Workshop, Lethbridge, AB, Canada, February 19-21, 2013. (Abstract)

Lamey, F.J. and Suleimenov, M. (2013). "Soil and crop management practices in Akmola, Kazakhstan and Alberta, Canada: Compare and contrast.", 50th Annual Alberta Soil Science Workshop, Lethbridge, AB, Canada, February 19-21, 2013. (Abstract)

Li, L., Janzen, H.H., Lamey, F.J., and Angers, D.A. (2013). "Long-term recovery of soil organic matter and aggregate stability in an artificially eroded soil under various one-time amendments.", Joint Annual Meetings of the Canadian Society of Soil Science, Manitoba Soil Science Society, Canadian Society of Agricultural and Forest Meteorology, Winnipeg, MB, Canada, July 22-25, 2013. (Poster)

Olson, A.F., Lamey, F.J., Miller, J.J., and Tovell, B.C. (2013). "Properties of simulated rain runoff from compost windrows.", 50th Annual Alberta Soil Science Workshop, Lethbridge, AB, Canada, February 19-21, 2013. (Abstract)

Amarakoon, I.D., Sura, S., Degenhardt, D., Lamey, F.J., Zvomuya, F., and McAllister, T.A. (2013). "Fate of veterinary antimicrobials with beef feedlot manure handling and land application practices.", Tri-Provincial Manure Management Workshop, Lethbridge, AB, Canada, March 20-21, 2013, Oral presentation.

Lamey, F.J. (2013). "Composting manure easier to transport, boosts carbon.", Western Producer (January 25, 2013).

Lamey, F.J. (2013). "On expended manure.", Grain News (April 1, 2013), pp. 27.

Pageni, B.B., Lupwayi, N.Z., Akter, Z., Lamey, F.J., and Kawchuk, L.M. (2013). "Characterization of bacterial endophytes from potato (*Solanum tuberosum* L.) reveals growth-promoting and antagonistic properties in vitro.", 50th Annual Alberta Soil Science Workshop, Lethbridge, AB, Canada, February 19-21, 2013.

Pearson, D.C., Lamey, F.J., Blackshaw, R.E., and Lupwayi, N.Z. (2013). "Soil carbon changes over 12 years on the Vauxhall irrigated rotation study.", 50th Annual Alberta Soil Science Workshop, Lethbridge, AB, Canada, February 19-21, 2013. (Abstract)

## 2012

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., and Regitnig, P.J. (2012). "What have we learned about potatoes in the 12 yr Vauxhall irrigated rotation study.", Potato Growers of Alberta Annual Meeting, Red Deer, AB, Canada, November 13-15, 2012. (Poster)

Amarakoon, I.D., Sura, S., Degenhardt, D., Zvomuya, F., McAllister, T.A., Lamey, F.J., and Cessna, A.J. (2012). "Dissipation of fortified vs. excreted chlortetracycline, sulfamethazine and tylosin during composting of beef cattle manure.", 55th Annual Manitoba Soil Science Society Meeting, Winnipeg, MB, Canada, February 2-3, 2012. (Poster)

Amarakoon, I.D., Sura, S., Degenhardt, D., Zvomuya, F., McAllister, T.A., Lamey, F.J., and Cessna, A.J. (2012). "Dissipation of Fortified vs. Cattle Excreted Chlortetracycline, Sulfamethazine and Tylosin During Manure Composting.", Canadian Society of Soil Science and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) are organizing the joint conference, Manoir St-Casim, Lac Beauport, Quebec, Canada, June 3-7, 2012.

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., and Balasubramanian, P.M. (2012). "Irrigated dry bean response to cropping history and soil management practices in southern Alberta.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Abstract)

Miller, J.J., Bremer, E., Beasley, B.W., Drury, C.F., Zebarth, B.J., and Lamey, F.J. (2012). "Long-term effect of fresh and composted cattle manure on the size and nutrient composition of dry-sieved soil aggregates.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012, pp. 110. (Abstract)

Amarakoon, I.D., Sura, S., Degenhardt, D., Zvomuya, F., McAllister, T.A., Lamey, F.J., and Cessna, A.J. (2012). "Microwave-assisted extraction of chlortetracycline, sulfamethazine and tylosin from cattle manure.", 47th Annual Western Canada Trace Organic Workshop, Saskatoon, SK, Canada, April 22-25, 2012. (Abstract)

Amarakoon, I.D., Sura, S., Degenhardt, D., Zvomuya, F., McAllister, T.A., Lamey, F.J., and Cessna, A.J. (2012). "Degradation of veterinary antimicrobials during composting of manure containing excreted antimicrobials vs. manure spiked with antimicrobials.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012, Oral presentation, pp. 52.

Hao, X., Lamey, F.J., and McAllister, T.A. (2012). "Effect of dried distillers' grains with solubles (DDGS) in cattle diets and windrow turning frequency on greenhouse gas emissions during feedlot manure composting.", 2012 World Congress on Advances in Civil, Environmental and Materials Research (ACEM'12), Seoul, South Korea, August 26-30, 2012, pp. 76.

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Kawchuk, L.M., Pearson, D.C., Blackshaw, R.E., and Gan, Y.T. (2012). "Preceding crop, rotation length and soil management effects on bacterial endophytes.", 49th Annual Alberta Soil Science Workshop, Ramada Inn, Edmonton, AB, Canada, February 14-16, 2012. (Abstract)

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., and Regitnig, P.J. (2012). "Building soil quality on irrigated rotations in southern Alberta.", 49th Annual Alberta Soil Science Workshop, Ramada Inn, Edmonton, AB, Canada, February 14-16, 2012. (Abstract)

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., Regitnig, P.J., and Balasubramanian, P.M. (2012). "Irrigated crop rotation research: Findings from the Vauxhall rotation study over 12 years (2000-11).", 2012 Irrigated Crop Production Update Conference, Lethbridge, AB, Canada, January 31-February 1, 2012. (Abstract)

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Kawchuk, L.M., Pearson, D.C., Blackshaw, R.E., and Gan, Y.T. (2012). "Characterization of bacterial endophytes associated with *Solanum tuberosum* in irrigated cropping systems.", 112th General Meeting of American Society for Microbiology, San Francisco, CA, USA, June 15-19, 2012. (Abstract)

## 2011

Hao, X. and Lamey, F.J. (2011). "Manure management practices: effective use of nutrients from feedlot cattle in Alberta.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011, Electronic Abs. CD-ROM.

Lamey, F.J., Cessna, A.J., Kuchta, S.L., Hao, X., Entz, T., Topp, E., and McAllister, T.A. (2011). "Composting effects on antibiotics in feedlot manure.", Manure Management Update 2011, Lethbridge, AB, Canada, January 17, 2011, pp. 46-54.

Hao, X. and Lamey, F.J. (2011). "Reducing greenhouse gas emissions from livestock manure: From diet manipulation to composting.", Manure Management Update 2011, Lethbridge, AB, Canada, January 17, 2011, pp. 37-45.

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Kawchuk, L.M., Pearson, D.C., Blackshaw, R.E., and Gan, Y.T. (2011). "Preceding crop, rotation length and soil management effects on bacterial endophytes.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011. (Abstract)

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., and Regitnig, P.J. (2011). "A soil conservation package for irrigated rotations in southern Alberta.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Abstract)

DePauw, R.M., Malhi, S.S., Bullock, P.R., Gan, Y.T., McKenzie, R.H., Lamey, F.J., Janzen, H.H., Cutforth, H.W., and Wang, H. (2011). "Wheat Production in Northern High Latitudes – Canadian example.", in Bonjean, A., Angus, W., and Van Ginkel, M. (eds.) - The World Wheat Book A History of Wheat Breeding. Vol. 2, Lavoisier Tech et Doc, Paris, France, pp. 607-651.

Lamey, F.J. and Janzen, H.H. (2011). "Use of manure for restoring soil productivity.", Manure Management Update 2011, Lethbridge, AB, Canada, January 17, 2011, pp. 9-16.

Lamey, F.J., Willms, W.D., Smith, E.G., Janzen, H.H., Ellert, B.H., and Miller, J.J. (2011). "Other long-term experiments at Lethbridge Research Centre.", Historical Rotations Workshop, Lethbridge, AB, Canada, June 21-22, 2011. (Presentation)

Miller, J.J., Bremer, E., Beasley, B.W., Drury, C.F., Zebarth, B.J., and Lamey, F.J. (2011). "Macroaggregate characteristics in soil amended with fresh or composted cattle manure containing straw or wood-chip bedding.", 48th Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 15-17, 2011.

Amarakoon, I.D., Zvomuya, F., Degenhardt, D., Cessna, A.J., Lamey, F.J., and McAllister, T.A. (2011). "Antimicrobial transport in simulated rainfall runoff from cropland amended with solid beef cattle manure.", 46th Annual Western Canada Trace Organic Workshop, Edmonton, AB, Canada, May 8-11, 2011. (Abstract)

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., and Regitnig, P.J. (2011). "Potato performance in the Vauxhall irrigated rotation study over 12 growing seasons (2000-11).", 2011 Annual Meeting of Potato Growers of Alberta, Calgary, AB, Canada, November 15-18, 2011. (Abstract)

Amarakoon, I.D., Zvomuya, F., Degenhardt, D., Cessna, A.J., McAllister, T.A., Lamey, F.J., and Farenhorst, A. (2011). "Antimicrobial transport in simulated rainfall runoff from cropland amended with solid beef cattle manure.", 3rd International Conference on Occurrence, Fate, Effects and Analysis of Emerging Contaminants in the Environment, Copenhagen, Denmark, August 23-26, 2011. (Poster)

Degenhardt, D., Lamey, F.J., Cessna, A.J., Sura, S., Olson, A.F., and McAllister, T.A. (2011). "Dissipation of three veterinary antimicrobials in feedlot manure stockpiles.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Abstract)

Lamey, F.J., Cessna, A.J., and McAllister, T.A. (2011). "Composting effects on antibiotic sin feedlot manure.", County of Lethbridge Newsletter, 2011(Winter).

Lamey, F.J. (2011). "Manure study examines antibiotic residue breakdown.", Western Producer, 2011 (April 7, 2011).

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Pearson, D.C., and Blackshaw, R.E. (2011). "Soil microbial biomass and diversity in irrigated crop systems.", Soil Ecology Society Meeting, Kelowna, BC, Canada, May 24-27, 2011. (Abstract)

Lamey, F.J. (2011). "Changes in cropping and tillage practices in Alberta: A recent revolution.", No-till and Crop Diversification as Base for Soil Conservation and Achieving National Food Security, Shorlandy, Kazakhstan, July 23-24, 2011.

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., Regitnig, P.J., and Balasubramanian, P.M. (2011). "Dry bean performance in the Vauxhall irrigated rotation study over 12 growing seasons (2000-11).", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011. (Abstract)

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## Research Publications:

2015

Graf, R.J., Beres, B.L., Randhawa, H.S., Gaudet, D.A., Laroche, A., and Eudes, F. (2015). "AAC Elevate hard red winter wheat.", *Canadian Journal of Plant Science*, 95(5), pp. 1021-1027. doi: 10.4141/cjps-2015-094

Rasmussen, J.P., Gilroyed, B.H., Reuter, T.R., Badea, A., Eudes, F., Graf, R.J., Laroche, A., Kav, N.N.V., and McAllister, T.A. (2015). "Protein can be taken up by damaged wheat roots and transported to the stem.", *Journal of Plant Biology*, 58(1), pp. 1-7. doi: 10.1007/s12374-014-0258-z

Zheng, K., Jiang, Q.-T., Zhang, X., Lan, X.-J., Dai, S.-F., Wei, Y.-M., Laroche, A., Lu, Z.-X., and Zheng, Y.-L. (2015). "Differences in starch composition and physiochemical properties are influenced by granule types in wheat and its relatives.", *Pakistan Journal of Botany*, 46(6), pp. 2239-2248.

Khalil, H.B., Ehdavevand, M.-R., Xu, Y., Laroche, A., and Gulick, P.J. (2015). "Identification and characterization of rye genes not expressed in allohexaploid triticale.", *BMC Genomics*, 16(1: Article 281), pp. 11 pages. doi: 10.1186/s12864-015-1480-x

2014

He, J.-F., Zhao, X., Laroche, A., Lu, Z.-X., Liu, H., and Li, Z.Q. (2014). "Genotyping-by-sequencing (GBS), An ultimate marker-assisted selection (MAS) tool to accelerate plant breeding.", *Frontiers in Plant Science*, 5(September: Article 484), pp. 1-8. doi: 10.3389/fpls.2014.00484

Rasmussen, J.B., Gilroyed, B.H., Reuter, T.R., Badea, A., Eudes, F., Graf, R.J., Laroche, A., Kav, N.N.V., and McAllister, T.A. (2014). "Efficiency of protein as a nitrogen source for wheat and morphological changes in roots exposed to high protein concentrations.", *Canadian Journal of Plant Science*, 94(4), pp. 603-613. doi: 10.4141/cjps2013-187

Wang, X.M., Gaudet, D.A., Liu, W., Frick, M., Puchalski, B., Lu, Z.-X., Leggett, F.L., and Laroche, A. (2014). "Defence responses including hypersensitive cell death, oxidative burst and defence gene expression in Moro wheat inoculated with *Puccinia striiformis*.", *Canadian Journal of Plant Pathology*, 36(2), pp. 202-215. doi: 10.1080/07060661.2014.920919

Khalil, H.B., Brunetti, S.C., Pham, U.M., Maret, D., Laroche, A., and Gulick, P.J. (2014). "Characterization of the caleosin gene family in the Triticeae.", *BMC Genomics*, 15(1: Article 239), pp. 1-15. doi: 10.1186/1471-2164-15-239

Liu, W., Frick, M., Huel, R., Nykiforuk, C.L., Wang, X.M., Gaudet, D.A., Eudes, F., Conner, R.L., Kuzyk, A.D., Chen, Q., Kang, Z., and Laroche, A. (2014). "Stripe Rust Resistance Gene Yr10 Encodes an Evolutionary-conserved and Unique CC-NBS-LRR Sequence in Wheat.", *Molecular Plant*, 7(12), pp. 1740-1755. doi: 10.1093/mp/ssu112

2013

Badea, A., Eudes, F., Laroche, A., Graf, R.J., Doshi, K., Amundsen, E.J., Nilsson, D., and Puchalski, B. (2013). "Antimicrobial peptides expressed in wheat reduce susceptibility to *Fusarium* head blight and powdery mildew.", *Canadian Journal of Plant Science*, 93(2), pp. 199-208. doi: 10.4141/CJPS2012-125

Graf, R.J., Beres, B.L., Laroche, A., Gaudet, D.A., Eudes, F., Pandeya, R.S., Badea, A., and Randhawa, H.S. (2013). "Emerson hard red winter wheat.", *Canadian Journal of Plant Science*, 93(4), pp. 741-748. doi: 10.4141/CJPS2012-262

Zheng, K., Xu, J., Jiang, Q., Laroche, A., Wei, Y.-M., Zheng, Y.-L., and Lu, Z.-X. (2013). "Isolation and characterization of an isoamylase gene from rye.", *The Crop Journal*, 1(2), pp. 127-133. doi: 10.1016/j.cj.2013.08.001

Tran, F., Penniket, C., Patel, R.V., Provart, N.J., Laroche, A., Rowland, O., and Robert, L.S. (2013). "Developmental transcriptional profiling reveals key regulators of Triticeae reproductive development.", *Plant Journal*, 74(6), pp. 971-988. doi: 10.1111/tpj.12206

Gaudet, D.A. and Laroche, A. (2013). "Mechanisms of snow mold resistance.", in Imai, R., Yoshida, M., Matsumoto, N. (eds.) - *Plant and Microbe Adaptation to Cold in Changing World*, Springer, pp. 319-330.



Graf, R.J., Beres, B.L., Randhawa, H.S., Gaudet, D.A., Badea, A., Laroche, A., Eudes, F., and Pandeya, R.S. (2013). "AAC Gateway hard red winter wheat.", *Canadian Journal of Plant Science*, 93(3), pp. 541-548. doi : 10.4141/CJPS2012-266

## 2012

Randhawa, H.S., Puchalski, B., Frick, M., Goyal, A., Despina, T., Graf, R.J., Laroche, A., and Gaudet, D.A. (2012). "Stripe rust resistance among western Canadian spring wheat and triticale varieties.", *Canadian Journal of Plant Science*, 92(4), pp. 713-722. doi : 10.4141/CJPS2011-252

Graf, R.J., Thomas, J.B., Beres, B.L., Gaudet, D.A., Laroche, A., and Eudes, F. (2012). "Flourish hard red winter wheat", *Canadian Journal of Plant Science*, 92(1), pp. 183-189. doi : 10.4141/CJPS2011-084

Zaidi, M.A., O'Leary, S., Wu, S., Gleddie, S.C., Eudes, F., Laroche, A., and Robert, L.S. (2012). "A molecular and proteomic investigation of proteins rapidly released from triticale pollen upon hydration.", *Plant Molecular Biology*, 79(1-2), pp. 101-121. doi : 10.1007/s11103-012-9897-y

Foroud, N.A., Ouellet, T., Laroche, A., Oosterveen, B., Jordan, M.C., Ellis, B.E., and Eudes, F. (2012). "Differential transcriptome analyses of three wheat genotypes reveal different host response pathways associated with *Fusarium* head blight and trichothecene resistance.", *Plant Pathology*, 61(2), pp. 296-314. doi : 10.1111/j.1365-3059.2011.02512.x

Diedhiou, C., Gaudet, D.A., Liang, Y., Sun, J.-Y., Lu, Z.-X., Eudes, F., and Laroche, A. (2012). "Carbohydrate profiling in seeds and seedlings of transgenic triticale modified in the expression of sucrose:sucrose-1-fructosyltransferase (1-SST) and sucrose:fructan-6-fructosyltransferase (6-SFT).", *Journal of Bioscience and Bioengineering*, 114(4), pp. 371-378. doi : 10.1016/j.jbiosc.2012.05.008

He, J.-F., Goyal, R.K., Laroche, A., Zhao, M.L., and Lu, Z.-X. (2012). "Water stress during grain development affects starch synthesis, composition and physicochemical properties in triticale.", *Journal of Cereal Science*, 56(3), pp. 552-560. doi : 10.1016/j.jcs.2012.07.011

Graf, R.J., Thomas, J.B., Gaudet, D.A., Laroche, A., and Beres, B.L. (2012). "Broadview hard red winter wheat.", *Canadian Journal of Plant Science*, 92(1), pp. 177-181. doi : 10.4141/CJPS2011-083

## 2011

Gaudet, D.A., Wang, Y., Frick, M., Puchalski, B., Penniket, C., Ouellet, T., Robert, L.S., Singh, J., and Laroche, A. (2011). "Low temperature induced defence gene expression in winter wheat in relation to resistance to snow moulds and other wheat diseases.", *Plant Science*, 180(1), pp. 99-110. doi : 10.1016/j.plantsci.2010.07.023

Laroche, A., Penniket, C., Frick, M., Genswein, B.M.A., Thomas, D.K., Puchalski, B., Graf, R.J., Selinger, L.B., Robert, L.S., Ouellet, T., Singh, J., and Gaudet, D.A. (2011). "Gene expression in Triticale.", in Chibar, R.N. and Dexter, J. (eds.) - *Wheat Science Dynamics: Challenges and Opportunities*, Agrobias International, Jodhpur, India, pp. 653-657.

Laroche, A. and Xing, T. (2011). "Revealing plant defense signaling getting more sophisticated with phosphoproteomics.", *Plant Signaling & Behavior*, 6(10), pp. 1469-1474. doi : 10.4161/psb.6.10.17345

Gao, Y., Liu, X., Stebbing, J.A., He, D., Laroche, A., Gaudet, D.A., and Xing, T. (2011). "TaFLRS, a novel mitogen-activated protein kinase in wheat defence responses.", *European Journal of Plant Pathology*, 131(4), pp. 643-651. doi : 10.1007/s10658-011-9837-8

Li, C.-Y., Li, W.-H., Lee, B.L., Laroche, A., Cao, L.-P., and Lu, Z.-X. (2011). "Morphological characterization of triticale starch granules during endosperm development and seed germination.", *Canadian Journal of Plant Science*, 91(1), pp. 57-67. doi : 10.4141/CJPS10039

Badea, A., Eudes, F., Salmon, D.F., Tuveesson, S., Vrolijk, A., Larsson, C.-T., Caig, V., Huttner, E., Kilian, A., and Laroche, A. (2011). "Development and assessment of DArT markers in triticale.", *Theoretical and Applied Genetics (TAG)*, 122(8), pp. 1547-1560. doi : 10.1007/s00122-011-1554-3

Xu, Y., Badea, C., Tran, F., Frick, M., Schneiderman, D., Robert, L.S., Harris, L.J., Thomas, D.K., Tinker, N.A., Gaudet, D.A., and Laroche, A. (2011). "Next-Gen sequencing of the transcriptome of triticale.", *Plant Genetic Resources: Characterization and Utilization*, 9(2), pp. 181-184. doi : 10.1017/s1479262111000281

## Other Science Related Publications:

## 2015

Goyal, R.K., West, C., Hui, L., Chiu, J., Frick, M., Chomistek, N., Ellis, B.E., Tulpan, D., Laroche, A., and Foroud, N.A. (2015). "MAP kinases and defence signalling for disease resistance in wheat.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015.

Laroche, A., Frick, M., Puchalski, B., Amundsen, E.J., Puchalski, B., Randhawa, H.S., Graf, R.J., and Gaudet, D.A. (2015). "Characterization of Stripe Rust Isolates from Western Canada Using NGS.", XXIII Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2015, pp. P0467.

Cabral, A.L., Knox, R.E., Ammar, K., Pozniak, C.J., Ruan, Y., Laroche, A., Randhawa, H.S., Sharpe, A.G., N'Daiye, A., Sari, E., Schmidt, P.J., Boyle, K., Zhang, W., Condie, J., Campbell, H., Meyer, B., and Fobert, P. (2015). "The ADF Durum CWA Enhanced Fusarium and Rust Tolerance Project.", 2nd Annual Science Meeting of the Canadian Wheat Association, Saskatoon, Canada, July 14-16, 2015. (Abstract)

## 2014

Frick, M., Puchalski, B., Amundsen, E.J., Puchalski, B., Gaudet, D.A., Randhawa, H.S., Graf, R.J., and Laroche, A. (2014). "Molecular characterization of Pst races from western Canada.", 2014 Plant Pathology Symposium of Alberta, Canmore, AB, Canada, October 27-29, 2014.

Laroche, A. (2014). "Genomics activities.", Presentation to a Chinese delegation from Shandong Agricultural University, Lethbridge Research Centre, December 4, 2014. (Presentation)

Laroche, A. (2014). "Genomics activities.", Presentation to a Chinese delegation (Dr. Guangchao Kong from Shihezi University and Dr. Zengyuan Wang, CAAS, Beijing), Lethbridge Research Centre, August 29-30, 2014. (Presentation)

Laroche, A., Frick, M., Xu, Y., Puchalski, B., Puchalski, B., Singh, A., Randhawa, H.S., Graf, R.J., and Gaudet, D.A. (2014). "NGS to identify, characterize and compare isolates of stripe rust, a fungal pathogen of wheat.", Canada NGS Symposia - Lethbridge NGS Symposium, University of Lethbridge, April 24, 2014. (Presentation)

Laroche, A. (2014). "The wheat stripe rust pathogen in Western Canada: a molecular characterization of current and past isolates strains.", University of Lethbridge, Biological Sciences Department, March 13, 2014. (Presentation)

Laroche, A., Frick, M., Verma, S., Gaudette, N., Dhariwal, G.K., Schussler, M., Frick, M.J., Wogsberg, S., Kundrik, K., and Gaudet, D.A. (2014). "Does abiotic stress increase wheat and triticale susceptibility to different pathogens?", 35th Plant Pathology Symposium of Alberta, Canmore, AB, Canada, October 27-29, 2014, pp. 16. (Poster)

Gaudet, D.A., Amundsen, E.J., Frick, M., Kundrik, K., and Laroche, A. (2014). "Stripe Rust in Southern Alberta in 2014.", 35th Plant Pathology Symposium of Alberta, Canmore, AB, Canada, October 27-29, 2014.

Laroche, A., Frick, M., Xu, Y., Puchalski, B., Puchalski, B., Randhawa, H.S., Graf, R.J., and Gaudet, D.A. (2014). "Comparisons of *Puccinia striiformis* f. sp. *tritici* (Pst) isolates from Southern Alberta.", Canadian Wheat Alliance 1st Annual Science Meeting, NRC-Saskatoon, Saskatoon, Canada, April 7-8, 2014.

Laroche, A., Frick, M., Xu, Y., Puchalski, B., Puchalski, B., Randhawa, H.S., Graf, R.J., and Gaudet, D.A. (2014). "Molecular characterization of Pst races isolates from Western Canada.", Borlaug Global Rust Initiative Technical Workshop, Obregon, México, March 22-25, 2014.

Pahari, S., Eudes, F., Laroche, A., and Larsen, R.J. (2014). "Identification and Characterization of Flowering Time Genes in Tall Wheatgrass.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014. (Poster)

Graf, R.J., Randhawa, H.S., Gaudet, D.A., and Laroche, A. (2014). "Rust resistance in western Canadian winter wheat.", Borlaug Global Rust Initiative Technical Workshop, Obregon, México, March 22-25, 2014. (Poster)

Wang, F., Frick, M., Amundsen, E.J., Gaudet, D.A., Laroche, A., and Sheedy, C. (2014). "Detection of stripe rust spores through self-assembly antibody conjugations by RT-IPCR.", 35th Plant Pathology Symposium of Alberta, Canmore, AB, Canada, October 27-29, 2014.

## 2013

Laroche, A., Puchalski, B., Singh, A., Puchalski, B., Gaudet, D.A., Randhawa, H.S., Graf, R.J., and Frick, M. (2013). "Next-generation sequencing to characterize Pst races from western Canada.", 5th Borlaug Global Rust Initiative Technical Workshop, New Delhi, India, August 19-22, 2013. (Poster)

Khalil, H.B., Xu, Y., Frick, M., Elzein, S., Ehdaevand, M.-R., Laroche, A., and Gulick, P. (2013). "Rye subgenome suppression in triticale: An insight into genome restructuring in recent polyploids.", XXI Plant and Animal Genome Conference, San Diego, CA, USA, January 12-16, 2013.

Puchalski, B., Gaudet, D.A., Randhawa, H.S., Despina, T., and Laroche, A. (2013). "The occurrence of stripe rust in Southern Alberta.", 34th Annual Meeting of the Plant Pathology Society of Alberta, Brooks, AB, Canada, November 4-6, 2013.

Laroche, A., Frick, M., Puchalski, B., Puchalski, B., Singh, A., Randhawa, H.S., Graf, R.J., and Gaudet, D.A. (2013). "Differential make-up in older and newer stripe rust strains.", 34th Annual Meeting of the Plant Pathology Society of Alberta, Brooks, AB, Canada, November 4-6, 2013.

Gaudet, D.A., Puchalski, B., Randhawa, H.S., Despina, T., and Laroche, A. (2013). "Fungicide Control of Stripe Rust in Western Canada.", 34th Annual Meeting of the Plant Pathology Society of Alberta, Brooks, AB, Canada, November 4-6, 2013.

Frick, M., Puchalski, B., Puchalski, B., Gaudet, D.A., Randhawa, H.S., Graf, R.J., Laroche, A., and Forbert, P. (2013). "Molecular characterization of stripe rust races from Western Canada.", 2013 Canadian Society of Plant Biologist Annual Meeting, Quebec, Canada, June 25-28, 2013.

Frick, M., Puchalski, B., Puchalski, B., Singh, A., Randhawa, H.S., Graf, R.J., and Laroche, A. (2013). "Molecular characterization of Pst races from Alberta.", 34th Annual Meeting of the Plant Pathology Society of Alberta, Brooks, AB, Canada, November 4-6, 2013.

Xu, Y., Frick, M., Penniket, C., Robert, L.S., Harris, L.J., Tran, F., Schneiderman, D., Gulick, P.J., and Laroche, A. (2013). "Identification and regulation of cell wall transcripts in triticale (x *Triticosecale* Wittm.)", The 8th International Triticale Symposium, Ghent, Belgium, June 10-14, 2013, pp. 3. (Poster)

Randhawa, H.S., Puchalski, B., Puchalski, B., Laroche, A., Graf, R.J., and Gaudet, D.A. (2013). "Virulence analysis of Pst isolates collected from western Canada.", Borlaug Global Rust Initiative (BGRI) Technical Workshop, New Delhi, India, August 19-22, 2013. (Presentation)

Gaudet, D.A., Puchalski, B., Randhawa, H.S., Despins, T., and Laroche, A. (2013). "Control of stripe rust in western Canada.", Canadian Phytopathological Society Annual Meeting, Edmonton, Alberta, Canada, June 16-19, 2013. (Presentation)

Laroche, A., Puchalski, B., Singh, A., Puchalski, B., Gaudet, D.A., Randhawa, H.S., Graf, R.J., and Frick, M. (2013). "Next-generation sequencing to characterize Pst races from western Canada.", Borlaug Global Rust Initiative (BGRI) Technical Workshop, New Delhi, India, August 19-22, 2013. (Presentation)

Laroche, A., Xu, Y., Penniket, C., Robert, L.S., Robert, L.S., Harris, L.J., Tran, F., Schneiderman, D., Gulick, P.J., and Frick, M. (2013). "A comprehensive reference transcriptome for triticale (x *Triticosecale* Wittm.)", The 8th International Triticale Symposium, Ghent, Belgium, June 10-14, 2013, O10.

## 2012

Rasmussen, J.D., Gilroyed, B.H., Reuter, T.R., Badea, A., Eudes, F., Graf, R.J., Laroche, A., Kav, N.N.V., and McAllister, T. A. (2012). "The uptake of functional proteins and infectious prions into major crop plants.", PrP Canada 2012 & Protein Folding Disease Conference, Toronto, Ontario, Canada, June 25-27, 2012, #64, pp. 122. (Poster)

Frick, M., Xu, Y., Penniket, C., Robert, L.S., Harris, L.J., Tran, F., Schneiderman, D., Gulick, P., and Laroche, A. (2012). "A triticale (x *Triticosecale* Wittm.) reference transcriptome.", 22nd International Triticeae Mapping Initiative (ITMI) and 4th National Wheat Genomics Committee Joint Workshop, Fargo, ND, USA, June 25-29, 2012, pp. 12.

## 2011

Badea, A., Thurston, G., Simmonds, J.A., Frick, M., and Laroche, A. (2011). "Expression of an endoglucanase enzyme in corn and triticale: an alternative system for improving cellulosic biofuel extraction.", Plant & Animal Genome XIX Conference, Town & Country Convention Center, San Diego, CA, USA, January 15-19, 2011, P699, pp. 201. (Poster)

Foroud, N.A., Ouellet, T., Ellis, B.E., Jordan, M.C., Laroche, A., and Eudes, A. (2011). "Signalling mechanisms mediating resistance and susceptibility to fusarium head blight in wheat.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB)/ Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 53.

Laroche, A., Frick, M., Puchalski, B., Graf, R.J., Randhawa, H.S., and Gaudet, D.A. (2011). "Towards the genome sequencing of Alberta races of *Puccinia striiformis*, the causal agent of stripe rust.", 32nd Annual Meeting of the Plant Pathology Society of Alberta (PPSA), University of Alberta, Edmonton, AB, Canada, November 7-9, 2011, pp. 9.

Gaudet, D.A., Randhawa, H.S., Puchalski, B., Graf, R.J., Despins, T., and Laroche, A. (2011). "Stripe rust resistance among western Canadian wheat and triticale cultivars.", Canadian Phytopathological Society (CPS) 82nd Annual Meeting (with Plant Canada 2011), Halifax, NS, Canada, July 17-21, 2011.

Gaudet, D.A., Randhawa, H.S., Puchalski, B., Frick, M., Goyal, A., Despins, T., Graf, R.J., and Laroche, A. (2011). "Stripe rust resistance among western Canadian wheat and triticale cultivars.", 32nd Annual Meeting of the Plant Pathology Society of Alberta (PPSA), University of Alberta, Edmonton, AB, Canada, November 7-9, 2011, pp. 7.

Frick, M., Xu, Y., Robert, L.S., Gulick, P., Harris, L.J., Badea, C., Penniket, C., and Laroche, A. (2011). "Transcriptional analyses of plant defense pathway related genes in cereals.", VI International Scientific Seminar on Plant Health and II International Phytoplasma Workshop, Havana, Cuba, September 22-26, 2008, pp. 13.

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## Other Science Related Publications:

2015

Larsen, R.J. and Kienlen, A. (2015). "Expert advice for ergot control (<http://www.albertafarmexpress.ca/2015/02/24/expert-advice-for-ergot-control/>).", Alberta Express, 2015(February 24).

Larsen, R.J. (2015). "A Bright Future for Rye.", Annual General Meeting for the Saskatchewan Winter Cereals Development Commission, Saskatoon, SK, Canada, January 12, 2015. (Presentation)

2014

Larsen, R.J. and Acharya, S.N. (2014). "Perennial Cereal Rye Agronomy-Evaluating Biomass Yield, Quality and Perennial Habit Through a Series of Biomass Harvests.", CSA-CSHS Joint Annual Conference, Lethbridge, AB, Canada. (Poster)

Larsen, R.J. and Glen, B. (2014). "Spotlight falls on forgotten crop (<http://www.producer.com/2014/06/spotlight-falls-on-forgotten-crop/>).", Western Producer, 2014(June 18).

Larsen, R.J. and Booker, R. (2014). "Fall Rye.", Western Producer, 2014(January 12).

Larsen, R.J. and Weigum, S. (2014). "Rye, oh rye? (<http://www.grainews.ca/2014/08/04/rye-oh-rye/>)", Grain News, 2014(August 4).

Larsen, R.J. and Weigum, S. (2014). "Rye, oh rye: the second part. (<http://www.grainews.ca/2014/09/10/rye-oh-rye-the-second-part/>)", Grain News, 2014(September 10).

Pahari, S., Eudes, F., Laroche, A., and Larsen, R.J. (2014). "Identification and Characterization of Flowering Time Genes in Tall Wheatgrass.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014. (Poster)

Larsen, R.J. and Bontz, S. (2014). A grain seen as nearest the perennial goal: rye. Land Report, Fall 2014, The Land Institute. <http://pwheat.anr.msu.edu/wp-content/uploads/2010/08/LR-110.pdf>. (Report)

Larsen, R.J. and King, C. (2014). "Triticale: Poised for the future. (<http://www.mydigitalpublication.com/article/Triticale%3A+Poised+For+The+Future+/1662520/0/article.html>)", Top Crop Manager (Western edition), 2014(Mid-March).

Larsen, R.J. and Coles, K. (2014). "Crop Walk talk on fall rye.", Farming Smarter, Lethbridge, AB., Canada, June 5, 2014. (Presentation)

Larsen, R.J. and Coles, K. (2014). "Hybrid Fall Rye.", Medicine Hat Field Day, Medicine Hat, AB, Canada, July 17, 2014. (Presentation)

Larsen, R.J. and Ellert, B.H. (2014). "Steps Towards Creating a Paradigm Shift in Production Agriculture to Address Greenhouse Gases Emissions and Soil Health Through the Development of Perennial Cereals. Biological Solutions: Building the Business Case.", Alberta Innovates Biosolutions, Edmonton, AB, Canada, October 1-2, 2014. (Presentation)

Larsen, R.J. (2014). "Perennial Wheat and Perennial Cereal Rye Breeding. New Roots for Ecological Intensification.", The Land Institute, Estes Park, CO, USA, October 27-31, 2014. (Presentation)

Larsen, R.J. and Glen, B. (2014). "Researchers keep eye on rye (<http://www.producer.com/2014/07/researchers-keep-eye-on-rye/>).", Western Producer, 2014(July 25).

Larsen, R.J. and Handley, G. (2014). "Come back for more (<http://www.grainwest.com/2014/03/come-back-for-more/>).", Grain West, 2014(March 14).

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## Research Publications:

2015

Forney, C.F., Bezanson, G.S., Ells, T.C., Fan, L., and LeBlanc, D.I. (2015). "Impact of heat sanitation of fresh whole cantaloupe on fruit quality and volatile metabolism.", *Acta Horticulturae (ISHS)*, 1079, pp. 145-151.

LeBlanc, D.I., Villeneuve, S., Hashemi Beni, L., Otten, A., Fazil, A.M., McKellar, R., and Delaquis, P.J. (2015). "A national produce supply chain database for food safety risk analysis.", *Journal of Food Engineering*, 147(C), pp. 24-38. doi : 10.1016/j.jfoodeng.2014.09.026

2014

McKellar, R.C., LeBlanc, D.I., Pérez Rodríguez, F., and Delaquis, P.J. (2014). "Comparative simulation of *Escherichia coli* O157:H7 behaviour in packaged fresh-cut lettuce distributed in a typical Canadian cold chain in the summer and winter.", *Food Control*, 35, pp. 192-199.

2013

Liplap, P., Boutin, J., LeBlanc, D.I., Vigneault, C., and Raghavan, G.S.V. (2013). "Effect of hyperbaric pressure and temperature on respiration rates and quality attributes of Boston Lettuce.", *International Journal of Food Science and Technology*. doi : doi:10.1111/ijfs.12288

2012

LeBlanc, D.I., Vigneault, C., Boutin, J., Toussaint, V., Charlebois, D., Forney, C.F., Bourgeois, G., Clément, A., and Bezanson, G.S. (2012). "Design and performance of a controlled environment mini-chamber for measuring produce quality deterioration.", *Journal of Agricultural Science and Technology B*, 2, pp. 391-399.

Vigneault, C., LeBlanc, D.I., Goyette, B., and Jenni, S. (2012). "Engineering aspects of physical treatments to increase fruit and vegetable phytochemical content.", *Canadian Journal of Plant Science*, 92(3), pp. 373-397. doi : 10.4141/CJPS2011-222

McKellar, R., LeBlanc, D.I., Lu, J., and Delaquis, P.J. (2012). "Simulation of *Escherichia coli* O157:H7 Behavior in Fresh-Cut Lettuce Under Dynamic Temperature Conditions During Distribution from Processing to Retail.", *Foodborne Pathogens and Disease*, 9(3), pp. 239-244. doi : 10.1089/fpd.2011.1025

Bergeron-Quirion, S., Villeneuve, S., LeBlanc, D.I., and Delaquis, P.J. (2012). "Thermophysical properties and thermal behavior of leafy vegetables packaged in clamshells.", *Journal of Food Engineering*, 113(1), pp. 27-32. doi : 10.1016/j.jfoodeng.2012.05.032

Hashemi Beni, L., Villeneuve, S., LeBlanc, D.I., Côté, K., Fazil, A.M., Otten, A., McKellar, R., and Delaquis, P.J. (2012). "Spatio-temporal Assessment of Food Safety Risks in Canadian Food Distribution Systems using GIS.", *Spatial and Spatio-temporal Epidemiology*, 3(3), pp. 215-223. doi : 10.1016/j.sste.2012.02.009

2011

Hashemi Beni, L., Villeneuve, S., LeBlanc, D.I., and Delaquis, P.J. (2011). "A GIS-based approach in support of an assessment of food safety risks.", *Transactions in GIS*, 15(Suppl. 1), pp. 95-108. doi : 10.1111/j.1467-9671.2011.01264.x

## Other Science Related Publications:

2015

Villeneuve, S., LeBlanc, D.I., Hashemi Beni, L., Otten, A., Fazil, A.M., McKellar, R., and Delaquis, P.J. (2015). "CanGRASP: the Canadian GIS-based Risk Assessment, Simulation and Planning tool for food safety.", *International Congress on Engineering and Food, Engineering Challenges: bridging science and food innovations*, Québec city, Canada, June 14-18, 2015, Oral presentation.

2014

Fan, L., Hughes, T., Ban, Z., Bezanson, G.S., Fomey, C.F., Eils, T.C., LeBlanc, D.I., Guan, J., and Li, J.B. (2014). "Investigation of vapor heat treatment on microbial control and quality of cantaloupes.", United Fresh 2014. (Poster)

Fomey, C.F., Bezanson, G.S., Eils, T.C., Fan, L., and LeBlanc, D.I. (2014). "Impact of heat sanitation of fresh whole cantaloupe on fruit quality and volatile metabolism.", United Fresh 2014, Chicago, IL, USA, June 10-14, 2014. (Poster)

Fomey, C.F., Bezanson, G.S., Eils, T.C., Fan, L., and LeBlanc, D.I. (2014). "Impact of heat sanitation of fresh whole cantaloupe on fruit quality and volatile metabolism.", The 5th Postharvest Unlimited Conference, Conference presentation and abstract.

2012

Fomey, C.F., Bezanson, G.S., Fan, L., Eils, T.C., and LeBlanc, D.I. (2012). "Development of the Low Temperature Thermal Treatment (LT3) Process to Sanitize Fresh-cut Cantaloupe.", United Fresh 2012, Dallas Convention Center, Dallas, TX, USA, May 1-23, 2012. (Poster)

Bergeron-Quirion, S., Villeneuve, S., LeBlanc, D.I., and Delaquis, P.J. (2012). "Thermophysical properties of pre-washed baby-leaf lettuce and brassica greens packaged in clamshells.", 11th Conference of Food Engineering (CoFE 2012), National Conference Center, Leesburg, VA, USA, April 2-4, 2012. (Poster)

Bergeron-Quirion, S., Villeneuve, S., LeBlanc, D.I., and Delaquis, P.J. (2012). "Predicting the temperature of leafy vegetables packaged in clamshells during distribution in the cold chain.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012. (Poster)

Fazil, A.M., Otten, A., Hashemi Beni, L., Villeneuve, S., McKellar, R., Delaquis, P.J., and LeBlanc, D.I. (2012). "Development of a simulation tool to predict the public health risks associated with microbiological hazards in Canadian food distribution systems.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012. (Poster)

Fazil, A.M., Otten, A., Hashemi Beni, L., Villeneuve, S., McKellar, R., Delaquis, P.J., and LeBlanc, D.I. (2012). "Développement d'un outil de simulation permettant de prédire les risques de santé publique associés aux dangers microbiologiques présents dans le système canadien de distribution des aliments.", 3e rencontre annuelle de l'Association Québécoise pour l'Innocuité Alimentaire (AQIA), Centre des Congrès de Lévis, Québec City, QC, Canada, September 13, 2012. (Poster)

Fazil, A.M., Otten, A., Hashemi Beni, L., Villeneuve, S., McKellar, R., Delaquis, P.J., and LeBlanc, D.I. (2012). "A simulation model to predict public health risks of pathogens in a Canadian food distribution system.", Society for Risk Analysis (SRA) 2012 Annual Meeting, San Francisco, CA, USA, December 9-12, 2012, T2-F.4.

Villeneuve, S., Hashemi Beni, L., Côté, K., LeBlanc, D.I., Fazil, A.M., Otten, A., McKellar, R., and Delaquis, P.J. (2012). "Development of an interactive modeling tool to predict the risks associated with contaminated fresh-cut lettuce in Canadian Distribution Systems.", 101st Annual Meeting of the International Association of Food Protection (IAFP 2012), Rhode Island Convention Center, Providence, RI, USA, July 22-25, 2012.

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## Research Publications:

2013

Légère, A., Stevenson, F.C., Beckie, H.J., Warwick, S.I., Johnson, E.N., Hrynewich, B.L., and Lozinski, C. (2013). "Growth characterization of kochia (*Kochia scoparia*) with substitutions at Pro<sub>197</sub> or Trp<sub>574</sub> conferring resistance to acetolactate synthase-inhibiting herbicides.", *Weed Science*, 61(2), pp. 267-276. doi : 10.1614/WS-D-12-00116.1

Légère, A., Shirliffe, S.J., Vanasse, A., and Gulden, R.H. (2013). "Extreme grain-based cropping systems: When herbicide-free weed management meets conservation tillage in Northern Climates.", *Weed Technology*, 27(1), pp. 204-211. doi : 10.1614/WT-D-12-00074.1

Légère, A., Vanasse, A., and Stevenson, F.C. (2013). "Low input management strategies and mature conservation tillage systems: agronomic potential in a cool humid climate.", *Agronomy Journal*, 105(3), pp. 745-754. doi : 10.2134/agronj2012.0483

2012

Lalonde, O., Légère, A., Stevenson, F.C., Roy, M., and Vanasse, A. (2012). "Carabid beetle communities after 18 years of conservation tillage and crop rotation in a cool humid climate.", *Canadian Entomologist*, 144(5), pp. 645-657. doi : 10.4039/tce.2012.55

Beckie, H.J., Johnson, E.N., and Légère, A. (2012). "Negative cross-resistance of acetolactate synthase inhibitor resistant kochia (*Kochia scoparia*) to protoporphyrinogen oxidase and hydroxyphenylpyruvate dioxygenase inhibiting herbicides.", *Weed Technology*, 26(3), pp. 570-574. doi : 10.1614/WT-D-12-00020.1

Francis, A., Darbyshire, S.J., Légère, A., and Simard, M.-J. (2012). "The Biology of Canadian Weeds. 151. *Erodium cicutarium* (L.) L'Hér. Ex Aiton.", *Canadian Journal of Plant Science*, 92(7), pp. 1359-1380. doi : 10.4141/CJPS2012-076

2011

Légère, A., Stevenson, F.C., and Benoît, D.-L. (2011). "The selective memory of weed seedbanks after 18 years of conservation tillage.", *Weed Science*, 59(1), pp. 98-106. doi : 10.1614/WS-D-10-00092.1

Légère, A., Stevenson, F.C., and Vanasse, A. (2011). "A corn test crop confirms beneficial effects of crop rotation in three tillage systems.", *Canadian Journal of Plant Science*, 91(5), pp. 943-946. doi : 10.4141/CJPS2011-040

Légère, A., Stevenson, F.C., Lalonde, O., Vanasse, A., and Benoît, D.-L. (2011). "Stork's-bill (*Erodium cicutarium* (L.) L'Her. Ex Ait) and hemp-nettle (*Galeopsis tetrahit* L.): a cautionary note for eastern Canada field crops.", *Phytoprotection*, 91(1), pp. 11-14.

## Other Science Related Publications:

2013

Légère, A., Vanasse, A., Parent, G., Malhi, S.S., and Stevenson, F.C. (2013). "Productivity unleashed : crop and weed response to plowing 24 year-old no-till plots.", 53rd Annual Meeting of the Weed Science Society of America (WSSA), Baltimore, MD, USA, February 4-7, 2013.

Légère, A. and Stevenson, F.C. (2013). "Oh treatment mean difference – Where art thou? Multiple contrasts tests at the rescue.", 53rd Annual Meeting of the Weed Science Society of America (WSSA), Baltimore, MD, USA, February 4-7, 2013.

2012

Légère, A., Stevenson, F.C., and Vanasse, A. (2012). "Weeds filling the void. Why weed management is critical in low input systems as tillage is reduced.", Canadian Weed Science Society 66th Annual Meeting, Fairmont Hotel, Winnipeg, MB, Canada, November 12-15, 2012.

Légère, A., Vanasse, A., and Shirliffe, S.J. (2012). "Extreme cropping systems: when herbicide-free weed management meets conservation tillage in Northern climates.", 52nd Annual Meeting of the Weed Science Society of America (WSSA), Waikoloa, HI, USA, February 6-9, 2012.

Munger, H., Vanasse, A., Rioux, S., Bourget, N., and Légère, A. (2012). "Fusarium head blight in low-input conservation tillage bread wheat: the potentially positive impact of weeds.", 52nd Annual Meeting of the Weed Science Society of America (WSSA), Waikoloa, HI, USA, February 6-9, 2012.

Légère, A., Stevenson, F.C., and Vanasse, A. (2012). "In-season changes (post vs. pre weed control) in weed species richness and density vary with tillage and cropping system in corn and soybean.", 52nd Annual Meeting of the Weed Science Society of America (WSSA), Waikoloa, HI, USA, February 6-9, 2012.

## 2011

Hugh, J.B., Harker, K.N., Légère, A., Morrison, M.J., Séguin-Swartz, G.T., and Falk, K.C. (2011). "GM Canola: The Canadian Experience.", *Farm Policy Journal*, 8(1), pp. 43-49.

Légère, A., Beckie, H.J., Hrynewich, B.L., Lozinski, C., Johnson, E.N., Warwick, S.I., and Stevenson, C. (2011). "Kochia with ALS (AHAS) Mutations: More on the Manitoba Conundrum.", 51st Meeting Weed Science Society of America, Hilton Portland & Executive Tower Hotel, Portland, OR, USA, February 7-10, 2011. (Presentation)

Légère, A., Stevenson, C., Vanasse, A., and Lalonde, O. (2011). "Organic and Herbicide-free Systems Applied to Old Conservation Tillage Plots: The Weed Management Challenge.", 51st Annual Meeting of the Weed Science Society of America (WSSA), Hilton Portland & Executive Tower Hotel, Portland, OR, USA, February 7-10, 2011. (Poster)



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## Research Publications:

2014

Legge, W.G., Tucker, J.R., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Tekauz, A., Turkington, T.K., and Savard, M.E. (2014). "AAC Synergy barley.", *Canadian Journal of Plant Science*, 94(4), pp. 797-803. doi : 10.4141/cjps2013-307

2013

Clear, R.M., Tucker, J.R., Gaba, D., Patrick, S.K., Lee, S.-J., Demeke, T., Tittlemier, S.A., Legge, W.G., and Gräfenhan, T. (2013). "Deoxynivalenol levels and chemotype frequency in barley cultivars inoculated with two chemotypes of *Fusarium graminearum*.", *Canadian Journal of Plant Pathology*, 35(1), pp. 37-45. doi : 10.1080/07060661.2012.751622

Legge, W.G., Tucker, J.R., Bizimungu, B., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Tekauz, A., Turkington, T.K., Savard, M.E., and Choo, T.-M. (2013). "Cerveza barley.", *Canadian Journal of Plant Science*, 93(3), pp. 557-564. doi : 10.4141/cjps2012-299

Legge, W.G., Tucker, J.R., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Tekauz, A., Turkington, T.K., and Savard, M.E. (2013). "Major barley.", *Canadian Journal of Plant Science*, 93(2), pp. 291-297. doi : 10.4141/cjps2012-248

Edney, M.J., Legge, W.G., Izydorczyk, M.S., Demeke, T., and Rosnagel, B.G. (2013). "Identification of barley breeding lines combining preharvest sprouting resistance with "Canadian-type" malting quality.", *Crop Science*, 53(4), pp. 1447-1454. doi : 10.2135/cropsci2012.11.0649

Legge, W.G., Tucker, J.R., Bizimungu, B., Tekauz, A., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Turkington, T.K., Martin, R.A., Choo, T.-M., Vigier, B.J., Blackwell, B.A., and Savard, M.E. (2013). "Taylor barley.", *Canadian Journal of Plant Science*, 93(5), pp. 969-977. doi : 10.4141/cjps2013-126

2011

Edney, M.J., Rosnagel, B.G., McCaig, R., Juskiw, P.E., and Legge, W.G. (2011). "Reduced phytate barley malt to improve fermentation efficiency.", *Journal of the Institute of Brewing*, 117(3), pp. 401-410.

Legge, W.G., Tucker, J.R., Bizimungu, B., Tekauz, A., Noll, J.S., Fetch Jr., T.G., Menzies, J.G., Haber, S.M., Savard, M.E., Vigier, B.J., Choo, T.-M., Martin, R.A., Turkington, T.K., Rosnagel, B.G., and Harvey, B.L. (2011). "Norman barley.", *Canadian Journal of Plant Science*, 91(6), pp. 1105-1113. doi : 10.4141/cjps2010-020

## Other Science Related Publications:

2015

Akhavan, A., Turkington, T.K., Askarian, H., Legge, W.G., Tekauz, A., Tucker, J.R., and Strelkov, S.E. (2015). "Ability of *Pyrenophora teres* pathotypes to overcome net blotch resistance in Canadian barley genotypes.", *Canadian Journal of Plant Pathology*. (Abstract)

2014

Tucker, J.R., Feranando, W.G.D., Badea, A., and Legge, W.G. (2014). "Genomic Selection for Improving *Fusarium* Head Blight Resistance and Lowering Deoxynivalenol Accumulation in Two-rowed Barley.", 21st North American Barley Research Workshop, Minneapolis, Minnesota, USA, June 29 - July 2, 2014. (Poster)

Legge, W.G., Tucker, J.R., Banić, M., Tekauz, A., Martin, R.A., Choo, T.-M., Blackwell, B.A., and Savard, M.E. (2014). "Development of TR10214 two-row malting barley with low deoxynivalenol accumulation.", 21st North American Barley Research Workshop, Minneapolis, Minnesota, USA, June 29 - July 2, 2014. (Poster)

Badea, A., Zhou, M., and Legge, W.G. (2014). "Preliminary greenhouse evaluation of several barley lines and cultivars for waterlogging tolerance.", 21st North American Barley Research Workshop, Minneapolis, Minnesota, USA, June 29 - July 2, 2014. (Poster)

Tucker, J.R., Legge, W.G., Beattie, A.D., and Voth, D. (2014). "Progress in developing two-rowed barley for resistance to spot blotch.", American Phytopathological Society (APS) and Canadian Phytopathological Society (CPS) Joint Meeting 2014, Hilton Minneapolis, Minneapolis, MN, USA, August 9-13, 2014, pp. 246-P. (Poster)

## 2013

Legge, W.G. (2013). "AAFC Brandon program activities.", 22nd BMBRI Triennial Barley Meeting, ArtisREIT Building, Winnipeg, MB, Canada, June 6, 2013. (Presentation)

Legge, W.G. (2013). Final Performance Report for DIAP (# 05042/AGR-05840): Adding Value to Barley through Breeding and Agronomy Research, Development of two-row malting barley cultivars and FHB resistant germplasm for western Canada (W.G. Legge, PI, RBPI #2186). (Report)

Tucker, J.R., Legge, W.G., Badea, A., and Fetch Jr., T.G. (2013). "Breeding for stem rust (*Puccinia graminis* f. sp. *tritici*) resistance in barley (*Hordeum vulgare*) at the AAFC Brandon Research Centre: Future directions.", Manitoba Regional Meeting of the Canadian Phytopathological Society, Carman, MB, Canada, November 20, 2013. (Poster)

Legge, W.G. (2013). Report of the 2012 Eastern Prairie Barley Test. Agriculture and Agri-Food Canada, Brandon Research Centre, Brandon, MB. (Test report distributed to collaborators and others with an interest in barley improvement before PRCOB meetings). (Report)

Legge, W.G. (2013). 2012/13 Annual Report to the Western Grains Research Foundation for Barley Research and Development at the AAFC Brandon Research Centre. Agriculture and Agri-Food Canada, Brandon Research Centre, Brandon, MB. (Report)

## 2011

Tucker, J.R., Turkington, T.K., and Legge, W.G. (2011). "Barley genotype interaction with three virulent scald (*Rhynchosporium secalis*) pathotypes from western Canada.", 4th International Workshop on Barley Leaf Blights (IWBLB), West Park Conference Centre, Dundee, Scotland, UK, June 27-29, 2011.

Legge, W.G., Edney, M.J., Izydorczyk, M.S., Demeke, T., and Rosnagel, B.G. (2011). "Effect of a major quantitative trait locus for pre-harvest sprouting resistance from the Australian barley cultivar 'Baudin' on malting quality.", 2011 North American Barley Researchers Workshop, Corvallis, OR, USA, June 6-8, 2011, pp. 17. (Abstract)

Edney, M.J., Rosnagel, B.G., and Legge, W.G. (2011). "The road to quality hulless malting barley - Where to now?", 2011 North American Barley Researchers Workshop, Corvallis, OR, USA, June 6-8, 2011, pp. 7. (Abstract)

Legge, W.G., Tucker, J.R., Tekauz, A., Martin, R.A., Choo, T.-M., Blackwell, B.A., and Savard, M.E. (2011). "Development of two-row malting barley with improved fusarium head blight resistance at Agriculture and Agri-Food Canada's Brandon Research Centre.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, Published in: Gilbert, J. and Tekauz, A. (Eds.), Proceedings of the 7th Canadian Workshop on Fusarium Head Blight, pp. 105.

Legge, W.G. and Tucker, J.R. (2011). "Update on improving fusarium head blight resistance in barley for western Canada.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 64.

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## Research Publications:

2015

Congreves, K.A., Grant, B.B., Campbell, C.A., Smith, W.N., VandenBygaart, A.J., Kröbel, R., Lemke, R.L., and Desjardins, R.L. (2015). "Measuring and modelling the long-term impact of crop management on soil C sequestration in the semiarid Canadian prairies.", *Agronomy Journal*, 107(3), pp. 1141-1154. doi: 10.2134/agronj15.0009

Li, Z.T., Yang, J.Y., Smith, W.N., Drury, C.F., Lemke, R.L., Grant, B.B., and Li, X.-G. (2015). "Simulation of long-term spring wheat yield, soil C, N and water dynamics using DSSAT-CSM in a semi-arid region of the Canadian prairies.", *Nutrient Cycling in Agroecosystems*, 101(3), pp. 401-419. doi: 10.1007/s10705-015-9688-3

2014

Kröbel, R., Lemke, R.L., Campbell, C.A., Zentner, R.P., McConkey, B.G., Steppuhn, H., De Jong, R., and Wang, H. (2014). "Water use efficiency of spring wheat in the semi-arid Canadian Prairies: Effect of legume green manure, type of spring wheat, and cropping frequency.", *Canadian Journal of Soil Science*, 94(2), pp. 223-235. doi: 10.4141/CJSS2013-016

Arcand, M.M., Lemke, R.L., Farrell, R.E., and Knight, J.D. (2014). "Nitrogen supply from belowground residues of lentil and wheat to a subsequent wheat crop.", *Biology and Fertility of Soils*, 50(3), pp. 507-515. doi: 10.1007/s00374-013-0873-8

Grant, B.B., Smith, W.N., Campbell, C.A., Desjardins, R.L., Lemke, R.L., Kröbel, R., McConkey, B.G., and Smith, E.G. (2014). "Comparison of DayCent and DNDC models: Case studies using data from long-term experiments on the Canadian prairies.", in Del Grosso, S., Parton, B., Lajpat, A. (eds.) - *Advances in Modeling Agricultural Systems: Trans-disciplinary Research, Synthesize, Modeling, and Applications*, Volume 5, ASA, CSSA, and SSSA, Madison, WI, USA.

Dai, M., Hamel, C., Bainard, L.D., St. Arnaud, M., Grant, C.A., Lupwayi, N.Z., Malhi, S.S., and Lemke, R.L. (2014). "Negative and positive contribution of arbuscular mycorrhizal fungal taxa to wheat production and nutrient uptake efficiency in organic and conventional systems in the Canadian prairie.", *Soil Biology & Biochemistry*, 74, pp. 156-166. doi: 10.1016/j.soilbio.2014.03.016

Gan, Y.T., Liang, C., Chai, Q., Lemke, R.L., Campbell, C.A., and Zentner, R.P. (2014). "Improving farming practices reduce the carbon footprint of spring wheat production.", *Nature Communications*, 5(Article number 5012). doi: 10.1038/ncomms5012

2013

He, Y., Wei, Y., DePauw, R.M., Qian, B., Lemke, R.L., Singh, A.K., Cuthbert, R.D., McConkey, B.G., and Wang, H. (2013). "Yield production of spring wheat in the semiarid prairie: effect of timing of precipitation and soil texture over 30 years.", *Field Crops Research*, 149, pp. 329-337. doi: 10.1016/j.fcr.2013.05.013

Qin, X., Wang, H., Li, Y., Li, Y., McConkey, B.G., Lemke, R.L., Li, C.H., Brandt, K., Gao, Q., Wan, Y., Liu, S., Liu, Y., and Xu, C. (2013). "A long-term sensitivity analysis of the denitrification and decomposition model.", *Environmental Modelling and Software*, 43, pp. 26-36. doi: 10.1016/j.envsoft.2013.01.005

Comeau, L.-P., Lemke, R.L., Knight, J.D., and Bedhard-Haughn, A. (2013). "Carbon input from <sup>13</sup>C-labeled lentil, canola, pea and wheat in four soil organic matter fractions.", *Biology and Fertility of Soils*, 49, pp. 1179-1188. doi: 10.1007/s00374-013-0816-4

Jefferson, P.G., Selles, F., Zentner, R.P., Lemke, R.L., and Muri, R. (2013). "Barley yield and nutrient uptake in rotation with perennial forages in the semiarid prairie region of Saskatchewan.", *Canadian Journal of Plant Science*, 93(5), pp. 809-816. doi: 10.4141/cjps2013-069

Malhi, S.S. and Lemke, R.L. (2013). "Effectiveness of Seedrow-Placed N with Polymer-Coated NTP-Treated Urea for Canola and Wheat.", *Journal of Plant Nutrition*, 36(14), pp. 2205-2224. doi: 10.1080/01904167.2013.836227

2012

Lemke, R.L., Malhi, S.S., Johnson, E.N., Brandt, S.A., Zentner, R.P., and Olfert, O.O. (2012). "Alternative Cropping Systems Study - Scott, Saskatchewan.", *Prairie Soils and Crops*, 5, pp. 74-84.

Kröbel, R., Campbell, C.A., Zentner, R.P., Lemke, R.L., Desjardins, R.L., and Karimi-Zindashty, Y. (2012). "Effect of N, P and cropping frequency on nitrogen use efficiencies of spring wheat in the Canadian semi-arid Prairie.", *Canadian Journal of Plant Science*, 92(1), pp. 141-154. doi : 10.4141/CJPS2011-067

Kröbel, R., Campbell, C.A., Zentner, R.P., Lemke, R.L., Steppuhn, H., Desjardins, R.L., and DeJong, R. (2012). "Nitrogen and phosphorus effects on water use efficiency of spring wheat grown in a semi-arid region of the Canadian Prairies.", *Canadian Journal of Soil Science*, 92(4), pp. 573-587. doi : 10.4141/CJSS2011-055

Wang, H., He, Y., Qian, B., McConkey, B.G., Cutforth, H.W., McCaig, T.N., McLeod, G.J., Zentner, R.P., DePauw, R.M., Lemke, R.L., Brandt, K., Liu, T.T., Qin, X., White, J., Hunt, T., and Hoogenboom, G. (2012). "Climate change and biofuel wheat: A case study of southern Saskatchewan.", *Canadian Journal of Plant Science*, 92(3), pp. 421-425. doi : 10.4141/CJPS2011-192

Lupwayi, N.Z., Lafond, G.P., May, W.E., Holzapfel, C.B., and Lemke, R.L. (2012). "Intensification of field pea production: Impact on soil microbiology.", *Agronomy Journal*, 104(5), pp. 1189-1196. doi : 10.2134/agronj2012.0046

Wang, X., Gan, Y.T., Hamel, C., Lemke, R.L., and McDonald, C.L. (2012). "Water use profiles across the rooting zones of various pulse crops.", *Field Crops Research*, 134, pp. 130-137. doi : 10.1016/j.fcr.2012.06.002

Gan, Y.T., Liang, C., Campbell, C.A., Zentner, R.P., Lemke, R.L., Wang, H., and Yang, C. (2012). "Carbon footprint of spring wheat in response to fallow frequency and soil carbon changes over 25 years on the semiarid Canadian prairie.", *European Journal of Agronomy*, 43, pp. 175-184. doi : 10.1016/j.eja.2012.07.004

He, Y., Wang, H., Qian, B., McConkey, B.G., Cutforth, H.W., Lemke, R.L., DePauw, R.M., Brandt, K., Hu, K.L., and Hoogenboom, G. (2012). "Effects of climate change on killing frost in the Canadian prairies.", *Climate Research*, 54(3), pp. 221-231. doi : 10.3354/cr01114

Lafond, G.P., Campbell, C.A., Lemke, R.L., May, W.E., and Holzapfel, C.B. (2012). "Indian Head Long Term Crop Rotations: Indian Head Saskatchewan.", *Prairie Soils and Crops*, 5, pp. 42-50.

Lemke, R.L., Campbell, C.A., Zentner, R.P., and Wang, H. (2012). "New Rotation Study - Swift Current, Saskatchewan.", *Prairie Soils and Crops*, 5, pp. 67-73.

Lemke, R.L., Campbell, C.A., Zentner, R.P., and Wang, H. (2012). "Old Rotation Study - Swift Current, Saskatchewan.", *Prairie Soils and Crops*, 5, pp. 59-66.

2011

Zentner, R.P., Basnyat, P., Brandt, S.A., Thomas, A.G., Ulrich, D.J., Campbell, C.A., Nagy, C.N., Frick, B.L., Lemke, R.L., Malhi, S.S., Olfert, O.O., and Fernandez, M.R. (2011). "Effects of input management and crop diversity on economic returns and riskiness of cropping systems in the semi-arid Canadian Prairie.", *Renewable Agriculture and Food Systems*, 26(3), pp. 208-223. doi : 10.1017/s1742170510000591

Lafond, G.P., May, W.E., Holzapfel, C.B., Lemke, R.L., and Lupwayi, N.Z. (2011). "Intensification of field pea production: Impact on grain production, grain protein and water use efficiency.", *Agronomy Journal*, 103(2), pp. 396-403. doi : 10.2134/agronj2010.0309

Campbell, C.A., Lafond, G.P., VandenBygaart, A.J., Zentner, R.P., Lemke, R.L., May, W.E., and Holzapfel, C.B. (2011). "Effect of crop rotation, fertilizer and tillage management on spring wheat grain yield and N and P content in a thin Black Chernozem: A long-term study.", *Canadian Journal of Plant Science*, 91(3), pp. 467-483. doi : 10.4141/cjps10032

Lemke, R.L., VandenBygaart, A.J., Campbell, C.A., Lafond, G.P., McConkey, B.G., and Grant, B.B. (2011). "Long-term effects of crop rotations and fertilization on soil C and N in a thin Black Chernozem in southeastern Saskatchewan.", *Canadian Journal of Soil Science*, 92(3), pp. 449-461. doi : 10.4141/CJSS2010-047

Zentner, R.P., Basnyat, P., Brandt, S.A., Thomas, A.G., Ulrich, D.J., Campbell, C.A., Nagy, C.N., Frick, B.L., Lemke, R.L., Malhi, S.S., and Fernandez, M.R. (2011). "Effects of input management and crop diversity on non-renewable energy use efficiency of cropping systems in the Canadian Prairie.", *European Journal of Agronomy*, 34(2), pp. 113-123. doi : 10.1016/j.eja.2010.11.004

Soon, Y.K., Malhi, S.S., Lemke, R.L., Lupwayi, N.Z., and Grant, C.A. (2011). "Effect of polymer-coated urea and tillage on the dynamics of available N and nitrous oxide emission from Gray Luvisols.", *Nutrient Cycling in Agroecosystems*, 90(2), pp. 267-279. doi : 10.1007/s10705-011-9428-2

Zhong, Z., Nelson, L.M., and Lemke, R.L. (2011). "Nitrous oxide emissions from grain legumes as affected by wetting/drying cycles and crop residues.", *Biology and Fertility of Soils*, 47(6), pp. 687-699. doi : 10.1007/s00374-011-0575-z

## Other Science Related Publications:

2015

Baron, V.S., Lemke, R.L., Young, D.G., Harker, K.N., O'Donovan, J.T., and Flesch, T.K. (2015). "Ecosystem carbon balance of field-scale canola and barley in central Alberta.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. (Poster)

2014

Farrell, R.E., Lemke, R.L., and Knight, J.D. (2014). "Quantifying nitrogen loss from <sup>15</sup>N-enriched crop residues.", Annual meeting of the Canadian Soil Science Society, Banff, Alberta, Canada, May 4-7, 2014. (Abstract)

Johnson, E.N., Leeson, J.Y., Lemke, R.L., Olfert, O.O., and Moulin, A.P. (2014). "Effect of Cropping Diversity and Input System on Weed Populations in an 18-Year Cropping System Study.", 10th European Weed Research WRS Workshop on Physical and Cultural Weed Control, Alnarp, Sweden, March 16-19, 2014. (Abstract)

Comeau, L.-P., Lemke, R.L., Knight, J.D., and Bedard-Haughn, A. (2014). "Root and shoot carbon input from four prairie crop sequences using repeat <sup>13</sup>C pulse labeling technique.", 2014 IUSS Global Soil Carbon Conference, Madison, Wisconsin, USA, June 3-6, 2014. (Abstract)

Slater, K.S., Knight, J.D., Farrell, R.E., and Lemke, R.L. (2014). "The Influence of Legume Cropping Sequences on Above and Below Ground Carbon and Nitrogen Inputs.", Annual meeting of the Canadian Soil Science Society, Banff, Alberta, Canada, May 4-7, 2014. (Abstract)

Farrell, R.E., Carverhill, J., Lemke, R.L., and Knight, J.D. (2014). "Partitioning residue-derived and residue-induced N<sub>2</sub>O emissions using <sup>15</sup>N-labelled crop residues.", AGU Fall Meeting, San Francisco, CA, USA, December 15-19, 2014. (Abstract)

Pearce, R., Helgason, B.L., Lemke, R.L., and Farrell, R.E. (2014). "Are N<sub>2</sub>O emissions from long-term manure applications linked to microbial abundance?", Canadian Society of Soil Science Annual Meetings, Banff, AB, Canada, May 4-7, 2014, Presentation.

Arcand, M.A., Helgason, B.L., Lemke, R.L., and Ellert, B.H. (2014). "Soil microbial communities and carbon utilization in diversified long-term conventional and organic management systems.", Ecological Society of America Annual Meeting, Sacramento, CA, USA, August, 2014, Presentation.

Pearce, R., Lemke, R.L., Helgason, B.L., and Farrell, R.E. (2014). "Assessing Potential Soil Microbial "Priming Effects" on N<sub>2</sub>O Emissions as a Result of a Fertilizer Change-Over from Long-Term Manure Applications to Urea.", Soils and Crops Workshop 2014, University of Saskatchewan, Saskatoon, SK, Canada, March 11-12, 2014.

David, C., Lemke, R.L., Wahab, J., Helgason, W., and Farrell, R.E. (2014). "The effect of fall nitrogen and cropping sequence on GHG emissions under irrigation.", Annual meeting of the Canadian Soil Science Society, Banff, Alberta, Canada, May 4-7, 2014. (Abstract)

David, C., Lemke, R.L., Wahab, J., Helgason, W., and Farrell, R.E. (2014). "The influence of irrigated crop management on soil greenhouse gas fluxes.", Soils and Crops Workshop 2014, University of Saskatchewan, Saskatoon, SK, Canada, March 11-12, 2014.

Gan, Y.T., Chang, L., Lemke, R.L., Campbell, C.A., and Zentner, R.P. (2014). "Carbon Footprints for Wheat Cropping Systems in Semiarid Prairies.", Soils and Crops Workshop 2014, University of Saskatchewan, Saskatoon, SK, Canada, March 11-12, 2014.

Iwaasa, A.D., Baron, V.S., Lemke, R.L., Wang, H., Kröbel, R., Schellenberg, M.P., and McConkey, B.G. (2014). "AGGP Cropping System-Grassland Research and Extension: Semiarid Ecoregion.", AGGP cropping system – grassland research and extension: Semiarid Ecoregion, AAFC-Saskatoon, Saskatoon, Canada, March 20, 2014.

Farrell, R.E., Lemke, R.L., and Knight, J.D. (2014). "Developing a case for lowering the N<sub>2</sub>O emission factors for crop residues.", Soils and Crops Workshop 2014, University of Saskatchewan, Saskatoon, SK, Canada, March 11-12, 2014.

Slater, K.S., Knight, J.D., Farrell, R.E., and Lemke, R.L. (2014). "The influence of legume cropping sequences on above and below ground carbon and nitrogen inputs.", Soils and Crops Workshop 2014, University of Saskatchewan, Saskatoon, SK, Canada, March 11-12, 2014.

Lemke, R.L., Arcand, M.A., Knight, J.D., and Farrell, R.E. (2014). "Nitrogen supply from belowground residues of lentil and wheat to a subsequent wheat crop.", Soils and Crops Workshop 2014, University of Saskatchewan, Saskatoon, SK, Canada, March 11-12, 2014.

2013

Hunt, D.E., Bittman, S., Kowalenko, C.G., Chantigny, M.H., and Lemke, R.L. (2013). "Winter time nitrous oxide emission from grass receiving whole and separated dairy slurry or fertilizer in a mild maritime climate.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013. (Abstract)

## 2012

Hunt, D.E., Bittman, S., Chantigny, M.H., Kowalenko, C.G., and Lemke, R.L. (2012). "Removing solids from dairy slurry: Effect on N use efficiency and emissions of N<sub>2</sub>O.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012. (Abstract)

Bittman, S., Hunt, D.E., Chantigny, M.H., Kowalenko, C.G., and Lemke, R.L. (2012). "Precision Manure Injection on Nitrogen Use and N<sub>2</sub>O Emissions in Corn.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012. (Abstract)

Lemke, R.L. (2012). "Longterm Crop Rotations.", 24th Annual Conference of the Saskatchewan Soil Conservation Association (SSCA), Saskatoon Inn, Saskatoon, SK, Canada, January 11, 2012.

## 2011

Wang, H., He, Y., Qian, B., McConkey, B.G., Cutforth, H.W., McCaig, T.N., McLeod, G.J., Zentner, R.P., Campbell, C.A., DePauw, R.M., Lemke, R.L., Brandt, K., Liu, T.T., Qin, X., Hoogenboom, G., White, J., and Hunt, T. (2011). "Impact of Climate Change on Dual-Purpose Wheat Production in Western Canada.", World Renewable Energy Congress, Linköping, Sweden, May 8-13, 2011.

Baron, V.S., Lemke, R.L., Basarab, J.A., and Iwaasa, A.D. (2011). "Root, residue and removal-C and -N pools compared to above ground production for forage-based management practices.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011, Abstract 67442. (Abstract)

Kröbel, R., Lemke, R.L., Campbell, C.A., Zentner, R.P., and Brandt, K. (2011). "Nitrogen and Phosphorus effect on water use - and nutrient use - efficiency in the Canadian semi-arid prairie.", Soils and Crops Workshop 2011, Prairieland Park, Saskatoon, SK, Canada, March 15-16, 2011, [CD-ROM]. (Workshop)

Lemke, R.L., Iwaasa, A.D., Baron, V.S., Farrell, R.E., and Schoenau, J.J. (2011). "Quantifying nitrous oxide emissions resulting from beef cattle urine and dung on semiarid pasture.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

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## Research Publications:

2015

Rousseau, G.M. and LeSage, L. (2015). "Earliest North American occurrence of *Phyllotreta striolata* (Coleoptera: Chrysomelidae) from Québec, Canada.", *The Canadian Entomologist*, pp. 1-3. doi : 10.4039/tce.2015.81

2013

LeSage, L., Klimaszewski, J., and Savard, K. (2013). "Potential indicator species of climate changes occurring in Québec, Part 1: the small brown lacewing fly *Micromus posticus* (Walker) (Neuroptera: Hemerobiidae).", *International Journal of Renewable Energy & Biofuels*, 1(1), pp. e970. doi : 10.3897/BDJ.1.e970

Barney, J.B., LeSage, L., and Savard, K. (2013). "*Pachybrachis* (Coleoptera, Chrysomelidae, Cryptocephalinae) of Eastern Canada", *ZooKeys*, 332, pp.95-176. doi : 10.3897/zookeys.332.4753

LeSage, L. and Savard, K. (2013). "Considerable extension of the known distribution of the European rusted flea beetle *Neocrepidodera ferruginea* (Scopoli) in Eastern Canada (Coleoptera, Chrysomelidae).", *Nouvelle Revue d'Entomologie*, 29(1-2), pp. 53-56.

LeSage, L. and Savard, K. (2013). "Mise à jour de la répartition géographique de *Neochlamisus cribripennis* (Leconte, 1878) dans l'Est du Canada.", *Nouvelle Revue d'Entomologie*, 28(3-4), pp. 197-202.

2012

LeSage, L. and Savard, K. (2012). "First Record of the European Rusted Flea Beetle, *Neocrepidodera ferruginea* (Scopoli, 1763), in North America (Coleoptera: Chrysomelidae: Galerucinae: Alticini).", *Psyche*, 2012 (Article ID 387564), pp. 1-10. doi : 10.1155/2012/387564

2011

LeSage, L. (2011). "The type specimens of *Haltica foliacea* LeConte, 1858 (Coleoptera, Chrysomelidae).", *Nouvelle Revue d'Entomologie*, 26(1), pp. 71-74.

LeSage, L. (2011). "The type specimen of *Haltica torquata* LeConte, 1858 (Coleoptera, Chrysomelidae).", *Nouvelle Revue d'Entomologie*, 26(4), pp. 347-350.

## Other Science Related Publications:

2014

Bourchier, R.S., Coghlin, P.C., Dunlop, B., Ostrander, D., LeSage, L., and Floate, K.D. (2014). "Assessment of the diversity of *Aphthona* beetles for the biological control of leafy spurge on the prairies.", 62nd Annual Meeting of the Entomological Society of Alberta, Lethbridge, AB, Canada, October 16-18, 2014. (Poster)

Bourchier, R.S., Coghlin, P.C., Dunlop, B., Ostrander, D., LeSage, L., and Floate, K.D. (2014). "Assessment of the diversity of *Aphthona* beetles for the biological control of leafy spurge on the prairies.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014. (Poster)

Bourchier, R.S., Coghlin, P.C., Dunlop, B., Ostrander, D., LeSage, L., and Floate, K.D. (2014). "Assessment of the diversity of *Aphthona* flea beetles for biological control of leafy spurge on the prairies.", 62nd Annual Meeting of the Entomological Society of Alberta, Lethbridge, AB, Canada, October 16-18, 2014. (Poster)

2012

Bourchier, R.S., Floate, K.D., and LeSage, L. (2012). "Assessment of the diversity of biocontrol agents at historic leafy spurge release sites in Southern Alberta.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #18. (Abstract)

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## Research Publications:

2015

Dadarwal, D., Honparkhe, M., Dias, F.C.F., Alce, T., Lessard, C.J., and Singh, J. (2015). "Effect of superstimulation protocol on nuclear maturation and distribution of lipid droplets in bovine oocytes.", *Reproduction, Fertility and Development*, 27(8), pp. 1137-1146. doi: 10.1071/RD13265

2013

Toosi, B.M., Gratton, G., McCorkell, R.B., Wynne-Edwards, K.E., Woodbury, M.R., and Lessard, C.J. (2013). "Effects of pipothiazine palmitate on handling stress and on the characteristics of semen collected by electroejaculation in bison (*Bison bison*) bulls.", *Animal Reproduction Science*, 138(1-2), pp. 55-63. doi: 10.1016/j.anireprosci.2013.01.012

Hussain, S.A., Lessard, C.J., and Anzar, M. (2013). "A strategy for improvement of postthaw quality of bison sperm.", *Theriogenology*, 79(1), pp. 108-115. doi: 10.1016/j.theriogenology.2012.09.015

2011

Hussain, S.A., Lessard, C.J., and Anzar, M. (2011). "Quantification of damage at different stages of cryopreservation of endangered North American bison (*Bison bison*) semen and the effects of extender and freeze rate on post-thaw sperm quality.", *Animal Reproduction Science*, 129(3-4), pp. 171-179. doi: 10.1016/j.anireprosci.2011.12.002

Lessard, C.J., Siqueira, L.G., D'Amours, O., Sullivan, R., Leclerc, P., and Palmer, C. (2011). "Infertility in a beef bull due to a failure in the capacitation process.", *Theriogenology*, 76(5), pp. 891-899. doi: 10.1016/j.theriogenology.2011.04.020

## Other Science Related Publications:

2012

Alfoteisy, B., Singh, J., Lessard, C.J., and Anzar, M. (2012). "Vitrification of immature bovine-cumulus-oocyte-complexes using natural honey as a non-permeant cryoprotectant.", 17th International Congress on Animal Reproduction, Vancouver, BC, Canada, July 29 - August 02, 2012.

2011

Gratton, G., Toosi, B.M., Anzar, M., McCorkell, R.B., and Lessard, C.J. (2011). "Effects of a long-acting tranquilizer on sperm motility of North American bison bulls.", 37th Annual Conference of the International Embryo Transfer Society, Orlando, FL, USA, January 8-12, 2011.

Hussain, S.A., Lessard, C.J., and Anzar, M. (2011). "Cryopreservation of bison semen.", 36th Annual Meeting of American Society of Andrology, Montreal, Quebec, Canada, April 2-5, 2011.

Lessard, C.J., Leavins, N., and Dyck, M. (2011). "Estrogen influence on gene expression of pig oocytes during in vitro maturation.", 1st Meeting of the Ovarian Club - The Oocyte: from Basic Research to Clinical Practice, Barcelona, Spain, November 3-6, 2011.

Hussain, S.A., Lessard, C.J., and Anzar, M. (2011). "Cryopreservation of bison semen.", 36th Annual Conference of the American Society of Andrology Annual Meeting, Hyatt Regency Montréal, Montréal, QC, Canada, April 2-5, 2011.

Gratton, G., Manjunath, P., Anzar, M., and Lessard, C.J. (2011). "Identifying seminal plasma proteins that interfere with bison sperm membrane integrity.", Wdz annual meeting, Québec City, QC, Canada, 2011.

Maher, G., Maurice, C., Lessard, C.J., Thériault, M., Castonguay, F.W., Cinq-Mars, D., Bernier, J., and Bailey, J.L. (2011). "Egg yolk or milk? Which is preferred by boar spermatozoa?", 36th Annual Conference of the American Society of Andrology Annual Meeting, Hyatt Regency Montréal, Montréal, QC, Canada, April 2-5, 2011. (Abstract)



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## Research Publications:

2015

Bissonnette, N., Jiang, X-R., Matte, J.J., Talbot, G., Guay, F., Gong, J., Wang, Q., Bontempo, V., and Lessard, M. (2015). "Effect of a post-weaning diet supplemented with gut health-enhancing feed additives on ileum transcriptome activity and serum cytokines in piglets challenged with lipopolysaccharides (LPS).", *Journal of Dairy Science (JDS)*, 98(Suppl. 2), pp. 659. (Abstract)

Audet, I., Girard, C.L., Lessard, M., Lo Verso, L., Beaudoin, F., and Matte, J.J. (2015). "Homocysteine metabolism, growth performance, and immune responses in suckling and weaning piglets.", *Journal of Animal Science*, 93(1), pp. 147-157. doi : 10.2527/jas.2014-7872

Roques, E., Lessard, M., and Archambault, D.J. (2015). "The Cholera Toxin B Subunit (CTB) Fused to the Porcine Arterivirus Matrix M and GP5 Envelope Proteins Fails to Enhance the GP5-Specific Antibody Response in Pigs Immunized with Adenovectors.", *Molecular Biotechnology*, 57(8), pp. 701-708. doi : 10.1007/s12033-015-9861-6

Lessard, M., Savard, C., Deschêne, K., Lauzon, K., Pinilla, V.A., Gagnon, C.A., Lapointe, J., Guay, F., and Chorfi, Y. (2015). "Impact of deoxynivalenol (DON) contaminated feed on intestinal integrity and immune response in swine.", *Food and Chemical Toxicology*, 80, pp. 7-16. doi : 10.1016/j.fct.2015.02.013

Van Le Thanh, B., Lessard, M., Chorfi, Y., and Guay, F. (2015). "The efficacy of anti-mycotoxin feed additives in preventing the adverse effects of wheat naturally-contaminated with *Fusarium* mycotoxins on performance, intestinal barrier function and nutrient digestibility and retention in weaning pigs.", *Canadian Journal of Animal Science*, 95(2), pp. 197-209. doi : 10.4141/CJAS-2014-126

2014

Blais, M., Pouliot, Y., Gauthier, S.F., Boutin, B., and Lessard, M. (2014). "A gene expression program induced by bovine colostrum whey promotes growth and wound healing processes in intestinal epithelial cells.", *Journal of Nutritional Science*, 3(Article e57), pp. 1-10. doi : 10.1017/jns.2014.56

Champagne, C.P., Raymond, Y., Pouliot, Y., Gauthier, S.F., and Lessard, M. (2014). "Effect of bovine colostrum, cheese whey, and spray-dried porcine plasma on the in vitro growth of probiotic bacteria and *Escherichia coli*.", *Canadian Journal of Microbiology*, 60(5), pp. 287-295. doi : 10.1139/cjm-2014-0130

Bovey, K., Widowski, T.M., Dewey, C., Devillers, N., Farmer, C., Lessard, M., and Torrey, S. (2014). "The effect of birth weight and age on the behavioral and physiological responses of piglets to tail docking and ear notching.", *Journal of Animal Science*, 92(4), pp. 1718-1727. doi : 10.2527/jas.2013-7063

Dudemaine, P.-L., Fecteau, G., Lessard, M., Labrecque, O., Roy, J.-P., and Bissonnette, N. (2014). "Increased blood-circulating interferon- $\gamma$ , interleukin-17, and osteopontin levels in bovine paratuberculosis.", *Journal of Dairy Science (JDS)*, 97(6), pp. 3382-3393. doi : 10.3168/jds.2013-7059

Blais, M., Fortier, M.-È., Pouliot, Y., Gauthier, S.F., Boutin, B., Asselin, C., and Lessard, M. (2014). "Colostrum whey downregulates early and late inflammatory response genes induced by *Escherichia coli* and *Salmonella enterica* Typhimurium components in intestinal epithelial cells.", *British Journal of Nutrition*. doi : 10.1017/S0007114514003481

2013

Roques, E., Girard, A., St-Louis, M.-C., Massie, B., Gagnon, C.A., Lessard, M., and Archambault, D. (2013). "Immunogenic and protective properties of GP5 and M structural proteins of porcine reproductive and respiratory syndrome virus expressed from replicating but non-disseminating adenovectors.", *BMC Veterinary Research*, 44(1, Article No.17), pp. 17-30. doi : 10.1186/1297-9716-44-17

2012

Assaad, E., Blemur, L., Lessard, M., and Mateescu, M.A. (2012). "Polyelectrolyte Complex of Carboxymethyl Starch and Chitosan as Protein Carrier: Oral Administration of Ovalbumin.", *Journal of Biomaterials Science, Polymer Edition*. doi : 10.1163/092050611X597771

Roblet, C., Amiot, J., Lavigne, C., Marette, A., Lessard, M., Jean, J., Ramassamy, C., Moresoli, C., and Bazinet, L. (2012). "Screening of in vitro bioactivities of a soy protein hydrolysate separated by hollow fiber and spiral-wound ultrafiltration membranes.", *Food Research International*, 46(1), pp. 237-249. doi : 10.1016/j.foodres.2011.11.014

Lessard, M., Beaudoin, F., Ménard, M., Lachance, M.-P., LaForest, J.-P., and Farmer, C. (2012). "Impact of a long photoperiod during lactation on immune status of piglets.", *Journal of Animal Science*, 90(10), pp. 3468-3476. doi : 10.2527/jas.2012-5191

2011

Daudelin, J.-F., Lessard, M., Beaudoin, F., Nadeau, É., Bissonnette, N., Boutin, B., Brousseau, J.P., Lauzon, K., and Fairbrother, J.M. (2011). "Administration of probiotics influences F4 (K88)-positive enterotoxigenic *Escherichia coli* attachment and intestinal cytokine expression in weaned pigs.", *Veterinary Research*, 42:69. doi : 10.1186/1297-9716-42-69

Matte, J.J., Le Floch, N., Primot, Y., and Lessard, M. (2011). "Interaction between dietary tryptophan and pyridoxine on tryptophan metabolism, immune responses and growth performance in post-weaning pigs.", *Animal Feed Science and Technology*, 170(3-4), pp. 256-264. doi : 10.1016/j.anifeedsci.2011.09.013

## Other Science Related Publications:

2015

Ibeagha-Awemu, E.M., Beaudoin, F., Chiquette, J., Talbot, G., Bissonnette, N., and Lessard, M. (2015). "Probiotics administration enhances calves' lymphoproliferation responses to vaccination during the early weeks of growth.", 2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council, Ottawa, Canada, May 6-8, 2015.

Bissonnette, N., Jiang, X.-R., Matte, J.J., Talbot, G., Guay, F., Gong, J., Wang, Q., Bontempo, V., and Lessard, M. (2015). "Effect of a post-weaning diet supplemented with gut health-enhancing feed additives on ileum transcriptome activity and serum cytokines in piglets challenged with lipopolysaccharides (LPS)", ADSA-ASAS JAM (Joint Annual Meeting) 2015, Orlando, Florida, USA, July 12-16, 2015, 2-15, Poster Session.

Fomenky, B., Beaudoin, F., Chiquette, J., Talbot, G., Bissonnette, N., Chouinard, P.Y., Lessard, M., and Ibeagha-Awemu, E.M. (2015). "Amélioration du développement immunitaire chez les veaux laitiers par les probiotiques.", Symposium sur les bovins laitiers 2015, Drummondville, QC, Canada, Octobre 29, 2015.

2014

Lessard, M., Bergeron, N., Deschêne, K., Matte, J.J., Guay, F., Bissonnette, N., Talbot, B.G., Gong, J., Wang, Q., Quessy, S., and Letellier, A. (2014). "Intestinal gene expression involved in innate and acquired immune responses of pigs is affected by *Salmonella* infection and diets supplemented with gut health-enhancing feed additives.", 23rd International Pig Veterinary Society Congress, Cancun, México, June 8-11, 2014, Abstract A1387. (Poster)

Morissette, B., Lessard, M., Yergeau, E., Lapointe, J., Guay, F., Bissonnette, N., Matte, J.J., Letellier, A., Quessy, S., Bergeron, N., Beaulieu, C., and Talbot, G. (2014). "Influence of Feed Additives as an Alternative to Antibiotics on Gut Microbiota of Weaned Piglets Infected with *Salmonella Typhimurium*.", 114th General Meeting of the American Society for Microbiology, Boston, Massachusetts, USA, May 17-20, 2014.

Bissonnette, N., Dudemaine, P.-L., Lessard, M., Labrecque, O., Roy, J.-P., and Fecteau, G. (2014). "Increased blood-circulating interferon gamma, interleukin 17 and osteopontin levels in bovine paratuberculosis.", 12th International Colloquium on Paratuberculosis, Parma, Italy, Abstract ID 3. (Abstract)

Lessard, M., Bergeron, N., Deschêne, K., Matte, J.J., Guay, F., Bissonnette, N., Talbot, B.G., Quessy, S., and Letellier, A. (2014). "Influence of *Salmonella* infection and diets supplemented with gut health-enhancing feed additives on expression of intestinal genes involved in immune response of pigs.", 7ième Symposium du CRIPA, Hyacinthe, Québec, Canada, 3-4 juin 2014. (Poster)

Lessard, M., Deschêne, K., Savard, C., Lapointe, J., Guay, F., and Chorfi, Y. (2014). "Effect of deoxynivalenol (DON) ingestion on expression of genes involved in intestinal integrity and immune response.", 2014 ADSA-ASAS Midwest Meeting, Iowa Events Center, Des Moines, Iowa, USA, March 17-19, 2014, # 163; Oral Présentation. (Abstract)

Lessard, M., Deschêne, K., Savard, C., Gagnon, A.-È., Lapointe, J., Pinilla, V.A., Guay, F., and Chorfi, Y. (2014). "Effect of deoxynivalenol (DON) ingestion on expression of genes involved in intestinal barrier and immune functions.", 7ième Symposium du CRIPA, Hyacinthe, Québec, Canada, 3-4 juin 2014, Présentation orale.

Atia, A., Lessard, M., Beyssac, E., Garrait, G., Gomaa, A., Fliss, I., and Subirade, M. (2014). "Les probiotiques et l'alimentation porcine.", 6ième Colloque international francophone de microbiologie animale, École nationale vétérinaire de Toulouse, Toulouse, France, May 15-16, 2014.

Morissette, B., Lessard, M., Yergeau, E., Lapointe, J., Guay, F., Bissonnette, N., Matte, J.J., Letellier, A., Quessy, S., Bergeron, N., and Talbot, B.G. (2014). "Influence of Feed Additives as an Alternative to Antibiotics on Gut Microbiota of Weaned Piglets Infected with Salmonella Typhimurium.", 7ième Symposium du CRIPA, Hyacinthe, Québec, Canada, 3-4 juin 2014. (Poster)

Audet, I., Girard, C.L., Lessard, M., Lo Verso, L., and Matte, J.J. (2014). "Homocysteinemia, growth performance, and immune responses in suckling and weanling piglets.", *Journal of Animal Science*, 92(E-Suppl.2), pp. 219. (Abstract)

Le Thanh, B.V., Lessard, M., Chorfi, Y., and Guay, F. (2014). "Antioxidant activity of intestinal mucosa in piglets fed deoxy nivalenol naturally contaminated diet.", *ADSA-ASAS 2014 Joint Annual Meeting*, Kansas City, MO, USA, July 20-24, 2014.

## 2013

Lessard, M. (2013). "Mycotoxins and the Immune System.", *Swine Innovation Porc*, 1(15).

Bergeron, N., Lessard, M., Quessy, S., and Letellier, A. (2013). "Evaluation of feeding strategies to reduce Salmonella infection in piglets.", 12ème réunion annuelle du Réseau Canadien des Travailleurs des Laboratoires de Santé Animale (RCTLSA)/ Canadian Animal Health Laboratorians Network (CAHLN), St-Hyacinthe, Québec, Canada, May 27-29, 2013.

Morissette, B., Lessard, M., Guay, F., Matte, J.J., Gong, J., Wang, Q., Beaulieu, C., and Talbot, G. (2013). "Prebiotics, probiotic, nutraceuticals and functional food as feed additives that modulate gut microbiota of weanling piglets.", 6th Symposium of Swine and Poultry Infectious Diseases Research Center. Congrès de l'ACFAS Colloque 227 – Le microbiote animal : une question d'équilibre., Université Laval, Québec, QC, Canada, May 8-9, 2013, pp. 46. (Poster)

Lo Verso, L., Lessard, M., Talbot, G., Subirade, M., and Fliss, I. (2013). "Isolation and antibacterial activity of potential probiotic bacteria from pig gastrointestinal tract.", 6th Symposium of Swine and Poultry Infectious Diseases Research Center. Congrès de l'ACFAS Colloque 227 – Le microbiote animal : une question d'équilibre., Université Laval, Québec, QC, Canada, May 8-9, 2013, pp. 45. (Poster)

Morissette, B., Lessard, M., Guay, F., Matte, J.J., Gong, J., Wang, Q., Beaulieu, C., and Talbot, G. (2013). "Prebiotics, probiotic, nutraceuticals and functional food as feed additives that modulate the gut microbiota of weanling piglets challenged with *E. coli* lipopolysaccharides.", 63rd Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013, Abstract AE56. (Abstract)

Abdelbasset, A., Lo Verso, L., Fliss, I., Lessard, M., Talbot, G., and Subirade, M. (2013). "Protection of probiotic bacteria in a symbiotic matrix.", 6th Symposium of Swine and Poultry Infectious Diseases Research Center. Congrès de l'ACFAS Colloque 227 – Le microbiote animal : une question d'équilibre., Université Laval, Québec, QC, Canada, May 8-9, 2013. (Poster)

Atia, A., Fliss, I., Lessard, M., and Subirade, M. (2013). "Une matrice synbiotique pour la protection des probiotiques.", Symposium PROBIO 2013 "Probiotiques au-delà de la santé intestinale", Montréal, Québec, Canada, October 30-31, 2013.

Dudemaine, P.-L., Fecteau, G., Lessard, M., Côté, G., Labrecque, O., Buczinski, S., Doré, E., Roy, J.-P., and Bissonnette, N. (2013). "Altered immune response in bovine paratuberculosis.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, # P05 page 26. (Abstract)

Bergeron, N., Lessard, M., Quessy, S., and Letellier, A. (2013). "Evaluation of the impact of functional food on the course of Salmonella infection in piglets.", *SafePork*, 9th International Symposium on the Epidemiology and Control of Foodborne Pathogens in Pork, Portland, Maine, USA, September 9-12, 2013.

Deschêne, K., Beaudoin, F., Lauzon, K., Cantin, D., and Lessard, M. (2013). "Expression of Intestinal Immune Genes in Nursing Piglets Is Modulated by Piglet Weight at Birth and their Growth in the First Week of Live.", 7th Annual meeting of the International Society of Nutrigenetics and Nutrigenomics, October 5-8, 2013, Also published on *J. Nutrigenet. Nutrigenomics* 6:218.

Blais, M., Fortier, M.-È., Pouliot, Y., Gauthier, S.F., Boutin, B., and Lessard, M. (2013). "Decaseinated Colostrum Mediates Beneficial Effects On Cell Proliferation, Wound Healing And Inflammatory Response In Porcine Intestinal Epithelial Cells IPEC J2.", 7th Annual meeting of the International Society of Nutrigenetics and Nutrigenomics, October 5-8, 2013, Also published on *Canada, J. Nutrigenet. Nutrigenomics* 6:207.

Talbot, G. and Lessard, M. (2013). "Influence of growth rate, probiotics, nutraceuticals and functional food on intestinal microbiota of suckling and weanling piglets.", 6th Symposium of Swine and Poultry Infectious Diseases Research Center. Congrès de l'ACFAS Colloque 227 – Le microbiote animal : une question d'équilibre., Université Laval, Québec, QC, Canada, May 8-9, 2013.

Bergeron, N., Lessard, M., Quessy, S., and Letellier, A. (2013). "Feeding strategies to reduce Salmonella infection in piglets.", 6th Symposium of Swine and Poultry Infectious Diseases Research Center. Congrès de l'ACFAS Colloque 227 – Le microbiote animal : une question d'équilibre., Université Laval, Québec, QC, Canada, May 8-9, 2013.

Audet, I., Girard, C.L., Lessard, M., and Matte, J.J. (2013). "Métabolisme de l'homocystéine et performances de croissance chez le porcelet pendant l'allaitement et après le sevrage.", *Journées d'Information scientifique en productions animales*, Québec, Canada, pp. 28-29.

## 2012

Morissette, B., Lessard, M., and Talbot, G. (2012). "Is there a link between piglet's weight gain and its intestinal bacteria?", 2<sup>ème</sup> symposium du Centre de Recherche et de Développement sur le Bovin Laitier et le Porc / 2nd Annual DSRDC/ CRDBLP Symposium on Animal Production, Sherbrooke, QC, Canada, November 28, 2012.

Talbot, G., Morissette, B., and Lessard, M. (2012). "The impact of piglet weight gain on the intestinal microbiota during lactation.", Canadian Society of Microbiologists (CSM) 62nd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Vancouver, BC, Canada, June 20-23, 2012, Abstract II057. (Poster)

Lessard, M., Deschêne, K., Savard, C., and Chorfi, Y. (2012). "Effects of DON on porcine intestinal immunity.", Symposium sur les mycotoxines, AQINAC, ANAC et partenaires, Brossard, QC, Canada, December 11, 2012. (Presentation)

Lessard, M. (2012). "Development of novel feeding strategies aiming to improve gut development, defence functions, health and performance of piglets.", Swine Cluster CA members seminar. (Presentation)

## 2011

Blais, M., Chambers, J.R., Beaudoin, F., Gauthier, S.F., Pouliot, Y., and Lessard, M. (2011). "Regulation of inflammatory genes by milk fractions in human and swine intestinal epithelial cells.", 4<sup>e</sup> symposium du Centre de Recherche en Infectiologie Porcine (CRIP), Université de Montréal, Saint-Hyacinthe, QC, Canada, Page 18. (Presentation)

Chambers, J.R., Blais, M., Beaudoin, F., Gauthier, S.F., Pouliot, Y., and Lessard, M. (2011). "Effet du sérocolostrum sur l'expression de gènes de réponse inflammatoire dans les cellules épithéliales intestinales porcines IPEC J2 et les cellules de carcinome de côlon humain Caco-2/15.", XVII colloque annuel d'immuno-inflammation, Eastman, QC, Canada, June 17, 2011. (Presentation)

Michaud, N., Gauthier, S.F., Robitaille, G., Pouliot, Y., Tremblay, É., Beaulieu, J.-F., and Lessard, M. (2011). "Modulation de la réaction inflammatoire intestinale par des sous-produits du lait.", Colloque bisannuel du STELA la recherche laitière 2011, Hôtel Palace Royal, Québec City, QC, Canada, May 30-31, 2011.

Brousseau, J.P., Beaudoin, F., Lauzon, K., Talbot, G., Roy, D., and Lessard, M. (2011). "Effets de *Pediococcus acidilactici* et *Saccharomyces cerevisiae boulardii* sur le microbiote de l'iléon et du côlon chez le porcelet sevré.", 4<sup>e</sup> Symposium Annuel du Centre de Recherche en Infectiologie Porcine (CRIP), Université de Montréal, Saint-Hyacinthe, QC, Canada, May 30-31, 2011. (Abstract)

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## Research Publications:

2015

Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Cloutier, M., Tambong, J.T., Xu, R., Topp, E., Arts, M.T., Chao, J., Adam, Z., Lévesque, C.A., Lapen, D.R., Villemur, R., Talbot, G., and Khan, I.U.H. (2015). "Arcobacter lanthieri sp. nov., isolated from pig and dairy cattle manure.", *International Journal of Systematic and Evolutionary Microbiology (IJSEM)*. doi: 10.1099/ijse.0.000318

Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Cloutier, M., Tambong, J.T., Xu, R., Topp, E., Arts, M.T., Chao, J., Adam, Z., Lévesque, C.A., Lapen, D.R., Villemur, R., and Khan, I.U.H. (2015). "Identification, characterization and description of *Arcobacter faecis* sp. Nov., isolated from a human waste septic tank", *Systematic and Applied Microbiology*. doi : 10.1016/j.syapm.2015.12.002

Stielow, J.B., Lévesque, C.A., Seifert, K.A., Meyer, W., Irinyi, L., Smits, D., Renfurn, R., Verkley, G.J.M., Groenewald, M., Chaduli, D., Welti, S., Lesage-Meessen, L., Favel, A., Al-Hatmi, A.M.S., Damm, U., Yilmaz, N., Houbraken, J.A.M.P., Lombard, L., Quaedvlieg, W., Binder, M., Vaas, L.A.I., Vu, K.D., Yurkov, A., Begerow, D., Roehl, O., Guerreiro, M., Fonseca, A., Samerpitak, K., Van Diepeningen, A.D., Dolatabadi, S., Moreno, L.F., Casaregola, S., Jacques, N., Roscini, L., Egidí, E., Bizet, C., Garcia-Hermoso, D., Martin, M., Deng, S., Groenewald, J.Z., Boekhout, T., De Beer, Z.W., Barnes, D.I., Duong, T.A., Wingfield, M.J., de Hoog, G.S., Crous, P.W., Lewis, C.T., Hambleton, S., Moussa, T.A.A., Al-Zahrani, H.S., Almaghrabi, O.A., Louis-Seize, G.W., Assabgui, R., McCormick, W.A., Omer, G., Dukik, K., Cardinali, G., Eberhardt, U., Mallet, S., de Vries, M., and Robert, V.A. (2015). "One fungus, which genes? Development and assessment of universal primers for potential secondary fungal DNA barcodes.", *Persoonia*, 35, pp. 242-263. doi : 10.3767/003158515X689135

Yuan, K., Cullis, J., Lévesque, C.A., Tambong, J.T., Chen, W., Lewis, C.T., De Boer, S.H., and Li, X. (2015). "Draft genome sequences of *Ralstonia solanacearum* race 3 biovar 2 strains with different temperature adaptations.", *Genome Announcements*, 3(4): e00815-15, pp. 1-2. doi : 10.1128/genomeA.00815-15

de Cock, A.W.A.M., Lodhi, M.A., Rintoul, T.L., Rintoul, T., Bala, K., Robideau, G.P., Abad, Z.G., Coffey, M.D., Shahsad, S., and Lévesque, C.A. (2015). "Phytophthium: molecular phylogeny and systematics.", *Persoonia*, 34, pp. 25-39. doi : 10.3767/003158515X685382

Al-Hatmi, A.M.S., Van Den Ende, A.H.G.G., Stielow, J.B., Van Diepeningen, A.D., Seifert, K.A., McCormick, W.A., Assabgui, R., Gräfenhan, T., de Hoog, G.S., and Lévesque, C.A. (2015). "Evaluation of two novel barcodes for species recognition of opportunistic pathogens in *Fusarium*.", *Fungal Biology*. doi : 10.1016/j.funbio.2015.08.006

Liu, M., McCabe, E., Chapados, J.T., Carey, J., Wilson, S.K., Tropiano, R., Redhead, S.A., Lévesque, C.A., and Hambleton, S. (2015). "Detection and identification of selected cereal rust pathogens by TaqMan® real-time PCR.", *Canadian Journal of Plant Pathology*, 37(1), pp. 92-105. doi : 10.1080/07060661.2014.999123

2014

Adam, Z., Whiteduck-Leveillee, K., Cloutier, M., Chen, W., Lewis, C.T., Lévesque, C.A., Topp, E., Lapen, D.R., Tambong, J.T., Talbot, G., and Khan, I.U.H. (2014). "Draft genome sequences of two *Arcobacter* strains isolated from human feces.", *Genome Announcements*, 2(2 e00113-14). doi: 10.1128/genomeA.00113-14

Adam, Z., Whiteduck-Leveillee, K., Cloutier, M., Tambong, J.T., Chen, W., Lewis, C.T., Lévesque, C.A., Topp, E., Lapen, D.R., Talbot, G., and Khan, I.U.H. (2014). "Draft genome sequences of three *Arcobacter* strains of pig and dairy cattle manure origin.", *Genome Announcements*, 2(3:e00377-14). doi : 10.1128/genomeA.00377-14

Marchand, G., Chen, Y., Berhane, N.A., Wei, L., Lévesque, C.A., and Xue, A.G. (2014). "Identification of *Pythium* spp. From the rhizosphere of soybeans in Ontario, Canada.", *Canadian Journal of Plant Pathology*, 36(2), pp. 246-251. doi : 10.1080/07060661.2014.920921

Hyde, K.D., Nilsson, R.H., Alias, S.A., Ariyawansa, H.A., Blair, J.E., Cai, L., de Cock, A.W.A.M., Dissanayake, A.J., Lévesque, C.A., Rintoul, T.L., Spies, C.F.J., and others (2014). "One stop shop: backbone trees for important phytopathogenic genera: I.", *Fungal Diversity*, 67(1), pp. 21-125. doi : 10.1007/s13225-014-0298-1

Robideau, G.P., Rodrigue, N., and Lévesque, C.A. (2014). "Phylogeny of the genus *Synchytrium* and the development of TaqMan PCR assay for sensitive detection of *Synchytrium endobioticum* in soil.", *Phytopathology*.

Peters, R.D., Al-Mughrabi, K.I., Kalischuk, M.L., Dobinson, K.F., Conn, K.L., Alkher, H.A., Islam, M.R., Daayf, F., Lynn, J., Bizimungu, B., De Koeyer, D.L., Lévesque, C.A., and Kawchuk, L.M. (2014). "Characterization of *Phytophthora infestans* population diversity in Canada reveals increased migration and genotype recombination.", *Canadian Journal of Plant Pathology*, 36(1), pp. 73-82. doi: 10.1080/07060661.2014.892900

Adam, Z., Whiteduck-Leveillee, K., Cloutier, M., Chen, W., Lewis, C.T., Lévesque, C.A., Topp, E., Lapen, D.R., Tambong, J.T., Talbot, G., and Khan, I.U.H. (2014). "Draft genome sequence of *Arcobacter cibarius* Strain LMG21996{SUP}T{/SUP} isolated from broiler carcasses.", *Genome Announcements*, 2(1), pp. e00034-14. doi: 10.1128/genomeA.00034-14

Adam, Z., Tambong, J.T., Lewis, C.T., Lévesque, C.A., Chen, W., Bromfield, E.S.P., Khan, I.U.H., and Xu, R. (2014). "Draft Genome Sequence of *Pantoea ananatis* Strain LMG 2665T, a Bacterial Pathogen of Pineapple Fruitlets.", *Genome Announcements*, 2(3): e00489-14). doi: 10.1128/genomeA.00489-14

Yuan, K., Adam, Z., Tambong, J.T., Lévesque, C.A., Chen, W., Lewis, C.T., De Boer, S.H., and Li, X. (2014). "Draft Genome Sequence of *Pectobacterium wasabiae* Strain CFIA1002.", *Genome Announcements*, 2(3): e00214-14). doi: 10.1128/genomeA.00214-14

Adam, Z., Tambong, J.T., Chen, Q., Lewis, C.T., Lévesque, C.A., and Xu, R. (2014). "Draft Genome Sequence of *Pseudomonas* sp. 2-92, a biological control strain isolated from a field plot under long-term mineral fertilization.", *Genome Announcements*, 2(1): e01121-13). doi: 10.1128/genomeA.01121-13

Robideau, G.P., Rodrigue, N., and Lévesque, C.A. (2014). "Codon-based phylogenetics introduces novel flagellar gene markers to oomycete systematics.", *Molecular Phylogenetics and Evolution*, 79(1), pp. 279-291. doi: 10.1016/j.ympev.2014.04.009

## 2013

Adhikari, B.N., Hamilton, J.P., Zerillo, M.M., Tisserat, N.A., Lévesque, C.A., and Buell, C.R. (2013). "Comparative genomics reveals insight into virulence strategies of plant pathogenic Oomycetes.", *PLoS ONE*, 8(10), pp. e75072. doi: 10.1371/journal.pone.0075072

Smith, D.S., Rocheleau, H.J., Rocheleau, H., Chapados, J.T., Abbott, C.L., Ribero, S., Redhead, S.A., Lévesque, C.A., and De Boer, S.H. (2013). "Phylogeny of the genus *Synchytrium* and the development of a real-time TaqMan PCR assay for sensitive detection of *Synchytrium endobioticum* sporangia in the chloroform flotation fraction of sieved field soil.", *The Western Producer*, 104(4), pp. 422-432. doi: 10.1094/PHYTO-05-13-0144-R

Chen, W., Robleh Djama, Z., Coffey, M.D., Martin, F.N., Bilodeau, G.J., Radmer, L., Denton, G., and Lévesque, C.A. (2013). "Membrane-based oligonucleotide array developed from multiple markers for the detection of many *Phytophthora* species.", *Phytopathology*, 103(1), pp. 43-54. doi: 10.1094/PHYTO-04-12-0092-R

Schroeder, K.L., Martin, F.N., de Cock, A.W.A.M., Lévesque, C.A., Spies, C.F.J., Okubara, P.A., and Paulitz, T.C. (2013). "Molecular detection and quantification of *Pythium* species: Evolving taxonomy, new tools, and challenges.", *Plant Disease*, 97(1), pp. 4-20. doi: 10.1094/pdis-03-12-0243-fe

Zerillo, M.M., Adhikari, B.N., Hamilton, J.P., Buell, C.R., Lévesque, C.A., and Tisserat, N. (2013). "Carbohydrate-active enzymes in *Pythium* and their role in plant cell wall and storage polysaccharide degradation.", *PLoS ONE*, 8(9), pp. e72572. doi: 10.1371/journal.pone.0072572

## 2012

Rintoul, T.L., Eggertson, Q.A., and Lévesque, C.A. (2012). "Multigene Phylogenetic Analyses to Delimit New Species in Fungal Plant Pathogens.", *Methods in Molecular Biology* (Clifton, N.J.), 835, pp. 549-569. doi: 10.1007/978-1-61779-501-5\_34

Schoch, C.L., Seifert, K.A., Huhndorf, S.M., Robert, V.A., Spouge, J.L., Lévesque, C.A., Chen, W., and Fungal Barcoding Consortium. (2012). "Nuclear ribosomal internal transcribed spacer (ITS) region as a universal DNA barcode marker for Fungi.", *Proceedings of the National Academy of Sciences of the USA (PNAS)*, 109(16), pp. 6241-6246. doi: 10.1073/pnas.1117018109

## 2011

Robert, V.A., Szöke, S., Eberhardt, U., Cardinali, G., Meyer, W., Seifert, K.A., Lévesque, C.A., and Lewis, C.T. (2011). "The Quest for a General and Reliable Fungal DNA Barcode.", *Open Applied Informatics Journal*, 5(Suppl. 1-M6), pp. 45-61.

Lewis, C.T., Bilku, S., Robert, V.A., Eberhardt, U., Szöke, S., Seifert, K.A., and Lévesque, C.A. (2011). "Identification of Fungal DNA Barcode Targets and PCR Primers Based on Pfam Protein Families and Taxonomic Hierarchy.", *Open Applied Informatics Journal*, 5(Suppl. 1-M5), pp. 30-44. doi: 10.2174/1874136301105010030

Hamilton, J.P., Neeno-Eckwall, E.C., Adhikari, B.N., Perna, N.T., Tisserat, N., Leach, J.E., Lévesque, C.A., and Buell, C.R. (2011). "The Comprehensive Phytopathogen Genomics Resource: a web-based resource for data-mining plant pathogen genomes.", *Database: The Journal of Biological Databases and Curation*, 2011(Article ID bar053). doi: 10.1093/database/bar053

Hawksworth, D.L., Crous, P.W., Redhead, S.A., Reynolds, D.R., Samson, R.A., Seifert, K.A., Taylor, J.W., Wingfield, M.J., Abaci, Ö., Aime, C., Asan, A., Bai, F.-Y., De Beer, Z.W., Begerow, D., Berikten, D., Boekhout, T., Buchanan, P.K., Burgess, T.I., Buzina, W., Cai, L., Cannon, P.F., Crane, J.L., Damm, U., Daniel, H.-M., van Diepeningen, A.D., Druzhinina, I.S., Dyer, P.S., Eberhardt, U., Fell, J.W., Frisvad, J.C., Geiser, D.M., Geml, J., Glienke, C., Gräfenhan, T., Groenewald, J.Z., Groenewald, M., de Gruyter, J.Z., Guého-Kellemann, E., Hibbett, D.S., Hong, S.-B., de Hoog, G.S., Houburken, J.A.M.P., Huhndorf, S.M., Hyde, K.D., Ismail, A., Johnston, P.R., Kadaifçiler, D.G., Kirk, P.M., Kõljalg, U., Kurtzman, C.P., Lagneau, P.-E., Lévésque, C.A., and others (2011). "The Amsterdam Declaration on Fungal Nomenclature.", *IMA Fungus*, 2(1), pp. 105-112. doi : 10.5598/imafungus.2011.02.01.14

Lévésque, C.A. (2011). "Fifty years of oomycetes - from consolidation to evolutionary and genomic exploration.", *Fungal Diversity*, 50(1), pp. 35-46. doi : 10.1007/s13225-011-0128-7

Tsui, C.K.M., Woodhall, J., Chen, W., Lévésque, C.A., Lau, A., Schoen, C.D., Baschien, C., Najafzadeh, M.J., and de Hoog, G.S. (2011). "Molecular techniques for pathogen identification and fungus detection in the environment.", *IMA Fungus*, 2(2), pp. 177-189. doi : 10.5598/imafungus.2011.02.02.09

Robideau, G.P., de Cock, A.W.A.M., Coffey, M.D., Voglmayr, H., Brouwer, H., Bala, K., Chitty, D.W., Désaulniers, N.L., Eggertson, Q.A., Gachon, C.M.M., Hu, C.-H., Küpper, F.C., Rintoul, T.L., Sarhan, E., Verstappen, E.C.P., Zhang, Y., Bonants, P.J.M., Ristaino, J.B., and Lévésque, C.A. (2011). "DNA barcoding of oomycetes with cytochrome oxidase subunit I and internal transcribed spacer.", *Molecular Ecology Resources*, 11(6), pp. 1002-1011. doi : 10.1111/j.1755-0998.2011.03041.x

## Other Science Related Publications :

2015

Lévésque, C.A., Chen, W., Hambleton, S., Seifert, K.A., Adam, Z., Bilodeau, G.J., Cullis, J., Demeke, T., Dumonceaux, T.J., Gagnon, M., Graefenhan, T., Kawchuk, L.M., Khan, I.U.H., Lewis, C.T., Li, X., Links, M.G., Mimee, B., Rott, M., Tambong, J.T., Topp, E., Yu, Q., and Yuan, K. (2015). Project CRTI 09-462RD - Next generation sequencing, direct detection and genotyping of fungi, bacteria and nematodes in the agri-food system. DRDC-RDDC-2015-C148. Final Close-Out Report. (Report)

Carisse, O., Kawchuk, L.M., Peters, R.D., Bilodeau, G.J., Lévésque, C.A., Vincent, C., and Laforest, M. (2015). "Biovigilance : a framework for effective pest management.", National Science Day on Biovigilance and Precision Agriculture, Agriculture and Agri - Food Canada, Saint-Jean-sur-Richelieu, QC, Canada, July 9, 2015. (Presentation)

2014

Chen, W., Lewis, C.T., Lévésque, C.A., Zhang, N., Turkington, T.K., Bamforth, J., Gaba, D., Tittlemier, S.A., MacLeod, A., and Gräfenhan, T. (2014). "454 Pyrosequencing revealed geographical distribution and ecological diversification of fungal communities on barley and malt from western Canada.", XVIth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada, July 27-August 1, 2014.

Gräfenhan, T., Chen, W., Lewis, C.T., Lévésque, C.A., Zhang, N., Bamforth, J., Gaba, D., Tittlemier, S.A., MacLeod, A., and Turkington, T.K. (2014). "Geographical distribution and ecological diversification of fungal communities associated with barley seeds in western Canada revealed by next generation sequencing.", 15th International Symposium on Microbial Ecology, August 24-29, 2014. (Abstract)

Gräfenhan, T., Chen, W., Lewis, C.T., Lévésque, C.A., Zhang, N., Bamforth, J., Gaba, D., Tittlemier, S.A., MacLeod, A., and Turkington, T.K. (2014). "Composition of fungal communities on barley and malt from western Canada revealed by next generation sequencing.", 2014 North American Barley Researchers Workshop, Minneapolis, MN, USA, June 29-July 2, 2014. (Poster)

Bilodeau, G.J., Gagnon, M., Lévésque, C.A., Kawchuk, L.M., Wijekoon, C.P., Wijekoon, C.P., Feau, N., Bergeron, M., Grünwald, N.J., Brasier, C.M., Webber, J.F., and Hamelin, R.C. (2014). "Tools for rapid characterization tools of *Phytophthora infestans* and *Phytophthora ramorum* using real-time PCR and microsatellites from genomic resources.", *Phytophthora in Forests and Natural Ecosystems: 7th Meeting of the International Union of Forest Research Organizations (IUFRO) Working Party S07-02-09*, <http://www.iufrophytophthora2014.org/downloads/proceedings.pdf>, pp. 58. (Abstract)

Gagnon, M., Lévésque, C.A., Kawchuk, L.M., Wijekoon, C.P., Wijekoon, C.P., Feau, N., Bergeron, M., Grünwald, N.J., Hamelin, R.C., and Bilodeau, G.J. (2014). "Development of rapid characterization tools for *Phytophthora infestans* and *Phytophthora ramorum* using real-time PCR and microsatellites from a genomic resource.", *Oomycete Molecular Genetics Network Annual Meeting 2014*, Norwich, UK, July 2-4, 2014.

Fall, M.L., Couillard, J., Van der Heyden, H., Tremblay, D.M., Lévésque, C.A., Beaulieu, C., and Carisse, O. (2014). "Infection efficiency of four *P. infestans* pathotypes and DNA-based quantification of airborne sporangia.", *North American Late Blight Symposium*, Minneapolis, USA, August 2014. (Poster)

Khan, I.U.H., Cloutier, M., Topp, E., Lapen, D.R., Lévesque, C.A., Edge, T.A., Tambong, J.T., Talbot, G., and Wilkes, G.A. (2014). "Quantitative Detection and Identification of *Arcobacter*, *Campylobacter* and *Helicobacter* Species in a Canadian Agricultural Watershed.", XVIth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada, July 27-August 1, 2014.

Bouchard, P., Lévesque, A., and Lévesque, C.A. (2014). "The GRDI shared-priorities project on Quarantine and Invasive Species: scientific context and overall goals.", CFIA's Plant Research Seminar Series, Ottawa, Canada, April 9, 2014, Invited oral presentation.

Hambleton, S., Chen, W., Chapados, J.T., Lewis, C.T., and Lévesque, C.A. (2014). "Application of NGS technology in fungal pathogen detection and challenges in identification at species level.", 10th International Mycological Conference (IMC10), Bangkok, Thailand, August 3-8, 2014, Invited oral presentation.

Bouchard, P., Bilodeau, G.J., Abbott, C.L., Footitt, R.G., Rott, M., Lewis, C.T., Macklin, J.A., Neusp iel, M., Esber, P., Sharpe, A.G., Lévesque, A., and Lévesque, C.A. (2014). "Development of novel genomics tools for the rapid detection of quarantine and invasive species in Canada: A new inter-departmental approach to address a complex problem.", Global Summit on Regulatory Science (GSRS14), Montreal, Canada, August 21-22, 2014, Invited poster presentation. (Poster)

Yu, Q., Peng, H., Ponomareva, E., Cullis, J., Lewis, C.T., Lévesque, C.A., and Peng, D.L. (2014). "Draft genome and transcriptome sequences of *Ditylenchus destructor* and *Ditylenchus dipsaci*.", *Journal of Nematology*, 46(2), pp. 258. (Abstract)

Yuan, K., Li, X., Adam, Z., Tambong, J.T., Lévesque, C.A., Chen, W., Lewis, C.T., and De Boer, S.H. (2014). "Draft genome sequence of *Pectobacterium wasabiae* strain CFIA1002.", 3rd International Workshop on *Erwinia*, Shanghai, China, June 8-13, 2014.

Tambong, J.T., Adam, Z., Lewis, C.T., Lévesque, C.A., Chen, W., Khan, I.U.H., Bromfield, E.S.P., and Xu, R. (2014). "Comparative genomics of *Pantoea stewartii* subspecies and development of a TaqMan Real-Time PCR assay for specific detection of *P. stewartii* subsp. *stewartii*.", 13th International Conference of Plant Pathogenic Bacteria, Shanghai, China, June 8-13, 2014, pp. 34. (Abstract)

Li, X., Yuan, K., Nie, J., Adam, Z., Tambong, J.T., Chen, W., Lewis, C.T., De Boer, S.H., and Lévesque, C.A. (2014). "Comparative Genomics Approaches for Detection and Identification of *Ralstonia solanacearum* race 3 bv 2.", 13th International Conference of Plant Pathogenic Bacteria, Shanghai, China, June 8-13, 2014, Oral presentation. (Abstract)

Yuan, K., Li, X., Adam, Z., Tambong, J.T., Lévesque, C.A., Chen, W., Lewis, C.T., and De Boer, S.H. (2014). "Comparative genomics for re-classification of *Pectobacterium wasabiae*.", 3rd International Workshop on *Erwinia*, Shanghai, China, June 8-13, 2014, pp. 27-28. (Abstract)

Gräfenhan, T., Chen, W., Lewis, C.T., Lévesque, C.A., Zhang, N., Bamforth, J., Gaba, D., Tittlemier, S.A., MacLeod, A., and Turkington, T.K. (2014). "Composition of fungal communities on barley and malt from western Canada revealed by next generation sequencing.", 10th International Mycologists Conference, Bangkok, Thailand, August 3-8, 2014, Oral presentation, pp. 933. (Abstract)

Hambleton, S., Eggertson, Q.A., Edwards, T., Barasubiye, T., Redhead, S.A., and Lévesque, C.A. (2014). "DNA-barcoding herbarium specimens of obligate fungal pathogens – targeting the gaps in reference databases.", 10th International Mycological Conference (IMC10), Bangkok, Thailand, August 3-8, 2014. (Poster)

Bouchard, P., Lévesque, A., and Lévesque, C.A. (2014). "Applications of DNA barcoding for the identification and monitoring of quarantine and invasive organisms: a new multi-departmental approach from the Government of Canada.", Informal meeting with International Barcode of Life (iBOL) and the Government of Canada at the Secretariat of the Convention on Biological Diversity, Montreal, Canada, May 1, 2014. (Presentation)

## 2013

Léveillé, W.J., Kaneza, C.A., Léveillé, K., Talbot, G., Topp, E., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Optimization of a genus-specific PCR assay and restriction fragment length polymorphism (RFLP) analysis for rapid detection.", 63rd Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013, Abstract AE88.

Whiteduck-Leveillee, J., Whiteduck-Leveillee, K., Kaneza, C.A., Cloutier, M., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Multiplex PCR assay for the detection and identification of virulent genes in *Arcobacter* species.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.

Kaneza, C.A., Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Identification and detection of *Arcobacter* spp. from water and fecal matter using genus- and species-specific PCR assays.", La Cité Collégiale, Ottawa, ON, Canada, April 26, 2013. (Poster)

Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Kaneza, C.A., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Development of genus-specific PCR assay for rapid identification of *Arcobacter* species: Optimization of PCR Primers and Conditions, and Restriction Pattern Analysis.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.



Lewis, C.T., Chen, W., Zhang, N., El-Kayssi, N., Fung, S., Diarra, M.S., Bilkhu, S., Hambleton, S., and Lévesque, C.A. (2013). "Developing an integrated bioinformatics platform to support real-time monitoring of agricultural environments.", 21st Annual Conference of Intelligent Systems for Molecular Biology (ISMB) and European Conference on Computational Biology (ECCB), Berlin, Germany, July 19-23, 2013.

Fung, S., Rempel, H., Block, G.S., Chen, W., Janzen, T., Lewis, C.T., Zhang, N., El-Kayssi, N., Bilkhu, S., Hambleton, S., Amoako, K.K., Lévesque, C.A., Bach, S.J., Delaquis, P.J., and Diarra, M.S. (2013). "Bacillus species across Canada's agriculture environment: an ecological perspective.", International conference on Bacillus anthracis, B. cereus, and B. thuringiensis, Victoria, BC, Canada, September 1-5, 2013, Abstract. (Poster)

Kesanakurti, P., Setia, R., Temple, K., Hambleton, S., Lévesque, C.A., and Lewis, C.T. (2013). "Genome data mining and diagnostic marker development of *Tilletia indica* for Agri-food system detection screening.", *Phytopathology*, 103(Suppl.2:S2), pp. 73. (Abstract)

Léveillé, W.J., Kaneza, C.A., Léveillé, K., Talbot, G., Topp, E., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Optimization of multiplex PCR assays for the detection of virulence genes in *Arcobacter* species isolated from fecal samples.", 63rd Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013, Abstract AE86.

Lewis, C.T., Chen, W., and Lévesque, C.A. (2013). "Developing an integrated bioinformatics platform to support real-time monitoring of agricultural environments.", 21st Annual International Conference on Intelligent Systems for Molecular Biology (ISMB) and 12th European Conference on Computational Biology (ISCB), Messe Berlin, Berlin, Germany, July 21-23, 2013.

Lévesque, C.A. (2013). "A New Generation of Taxonomic Tools - Tracking key trends in biodiversity science and policy.", First Annual Land and Food Systems Graduate Student Conference, Vancouver, BC, Canada, November 7, 2013, pp. 14-19.

Gagnon, M., Kawchuk, L.M., Li, S., Lévesque, C.A., and Bilodeau, G.J. (2013). "Identification and molecular characterization of Canadian strains of potato late blight and potato wart.", 84rd Annual Meeting of the Canadian Phytopathological Society (CPS), Matrix Hotel, Edmonton, AB, Canada, June 16-19, 2013.

Spotts, R.A., Lévesque, A., Lévesque, C.A., and Seifert, K.A. (2013). "*Neofabraea kienholzii* (Seifert, Spotts & Lévesque) Spotts, Lévesque & Seifert.", *Index Fungorum*, 28(1).

Kaneza, C.A., Whiteduck-Leveille, K., Whiteduck-Leveille, J., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Identification and detection of *Arcobacter* spp. From water and fecal matter using genus- and species-specific PCR assays.", *La Cité Collégiale*, Ottawa, ON, Canada, April 26, 2013.

## 2012

Lévesque, C.A. (2012). "DNA Barcoding – Building Up and Using the Reference Database for fungi.", Canadian Wheat Improvement Workshop, National Research Council Plant Biotechnology Institute, Saskatoon, SK, Canada, March 21-22, 2012. (Presentation)

Rintoul, T.L., Rintoul, T., Lévesque, C.A., Robideau, G.P., Eggertson, Q.A., Rodrigue, N., Chen, W., Spies, C.F.J., Bala, K., de Cock, A.W.A.M., Coffey, M.F., Hamilton, J.P., Hambleton, S., Adhikari, B., and Buell, C.R. (2012). "Molecular diagnosis, identification and phylogeny of *Pythium*, *Phytophthora* and related genera.", 4th International Workshop on *Phytophthora*, *Pythium* and *Phytophthora*, College Park, MD, USA, May 21-25, 2012, Invited oral presentation.

Lewis, C.T., Chen, W., and Lévesque, C.A. (2012). "Developing a robust framework for the identification of Fungal metagenomic sequences.", 11th European Conference on Computational Biology (ECCB'12), Congress Center Basel, Basel, Switzerland, September 9-12, 2012.

Seifert, K.A., Graefenhan, T., Chen, W., Lewis, C.T., Bilkhu, S., Chapados, J.T., Hambleton, S., and Lévesque, C.A. (2012). "Prospects for using quantitative PCR and metagenomics to detect mycotoxigenic fungi without culturing.", MycoRed International Conference, Carleton University, Ottawa, ON, Canada, June 2012.

Chen, W., Lewis, C.T., Chapados, J.T., Hambleton, S., Seifert, K.A., Temple, K., Biernacka-Larocque, A., Robleh Djama, Z., and Lévesque, C.A. (2012). "Canada-wide spore-trapping network provides effective monitoring of microbial phytopathogens in air and rain samples.", Annual meeting of the American Phytopathological Society, Providence, RI, USA, August 4-8, 2012, In: *Phytopathology* 102: S4.22.

Lévesque, C.A., Robideau, G.P., Chen, W., and Lewis, C.T. (2012). "Oomycete barcoding and applications.", *Inoculum*, 63(3), pp. 28.

Lévesque, C.A., Bilkhu, S., Chapados, J.T., Chen, W., Hambleton, S., Lewis, C.T., Oliver, K., and Seifert, K.A. (2012). "AeroNet: A Canadian spore trapping network monitoring fungi and bacteria with DNA barcodes and next generation sequencing.", The Role of Genomics & Bioinformatics in Protecting Canadians from Microbial Food Safety Risks Workshop, Southway Hotel and Conference Centre, Ottawa, ON, Canada, February 21-22, 2012, Invited oral presentation.

Rintoul, T.L., Eggertson, Q.A., and Lévesque, C.A. (2012). "Multi-gene Phylogenetic Analyses to Delimit New Species in Fungal Plant Pathogens.", in Bolton, M.D. and Thomma, B.P.H.J. (eds.) - Plant Fungal Pathogens: Methods and Protocols. Series: Methods in Molecular Biology, Vol. 835, Humana Press Inc, USA, Chapter 34.

Barasubiye, T., Seifert, K.A., and Lévesque, C.A. (2012). "The National fungal identification service at ECORC: challenges and opportunities.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: Canadian Journal of Plant Pathology / Revue canadienne de phytopathologie, 35(1), pp. 102.

2011

Lévesque, C.A., Robideau, G.P., Eggertson, Q.A., Rodrigue, N., Chen, W., Spies, C.F.J., de Cock, A.W.A.M., Hamilton, J., Adhikari, B., and Buell, C.R. (2011). "Comparative genomics opens up a new era for oomycete taxonomy, ecology and diagnostics.", 71th Annual Meeting Meeting of the North-East Division of the American Phytopathological Society: The Oomycetes: Current and Future Challenges, New Brunswick, NJ, USA, October 12-14, 2011.

Bala, K., Lévesque, C.A., and Saville, B. (2011). "Comparative analysis of gene expression in *Pythium aphanidermatum* during root-rot infection in multiple hosts.", Great Lakes - St. Lawrence Spring Workshop in Mycology, Peterborough, ON, Canada, May 7-8, 2011. (Presentation)

Duncan, R.W. and Lévesque, C.A. (2011). "Platform supporting GRDI pilot projects.", GRDI Scientific Planning Meeting, NRC, Ottawa, ON, Canada, June 21, 2011. (Presentation)

Hambleton, S., Chen, W., Lewis, C.T., Bilkhu, S., Chapados, J.T., Oliver, K., Tenuta, A.U., and Lévesque, C.A. (2011). "AeroNet Canada: Profiling rust fungus diversity in spore trap samples with DNA barcoding and next generation sequencing.", North American Rust Workers Meeting (NARW), St. Paul, MN, USA, June 12, 2011. (Presentation)

Chen, W., Lewis, C.T., Chapados, J.T., Bilkhu, S., Hambleton, S., Seifert, K.A., and Lévesque, C.A. (2011). "Aerobiota diversity in Canada's air: Mining the metagenomic data.", Great Lakes - St. Lawrence Spring Workshop in Mycology, Peterborough, ON, Canada, May 7-8, 2011. (Presentation)

Lévesque, C.A., Bilkhu, S., Chapados, J.T., Chen, W., Hambleton, S., Lewis, C.T., Oliver, K., and Seifert, K.A. (2011). "Aero Net: A Canadian spore trapping network monitoring fungi and bacteria with DNA barcodes and next generation sequencing.", iBOL - Canada: The future of DNA Barcoding in Canada, Beaty Biodiversity Museum, UBC, Vancouver, BC, Canada, April 29-May 1, 2011. (Presentation)

Bala, K., Lévesque, C.A., and Saville, B. (2011). "Differential gene expression responses of *Pythium aphanidermatum* within plant hosts during root rot disease development.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

Eggertson, Q.A. and Lévesque, C.A. (2011). "Resolving the *Pythium ultimum* species complex.", Great Lakes - St. Lawrence Spring Workshop in Mycology, Peterborough, ON, Canada, May 7-8, 2011.

Robideau, G.P. and Lévesque, C.A. (2011). "Flagellin-like filaments of *Pythium aphanidermatum*: function and phylogeny.", Great Lakes - St. Lawrence Spring Workshop in Mycology, Peterborough, ON, Canada, May 7-8, 2011.

Chen, W., Robleh-Djama, Z., Coffey, M.D., Martin, F.N., Sarhan, C.E., Rodríguez, C.M., Brar, A., Radmer, L., Bilodeau, G.J., Denton, G., Denton, J., Henricot, B., Waghorn, I., and Lévesque, C.A. (2011). "Phytophthora under surveillance – The development of oligonucleotide arrays from multiple gene loci for the detection of *Phytophthora* species.", Great Lakes - St. Lawrence Spring Workshop in Mycology, Peterborough, ON, Canada, May 7-8, 2011. (Poster)

Chen, W., Robleh Djama, Z., and Lévesque, C.A. (2011). "Phytophthora under surveillance.", Science Seminars on the Central Experimental Farm, AAFC, Ottawa, ON, Canada, March 28, 2011. (Presentation)

Robideau, G.P., Subramaniam, R., and Lévesque, C.A. (2011). "Inoculation of cucumber seedlings with purified *Pythium flagellar* protein: Effect on seedling growth and response to subsequent attack by *Pythium aphanidermatum* zoospores.", 4th International Biofumigation & Biopesticides Symposium, Sheraton Cavalier Hotel, Saskatoon, SK, Canada, October 18-21, 2011, Book 15.

Lévesque, C.A., Robideau, G.P., Eggertson, Q.A., Rodrigue, N., Chen, W., Spies, C.F.J., Bala, K., de Cock, A.W.A.M., Hamilton, J., Adhikari, B., and Buell, C.R. (2011). "A case study with oomycetes on new approaches in taxonomy and ecology using next generation sequencing and comparative genomics.", The Research Horizons Seminar Series, McGill University, Macdonald Campus, Montréal, QC, Canada, October 27, 2011. (Presentation)

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## Research Publications:

2016

L'Hocine, L. and Pitre, M. (2016). "Quantitative and qualitative optimization of allergen extraction from peanut and selected tree nuts. Part 2. Optimization of buffer and ionic strength using a full factorial experimental design.", *Food Chemistry*, 194, pp. 820-827. doi: 10.1016/j.foodchem.2015.08.032

L'Hocine, L. and Pitre, M. (2016). "Quantitative and qualitative optimization of allergen extraction from peanut and selected tree nuts. Part 1. Screening of optimal extraction conditions using a D-optimal experimental design.", *Food Chemistry*, 194, pp. 780-786. doi: 10.1016/j.foodchem.2015.08.031

2014

Seo, S., L'Hocine, L., and Karboune, S. (2014). "Allergenicity of Potato Proteins and of their Conjugates with Galactose, Galactooligosaccharides and Galactan in Native, Heated and Digested Forms.", *Journal of Agricultural and Food Chemistry*, 62(16), pp. 3591-3598. doi: 10.1021/jf5003073

2013

Seo, S., Karboune, S., L'Hocine, L., and Yaylayan, V.A. (2013). "Characterization of Glycated Lysozyme with Galactose, Galactooligosaccharides and Galactan: Effect of Glycation on Functional Properties of Lysozyme.", *Food Science and Technology - LWT*, 53(1), pp. 44-53. doi: 10.1016/j.lwt.2013.02.001

Eissa, S., L'Hocine, L., Sijaj, M., and Zourob, M. (2013). "A graphene-based label-free voltammetric immunosensor for sensitive detection of the egg allergen ovalbumin.", *Analyst*, 138(15), pp. 4378-4384. doi: 10.1039/c3an36883a

2012

Seo, S., Karboune, S., Yaylayan, V.A., and L'Hocine, L. (2012). "Glycation of lysozyme with galactose, galactooligosaccharide and potato galactan through the Maillard reaction and optimization of the production of prebiotic glycoproteins.", *Process Biochemistry*, 47(2), pp. 297-304. doi: 10.1016/j.procbio.2011.11.007

Eissa, S., Tlili, C., L'Hocine, L., and Zourob, M. (2012). "Electrochemical immunosensor for the milk allergen  $\beta$ -lactoglobulin based on electrografting of organic film on graphene modified screen-printed carbon electrodes.", *Biosensors and Bioelectronics*, 38(1), pp. 308-313. doi: 10.1016/j.bios.2012.06.008

## Other Science Related Publications:

2015

Des Marchais, L.-P., Villeneuve, S., L'Hocine, L., and Pitre, M. (2015). "Effect of Navy bean processing on dough rheological properties and bread-making potential.", *International Congress on Engineering and Food, Engineering Challenges: bridging science and food innovations*, Québec city, Canada, June 14-18, 2015. (Poster)

L'Hocine, L. (2015). "Les aliments peuvent-ils devenir moins allergènes?", *Semaine de l'agriculture, de l'alimentation et de la consommation (SAAC)- Le symposium*, Centre de foires de Québec, Québec, QC, Canada, January 2015. (Presentation)

2014

L'Hocine, L. and Pitre, M. (2014). "Detection and identification of allergens from local Canadian varieties of mustard.", *8th Workshop on Food Allergen Methodologies*, Sheraton Wall Centre, Vancouver, BC, Canada, May 2014. (Poster)

L'Hocine, L., Pitre, M., Villeneuve, S., Des Marchais, L.-P., and Achouri, A. (2014). "Impact of industry-relevant thermal processing on navy bean proteins immunoreactivity.", *8th Workshop on Food Allergen Methodologies*, Sheraton Wall Centre, Vancouver, BC, Canada, May 2014. (Poster)

L'Hocine, L., Pitre, M., Bernard, H., and Arcand, Y. (2014). "Impact of Food Processing and Food Matrix Composition on Peanut Allergens Digestibility and Allergenicity by a Dynamic in Vitro Digestion System.", *17th IUFoST World Congress of Food Science and Technology*, Montreal, QC, Canada, August 17-22, 2014, Oral presentation.

## 2013

Seo, S., Karboune, S., and L'Hocine, L. (2013). "Effects of glycation through the Maillard reaction on the allergenicity of potato proteins.", Institute of Food Technologists (IFT) 2013 Annual Meeting and Food Expo®, Chicago, Illinois, USA, July 13-16, 2013. (Poster)

## 2012

L'Hocine, L. (2012). "Impact of food matrix and processing on Allergens.", LesMetsSages-AQAA, 21(1).

Eissa, S., Tlili, C., L'Hocine, L., and Zourob, M. (2012). "Graphene-based label-free voltammetric immunosensor for the sensitive detection of multiple food allergens.", 7th Workshop on Food Allergen Methodologies, Montréal, QC, Canada, May 6-9, 2012. (Poster)

L'Hocine, L., Pitre, M., and Wanasundara, P.K.J.P.D. (2012). "Assessment of protein and IgE-binding profiles of select Canadian mustard seeds.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012. (Poster)

L'Hocine, L. (2012). "Demystifying food allergens detection assays.", 22ième Colloque de l'AQAA, St-Pierre Centre, Montréal, QC, Canada, June 2, 2012. (Presentation)

L'Hocine, L. and Pitre, M. (2012). "Impact of extraction conditions on peanut and tree-nut allergens recovery, profile and immunoreactivity.", 7th Workshop on Food Allergen Methodologies, Montréal, QC, Canada, May 6-9, 2012. (Poster)

## 2011

L'Hocine, L. (2011). "Impact of food processing on allergens.", Zip technologique - Les allergènes, Saint-Hyacinthe, QC, Canada, June 16, 2011. (Presentation)

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## Research Publications:

2015

Chen, L., Ekine-Dzivenu, C., Vinsky, M.D., Basarab, J.A., Aalhus, J.L., Dugan, M.E.R., Fitzsimmons, C.J., Stothard, P., and Li, C. (2015). "Genome-wide association and genomic prediction of breeding values for fatty acid composition in subcutaneous adipose and longissimus lumborum muscle of beef cattle.", *BMC Genetics*, 16(1: Article number 135), pp. 1-15. doi : 10.1186/s12863-015-0290-0

Chen, L., Li, C., and Schenkel, F.S. (2015). "An alternative computing strategy for genomic prediction using a Bayesian mixture model.", *Canadian Journal of Animal Science*, 95(1), pp. 1-11. doi : 10.4141/cjas-2014-091

Chen, L., Vinsky, M.D., and Li, C. (2015). "Accuracy of predicting genomic breeding values for carcass merit traits in Angus and Charolais beef cattle.", *Animal Genetics*, 46(1), pp. 55-59. doi : 10.1111/age.12238

2014

Chen, L., Li, C., Sargolzaei, M., and Schenkel, F.S. (2014). "Impact of genotype imputation on the performance of GBLUP and Bayesian methods for genomic prediction.", *PLoS ONE*, 9(7: Article e101544). doi : 10.1371/journal.pone.0101544

Karisa, B.K., Thomson, J., Wang, Z., Li, C., Montanholi, Y.R., Miller, S.P., Moore, S.S., and Plastow, G. (2014). "Plasma metabolites associated with residual feed intake and other productivity performance traits in beef cattle.", *Livestock Science*, 165(1), pp. 200-211. doi : 10.1016/j.livsci.2014.03.002

Chen, L., Li, C., Miller, S.P., and Schenkel, F.S. (2014). "Multi-population genomic prediction using a multi-task Bayesian learning model.", *BMC Genetics*, 15(Article 53). doi : 10.1186/1471-2156-15-53

Ventura, R., Lu, D., Schenkel, F.S., Wang, Z., Li, C., and Miller, S.P. (2014). "Impact of reference population on accuracy of imputation from 6K to 50K single nucleotide polymorphism chips in purebred and crossbred beef cattle.", *Journal of Animal Science*, 92(4), pp. 1433-1444. doi : 10.2527/jas.2013-6638

Ekine-Dzivenu, C., Chen, L., Vinsky, M.D., Aldai, N., Dugan, M.E.R., McAllister, T.A., Wang, Z., Okine, E.K., and Li, C. (2014). "Estimates of genetic parameters for fatty acids in brisket adipose tissue of Canadian commercial crossbred beef steers.", *Meat Science*, 96(4), pp. 1517-1526. doi : 10.1016/j.meatsci.2013.10.011

Chen, L., Mao, F., Crews, Jr., D.H., Vinsky, M.D., and Li, C. (2014). "Phenotypic and genetic relationships of feeding behavior with feed intake, growth performance, feed efficiency, and carcass merit traits in Angus and Charolais steers.", *Journal of Animal Science*, 92(3), pp. 974-983. doi : 10.2527/jas.2013-6926

Khansefid, M., Pryce, J.E., Bolormaa, S., Miller, S.P., Wang, Z., Li, C., and Goddard, M.E. (2014). "Estimation of genomic breeding values for residual feed intake in a multibreed cattle population.", *Journal of Animal Science*, 92(8), pp. 3270-3283. doi : 10.2527/jas.2014-7375

2013

Mao, F., Chen, L., Vinsky, M.D., Okine, E.K., Wang, Z., Basarab, J.A., Crews, Jr., D.H., and Li, C. (2013). "Phenotypic and genetic relationships of feed efficiency with growth performance, ultrasound and carcass merit traits in Angus and Charolais steers.", *Journal of Animal Science*, 91(5), pp. 2067-2076. doi : 10.2527/jas.2012-5470

Lu, D., Sargolzaei, M., Li, C., Abo-Ismael, M., Voort, G.V., Wang, Z., Plastow, G., Moore, S.S., and Miller, S.P. (2013). "Association analysis for feed efficiency traits in beef cattle using preserved haplotypes.", *Genome*, 56(10), pp. 586-591. doi : 10.1139/gen-2013-0072

Vinsky, M.D., Islam, K.K., Chen, L., and Li, C. (2013). "Association analyses of a single nucleotide polymorphism in the promoter of OLR1 with growth, feed efficiency, fat deposition, and carcass merit traits in hybrid, Angus and Charolais beef cattle. Short Communication.", *Canadian Journal of Animal Science*, 93(2), pp. 193-197. doi : 10.4141/CJAS2012-115

Han, C., Vinsky, M.D., Aldai, N., Dugan, M.E.R., McAllister, T.A., and Li, C. (2013). "Association analyses of DNA polymorphisms in bovine SREBP-1, LXR $\alpha$ , FADS1 genes with fatty acid composition in Canadian commercial crossbred beef steers.", *Meat Science*, 93(3), pp. 429-436. doi : 10.1016/j.meatsci.2012.10.006

Chen, L., Schenkel, F.S., Vinsky, M.D., Crews, Jr., D.H., and Li, C. (2013). "Accuracy of predicting genomic breeding values for residual feed intake in Angus and Charolais beef cattle.", *Journal of Animal Science*. doi : 10.2527/jas.2012-5715

## 2012

Kebede, B., Cheema, K., Greenshields, D.L., Li, C., Selvaraj, G., and Rahman, M.H. (2012). "Construction of genetic linkage map and mapping of QTL for seed color in *Brassica rapa*.", *Genome*, 55(12), pp. 813-823. doi : 10.1139/g2012-066

Lu, D., Sargolzaei, M., Kelly, M., Li, C., VanderVoort, G., Wang, Z., Plastow, G., Moore, S.S., and Miller, S.P. (2012). "Linkage disequilibrium in Angus, Charolais, and Crossbred beef cattle.", *Frontiers in Nutrition*, 3(152), pp. 1-10. doi : 10.3389/fgene.2012.00152

Li, C., Aldai, N., Vinsky, M.D., Dugan, M.E.R., and McAllister, T.A. (2012). "Association analyses of single nucleotide polymorphisms in bovine stearoyl-CoA desaturase and fatty acid synthase genes with fatty acid composition in commercial crossbred beef steers.", *Animal Genetics*, 43(1), pp. 93-97. doi : 10.1111/j.1365-2052.2011.02217.x

## 2011

Nalaila, S.M., Stothard, P., Moore, S.S., Li, C., and Wang, Z. (2011). "Whole-genome QTL scan for ultrasound and carcass merit traits in beef cattle using Bayesian shrinkage method.", *Journal of Animal Breeding and Genetics*, 129(2), pp. 107-119. doi : 10.1111/j.1439-0388.2011.00954.x

Nalaila, S.M., Stothard, P., Moore, S.S., Wang, Z., and Li, C. (2011). "Whole genome fine mapping of QTL for ultrasound and carcass merit traits in beef cattle.", *Canadian Journal of Animal Science*, 91(1), pp. 61-73. doi : 10.4141/CJAS10007

## Other Science Related Publications:

## 2016

Foroutan, A., Dugan, M.E.R., Stothard, P., Grant, J., Paradis, F., Guan, L.L., McAllister, T.A., Basu, U., Li, C., and Fitzsimmons, C.J. (2016). "Gene expression differences associated with fatty-acid deposition in beef cattle fed diets with supplemental flaxseed.", XXIV Plant and Animal Genomics Conference, San Diego, CA, USA, January 2016. (Abstract)

## 2015

Li, C., Ekine-Dzivenu, C., Chen, L., Vinsky, M.D., Basarab, J.A., Aalhus, J.L., Dugan, M.E.R., and Fitzsimmons, C.J. (2015). "Heritability estimates and accuracy of predicting direct genomic breeding values for fatty acid composition of beef cattle.", *CASA*. (Abstract)

## 2014

Fitzsimmons, C.J., Muhire, G., Paradis, F., McKeown, L.E., Straathof, C., Block, H.C., Colazo, M.G., Li, C., Yaremci, B., Basarab, J.A., and Bruce, H.L. (2014). "Pregnant beef heifers categorized by residual feed intake measured in adolescence exhibit differential intake and feeding behaviors when fed a restricted diet. 2014.", *ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014*. (Poster)

Lu, D., Crowley, J.J., Li, C., Coros, M., DePauw, M., Plastow, G., Moore, S.S., Miller, S.S., Miller, S.S., and Stothard, P. (2014). "Genomic Inbreeding Coefficients in a Sample of Canadian Beef Cattle Breeds.", *10th World Congress on Genetics Applied to Livestock Production (WCGALP), Vancouver, Canada, August 17-22, 2014*, Paper 750.

Li, C., Chen, L., and Vinsky, M.D. (2014). "Genomic Prediction for Feed Efficiency and Carcass Traits in Angus and Charolais Beef Cattle.", *University of Alberta Kinsella Day, Kinsella, AB, Canada, August 13, 2014*. (Poster)

Li, C., Dugan, M.E.R., Aalhus, J.L., Fitzsimmons, C.J., Basarab, J.A., Buchanan, F.C., Chen, L., Ekine-Dzivenu, C., Stothard, P., Curtis, J., Bruce, H.L., Wang, Z., and Okine, E.K. (2014). "Genetic Influence of Host Animal on Fatty Acid Profile in Beef.", *University of Alberta Kinsella Day, Kinsella, AB, Canada, August 13, 2014*. (Poster)

Chen, L., Vinsky, M.D., Ekine, C., Basarab, J.A., Aalhus, J.L., Dugan, M.E.R., Curtis, J., Fitzsimmons, C.J., Stothard, P., and Li, C. (2014). "Genomic prediction of direct genomic breeding values for fatty acid concentrations in subcutaneous adipose and longissimus lumborum muscle of beef cattle.", *Livestock Gentec 5th Annual conference, Edmonton, AB, Canada, August 12-14, 2014*. (Poster)

Vinsky, M.D., Zhu, X., Zhang, X., and Li, C. (2014). "Functional analyses of multiple SNPs in the promoter regions of bovine genes.", *Livestock Gentec 5th Annual conference, Edmonton, AB, Canada, August 12-14, 2014*. (Poster)

Li, C., Ekine-Dzivenu, C., Chen, L., Vinsky, M.D., Aldai, N., Dugan, M.E.R., and McAllister, T.A. (2014). "Heritability Estimates of Conjugated Linoleic Acid Isomers in Brisket Adipose Tissue of Canadian Crossbred Beef Steers.", *10th World Congress on Genetics Applied to Livestock Production (WCGALP), Vancouver, Canada, August 17-22, 2014*, Paper 588 & Poster.

Jin, L., Li, C., He, M.L., Wang, Y., Alexander, T.W., and McAllister, T.A. (2014). "Effects of echium and flaxseed oil on ruminal fatty acid metabolism in vitro.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.

Chen, L., Karisa, B.K., Li, C., and Plastow, G. (2014). "Development and utilization of genomic tools to exploit genetic diversity and heterosis in Canadian beef cattle populations.", University of Alberta Kinsella Day, Kinsella, AB, Canada, August 13, 2014. (Poster)

Lu, D., Crowley, J.J., Li, C., Coros, C., DePauw, M., Plastow, G., Moore, S.S., Miller, S.P., and Stothard, P. (2014). "Inbreeding in Canadian Beef Cattle Breeds.", 10th World Congress on Genetics Applied to Livestock Production (WCGALP), Vancouver, Canada, August 17-22, 2014. (Poster)

Li, C., Aalhus, J.L., Dugan, M.E.R., Fitzsimmons, C.J., Basarab, J.A., Curtis, J., Stothard, P., Okine, E.K., Wang, Z., Bruce, H.L., and Buchanan, F.C. (2014). Identifying DNA markers for enhancing beneficial fatty acids in beef. Final project report, 33 pages to Alberta Livestock and Meat Agency (ALMA). (Report)

Li, C., Dugan, M.E.R., Aalhus, J.L., Fitzsimmons, C.J., Basarab, J.A., Buchanan, F.C., Chen, L., Ekine-Dzivenu, C., Stothard, P., Curtis, J.M., Bruce, H.L., Wang, Z., and Okine, E.K. (2014). "Genetic Influence of Host Animal on Fatty Acid Profile in Beef.", Beef and Ranch Report, pp. 34-35.

Li, C., Chen, L., and Vinsky, M.D. (2014). "Genomic Prediction for Feed Efficiency and Carcass Traits in Angus and Charolais Beef Cattle.", Beef and Ranch Report, pp. 20-21.

Chen, L., Karisa, B.K., Li, C., and Plastow, G. (2014). "Development and utilization of genomic tools to exploit genetic diversity and heterosis in Canadian beef cattle populations.", Beef and Ranch Report, pp. 11-13.

Akanno, E.C., Plastow, G., Li, C., Miller, S.P., and Basarab, J.A. (2014). "Accuracy of Molecular Breeding Values for Production and Efficiency Traits of Canadian Crossbred Beef Cattle Using a Cross-Validation Approach.", 10th World Congress on Genetics Applied to Livestock Production (WCGALP), Vancouver, Canada, August 17-22, 2014, Paper 513 & poster presentation.

Crowley, J.J., Stothard, P., Basarab, J.A., Miller, S.P., Li, C., Wang, Z., Plastow, G., De Pauw, E., Moore, S.S., and Lu, D. (2014). "Collation of Data and Genetic Parameter Estimation in Different Experimental Canadian Beef Cattle Populations Measured for Feed Efficiency.", 10th World Congress on Genetics Applied to Livestock Production (WCGALP), Vancouver, Canada, August 17-22, 2014, Paper 117.

Chen, L., Plastow, G., and Li, C. (2014). "Estimating variance components for growth, feed efficiency and carcass merit traits in Angus steers using additive and dominance genomic relationship matrices.", 10th World Congress on Genetics Applied to Livestock Production (WCGALP), Vancouver, Canada, August 17-22, 2014, Paper 461.

Khansefid, M., Pryce, J.E., Bolormaa, S., Miller, S.P., Wang, Z., Li, C., and Goddard, M.E. (2014). "Increasing the Accuracy of Genomic Predictions for RFI in Dairy Cattle through Using Genomic Information from Beef Breeds.", 10th World Congress on Genetics Applied to Livestock Production (WCGALP), Vancouver, Canada, August 17-22, 2014, Paper 113.

## 2013

Vinsky, M.D., Zhu, X., Zhang, X., and Li, C. (2013). "Functional analyses of SNPs in the promoter regions of bovine genes.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013. (Poster)

Ekine, C., Chen, L., Vinsky, M.D., Wang, Z., Stothard, P., Okine, E.K., Aldai, N., Dugan, M.E.R., McAllister, T.A., and Li, C. (2013). "Genetic influence of host animals on fatty acid composition in beef cattle tissues.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O18-GS, pp. 10.

## 2011

McLean, K.L., Dugan, M.E.R., McAllister, T.A., Basu, U., Li, C., He, M.L., Aalhus, J.L., Guan, L.L., and Fitzsimmons, C.J. (2011). "Identifying gene expression differences associated with a diet-induced increase of omega-3 fatty acids in beef cattle.", Plant & Animal Genome XIX Conference, Town & Country Convention Center, San Diego, CA, USA, January 15-19, 2011, P708.

Li, C., Vinsky, M.D., Ekine, C., Zeng, Z., Dugan, M.E.R., Aldai, N., and McAllister, T.A. (2011). "A multiple candidate gene association approach to identifying single nucleotide polymorphisms (SNP) associated with fatty acid composition in commercial crossbred beef steers.", Gordon Research Conferences on Quantitative Genetics and Genomics, Galveston, TX, USA, February 20-25, 2011. (Poster)

Ekine, C., Aldai, N., Vinsky, M.D., Chen, L., Zeng, Z., Wang, Z., Stothard, P., Dugan, M.E.R., McAllister, T.A., and Li, C. (2011). "A multiple candidate-gene association approach to identifying single nucleotide polymorphisms (SNP) associated with fatty acid composition in commercial crossbred beef steers.", Livestock Gentec's 2nd Annual Conference: Addressing the Gap Between Discovery and Profitable Adoption, Edmonton, AB, Canada, October 19-20, 2011. (Poster)

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## Research Publications:

2015

Rees, H.W., Chow, T.L., Xing, Z.S., Li, S., Monteith, J.O., and Stevens, L. (2015). "Depth to compact subsoil effects on soil properties and barley-potato yields on a loamy soil in New Brunswick", *Canadian Journal of Soil Science*, 95(3), pp. 203-218. doi : 10.4141/CJSS-2014-038

2014

Zhang, F., Xing, Z.S., Rees, H.W., Dong, Y.L., Li, S., and Meng, F. (2014). "Assessment of effects of two runoff control engineering practices on soil water and plant growth for afforestation in a semi-arid area after 10 years.", *Ecological Engineering*, 64, pp. 430-442. doi : 10.1016/j.ecoleng.2013.12.024

Ochuodho, T.O., Olale, E., Lantz, V., Damboise, J., Daigle, J.-L., Meng, F., Li, S., and Chow, T.L. (2014). "How do soil and water conservation practices influence climate change impacts on potato production? Evidence from eastern Canada.", *Regional Environmental Change*, 14(4), pp. 1563-1574. doi : 10.1007/s10113-014-0599-7

Chen, Y., Zhou, Q., Li, S., Meng, F., Bi, X., Wilson, J.P., Xing, Z.S., Qi, J., Li, Q., and Zhang, C. (2014). "The simulation of surface flow dynamics using a flow-path network model.", *International Journal of Geographical Information Science*, 28(11), pp. 2242-2260. doi : 10.1080/13658816.2014.917312

Li, Q., Qi, J., Xing, Z.S., Li, S., Jiang, Y., Danielescu, S., Zhu, H., Wei, X.H., and Meng, F. (2014). "An approach for assessing impact of land use and biophysical conditions across landscape on recharge rate and nitrogen loading of groundwater.", *Agriculture, Ecosystems and Environment*, 196, pp. 114-124. doi : 10.1016/j.agee.2014.06.028

Li, Q., Xing, Z.S., Danielescu, S., Li, S., Jiang, Y., and Meng, F. (2014). "Data requirements for using combined conductivity mass balance and recursive digital filter method to estimate groundwater recharge in a small watershed New Brunswick, Canada.", *Journal of Hydrology*, 511, pp. 658-664. doi : 10.1016/j.jhydrol.2014.01.073

2013

Xing, Z.S., Chow, T.L., Rees, H.W., Meng, F., Li, S., Ernst, B., Benoy, G.A., Zha, T., and Hewitt, L.M. (2013). "Influences of Sampling Methodologies on Pesticide-Residue Detection in Stream Water.", *Archives of Environmental Contamination and Toxicology*, 64(2), pp. 208-218. doi : 10.1007/s00244-012-9833-9

Ochuodho, T.O., Olale, E., Lantz, V., Damboise, J., Chow, T.L., Meng, F., Daigle, J.-L., and Li, S. (2013). "Impacts of soil and water conservation practices on potato yield in northwestern New Brunswick.", *Journal of Soil and Water Conservation*, 68(5), pp. 392-400. doi : 10.2489/jswc.68.5.392

Koiter, A.J., Lobb, D.A., Owens, P.N., Petticrew, E.L., Tiessen, K.H.D., Tiessen, K.H.D., and Li, S. (2013). "Investigating the role of connectivity and scale in assessing the sources of sediment in an agricultural watershed in the Canadian prairies using sediment source fingerprinting.", *Journal of Soils and Sediments*, 13(10), pp. 1676-1691. doi : 10.1007/s11368-013-0762-7

2012

Zhang, R., Li, Q., Chow, T.L., Li, S., and Danielescu, S. (2012). "Baseflow separation in a small watershed in New Brunswick, Canada, using a recursive digital filter calibrated with the conductivity mass balance method.", *Hydrological Processes*. doi : 10.1002/hyp.9417

Xing, Z.S., Chow, T.L., Cook, A., Benoy, G.A., Rees, H.W., Ernst, W.R., Meng, F., Li, S., Zha, T., Murphy, C., Batchelor, S., and Hewitt, L.M. (2012). "Pesticide Application and Detection in Variable Agricultural Intensity Watersheds and Their River Systems in the Maritime Region of Canada.", *Archives of Environmental Contamination and Toxicology*, 63(4), pp. 471-483. doi : 10.1007/s00244-012-9789-9

2011

Li, S., MacMillan, R.A., Lobb, D.A., McConkey, B.G., Moulin, A.P., and Fraser, W. (2011). "Lidar DEM error analyses and topographic depression identification in a hummocky landscape in the prairie region of Canada.", *Geomorphology*, 129(3-4), pp. 263-275. doi : 10.1016/j.geomorph.2011.02.020



Li, S., Lobb, D.A., McConkey, B.G., MacMillan, R.A., Moulin, A.P., and Fraser, W. (2011). "Extracting topographic characteristics of landformstypical of Canadian agricultural landscapesfor agri-environmental modeling. 1. Methodology.", *Canadian Journal of Soil Science*, 91(2), pp. 251-266. doi : 10.4141/cjss10080

Li, S., Elliott, J.A., Tiessen, K.H.D., Yarotski, J.B., Lobb, D.A., and Flaten, D.N. (2011). "The effects of multiple beneficial managementpractices on hydrology and nutrient losses in a small watershed in the canadian prairies.", *Journal of Environmental Quality*, 40(5), pp. 1627-1642. doi : 10.2134/jeq2011.0054

Li, S., Lobb, D.A., Kachanoski, R.G., and McConkey, B.G. (2011). "Comparing the use of the traditional andrepeated-sampling-approach of the <sup>137</sup>Cstechnique in soil erosion estimation.", *Geoderma*, 160(3-4), pp. 324-335. doi : 10.1016/j.geoderma.2010.09.029

## **Other Science Related Publications:**

### **2015**

Zebarth, B.J., Goyer, C., Li, S., Whitney, S., and Neupane, S. (2015). "Spatial variation in soil bacterial communities in a commercial potato field.", *Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.*

Kröbel, R., Li, S., Little, S.M., Vanin, C., and Janzen, H.H. (2015). "Calculating greenhouse gasesfrom the Black-Brook watershed, New Brunswick, using the Holosmodel.", *Conference "On Sustainability 2015", Copenhagen, Denmark.*

### **2013**

Li, S., Zheng, F.Z., Wackrow, R., Xing, Z.S., Lobb, D.A., and Meng, F. (2013). "From rills to gullies: how do we measure them ?", *Geomorphometry 2013 conference, Nanjing, Jiangsu, China, October 16-19, 2013.*

Li, S., Liu, Y., Zheng, F.Z., Xing, Z.S., Meng, F., and Butler, K. (2013). "Snow distribution pattern and its influencing factors in a small watershed in Atlantic Canada.", *Geomorphometry 2013 conference, Nanjing, Jiangsu, China, October 16-19, 2013.*

### **2012**

Danielescu, S., Chow, T.L., and Li, S. (2012). "Comparison of digital filtering methodsfor hydrograph separation in a small stream in Atlantic Canada.", *CWRA-CGU National Conference: Earth, Wind and Water – Elements of Life, Banff Centre, Banff, AB, Canada, June 5-8, 2012.*

Li, Q., Qi, J., Hesch, W., Meng, F., Danielescu, S., and Li, S. (2012). "Assessment of Impact of Potato Production on Groundwater Quality.", *39th IAH Congress, Niagara Falls, ON, Canada, September 16-21, 2012.*

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Research Scientist

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## Research Publications:

2015

Li, X.-Q. (2015). "Bioinformatic approaches for analysis of gene direction, chromosome base composition, mRNA polyadenylation, and protein network", in Li, X.-Q, Donnelly, D.J. and Jensen, T.G. (eds.) - *Somatic Genome Manipulation: Advances, Methods and Applications*, Springer, Chapter 15, pp. 353-363.

Li, X.-Q. (2015). "Laboratory methods for investigating nuclear and cytoplasmic genomes and transcriptome.", in Li, X.-Q, Donnelly, D.J. and Jensen, T.G. (eds.) - *Somatic Genome Manipulation: Advances, Methods and Applications*, Springer, Chapter 14, pp. 323-352.

Ma, J., Zhu, C., Wen, F., Xu, H., and Li, X.-Q. (2015). "Strategic RNA silencing for plant viral resistance.", in Li, X.-Q, Donnelly, D.J. and Jensen, T.G. (eds.) - *Somatic Genome Manipulation: Advances, Methods and Applications*, Springer, Chapter 11, pp. 237-252.

Li, X.-Q., Donnelly, D.J., and Jensen, T.G. (2015). "Preface.", in Li, X.-Q, Donnelly, D.J. and Jensen, T.G. (eds.) - *Somatic Genome Manipulation: Advances, Methods and Applications*, Springer, pp. v-viii.

Li, X.-Q., Donnelly, D.J., and Jensen, T.G. (Eds.) (2015). *Somatic Genome Manipulation: Advances, Methods and Applications*, Springer. doi: 10.1007/978-1-4939-2389-2 (Book)

Ma, J. and Li, X.-Q. (2015). "Organelle genome copy number variation and integrity during moderate maturation of roots and leaves of maize seedlings.", *Current Genetics*, 61(4), pp. 591-600. doi: 10.1007/s00294-015-0482-1

Xiang, H. and Li, X.-Q. (2015). "Development of TBSPG Pipelines for Refining Unique Mapping and Repetitive Sequence Detection Using the Two Halves of Each Illumina Sequence Read.", *Plant Molecular Biology Reporter*. doi: 10.1007/s1105-015-0912-8

Lovat, C., Nassar, A.M.K., Kubow, S., Li, X.-Q., and Donnelly, D.J. (2015). "Metabolic biosynthesis of potato (*Solanum tuberosum* L.) antioxidants and implications for human health.", *Critical Reviews in Food Science and Nutrition*. doi: 10.1080/10408398.2013.830208

2014

Li, X.-Q. and Du, D. (2014). "Motif types, motif locations and base composition patterns around the RNA polyadenylation site in microorganisms, plants and animals.", *BMC Evolutionary Biology*, 14(162). doi: 10.1186/s12862-014-0162-7

Li, X.-Q. and Du, D. (2014). "Variation, evolution, and correlation analysis of C+G content and genome or chromosome size in different kingdoms and phyla.", *PLoS ONE*, 9(2): Article e88339. doi: 10.1371/journal.pone.0088339

Chung, H.-J., Li, X.-Q., Kalinga, D.N., Lim, S.-T., Yada, R.Y., and Liu, Q. (2014). "Physicochemical properties of dry matter and isolated starch from potatoes grown in different locations in Canada.", *Food Research International*, 57, pp. 89-94. doi: 10.1016/j.foodres.2014.01.034

Bethke, P.C., Nassar, A.M.K., Kubow, S., Leclerc, Y., Li, X.-Q., Haroon, M., Molen, T.A., Bamberg, J., Martin, M., and Donnelly, D.J. (2014). "History and Origin of Russet Burbank (Netted Gem) a Sport of Burbank.", *American Journal of Potato Research*. doi: 10.1007/s12230-014-9397-5

Li, X.-Q. (2014). "Comparative analysis of the base compositions of the pre-mRNA 3' cleaved-off region and the mRNA 3' untranslated region relative to the genomic base composition in animals and plants.", *PLoS ONE*, 9(6): Article e99928. doi: 10.1371/journal.pone.0099928

2013

Liu, X., Cheng, S., Liu, J., Ou, Y., Song, B.T., Zhang, C., Lin, Y., Li, X.-Q., and Xie, C.-H. (2013). "The potato protease inhibitor gene, *St-Inh*, plays roles in the cold-induced sweetening of potato tubers by modulating invertase activity.", *Postharvest Biology and Technology*, 86, pp. 265-271. doi: 10.1016/j.postharvbio.2013.07.001

Li, X.-Q. and Du, D. (2013). "RNA polyadenylation sites on the genomes of microorganisms, animals, and plants.", *PLoS ONE*, 8(11): Article e79511. doi: 10.1371/journal.pone.0079511

2012

Zebarth, B.J., Tai, H.H., Luo, S., Millard, P., De Koeyer, D.L., Li, X.-Q., and Xiong, X. (2012). "Effect of Nitrogen Form on Gene Expression in Leaf Tissue of Greenhouse Grown Potatoes During Three Stages of Growth.", *American Journal of Potato Research*, 89(4), pp. 315-327. doi : 10.1007/s12230-012-9255-2

Du, D., Lee, C.F., and Li, X.-Q. (2012). "Systematic Differences in Signal Emitting and Receiving Revealed by PageRank Analysis of a Human Protein Interactome.", *PLoS ONE*, 7(9, Article No. e44872). doi : 10.1371/journal.pone.0044872

Li, X.-Q. and Du, D. (2012). "Gene direction in living organisms.", *Scientific Reports*, 2(Article No. 982). doi : 10.1038/srep00982

2011

Li, X.-Q., Zhang, T., and Donnelly, D.J. (2011). "Selective Loss of Cysteine Residues and Disulphide Bonds in a Potato Proteinase Inhibitor II Family.", *PLoS ONE*, 6(4, Article No. e18615). doi : 10.1371/journal.pone.0018615

Zhang, J., Murphy, A.M., Liu, G.S., Bizimungu, B., Liu, Q., Leclerc, Y., Xing, T., and Li, X.-Q. (2011). "Starch granule size variation and relationship with tuber dry matter content in heritage potato varieties.", *Scientia Horticulturae*, 130(3), pp. 503-509. doi : 10.1016/j.scienta.2011.08.006

Li, X.-Q. (2011). "Functional Genomics: Transcriptomics.", in Bradeen, J.M and Kole, C. (eds.) - *Genetics, Genomics and Breeding of Potato*. Series: *Genetics, Genomics and Breeding of Crop Plants*, Science Publishers and CRC Press, pp. 207-228.

Luo, S., Tai, H.H., Zebarth, B.J., Li, X.-Q., Millard, P., De Koeyer, D.L., and Xiong, X. (2011). "Sample Collection Protocol Effects on Quantification of Gene Expression in Potato Leaf Tissue.", *Plant Molecular Biology Reporter*, 29(2), pp. 369-378. doi : 10.1007/s11105-010-0239-4

Pompon, J., Li, X.-Q., and Pelletier, Y. (2011). "Resistance level to an aphid potato pest varies between genotypes from the same *Solanum* accession.", *Journal of Economic Entomology*, 104(3), pp. 1075-1079. doi : 10.1603/EC10278

Liu, X., Zhang, C., Ou, Y., Lin, Y., Song, B.T., Xie, C.-H., Liu, J., and Li, X.-Q. (2011). "Systematic analysis of potato acid invertase genes reveals that a cold-responsive member, *StvacINV1*, regulates cold-induced sweetening of tubers.", *Molecular Genetics and Genomics*, 286(2), pp. 109-118. doi : 10.1007/s00438-011-0632-1

Nassar, A.M.K., Abdulnour, J., Leclerc, Y., Li, X.-Q., and Donnelly, D.J. (2011). "Intraclonal Selection for Improved Processing of NB 'Russet Burbank' Potato.", *American Journal of Potato Research*, 88(5), pp. 387-397. doi : 10.1007/s12230-011-9204-5

Zebarth, B.J., Tai, H.H., Luo, S., Millard, P., De Koeyer, D.L., Li, X.-Q., and Xiong, X. (2011). "Differential gene expression as an indicator of nitrogen sufficiency in field-grown potato plants.", *Plant and Soil*, 345(1), pp. 387-400. doi : 10.1007/s11104-011-0793-z

Zhang, J., Xing, T., Liu, G.S., Liu, Q., Bizimungu, B., Leclerc, Y., and Li, X.-Q. (2011). "Starch granule sizes of surface and inside tissues of potato strips after deep-freezing storage.", *The Americas Journal of Plant Science and Biotechnology*, 5(Spec. Issue 2), pp. 129-131.

Lu, Z.-H., Yada, R.Y., Liu, Q., Bizimungu, B., Murphy, A.M., De Koeyer, D.L., and Li, X.-Q., Pinhero, R.G. (2011). "Correlation of physicochemical and nutritional properties of dry matter and starch in potatoes grown in different locations food chemistry.", *Food Chemistry*, 126(3), pp. 1246-1253. doi : 10.1016/j.foodchem.2010.12.037

Li, X.-Q., Zhang, J., Luo, S., Liu, G.S., Murphy, A.M., Leclerc, Y., and Xing, T. (2011). "Effects of sampling methods on starch granule size measurement of potato tubers under a light microscope.", *International Journal of Plant Biology*, 2:e5(1). doi : 10.4081/pb.2011.e5

## Other Science Related Publications:

2014

Li, X.-Q. (2014). "Evolution of gene direction on chromosomes.", XXII Plant & Animal Genome Conference, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014, pp. W725.

Li, X.-Q. (2014). "RNA poly(A) site selection in plants and animals.", XXII Plant & Animal Genome Conference, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014, pp. W722.

Zebarth, B.J., Tai, H.H., Luo, S., De Koeyer, D.L., and Li, X.-Q. (2014). "Gene expression-based diagnostics: A new way to optimize crop fertilizer nitrogen management?", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014. (Abstract)

## 2013

Li, X.-Q., Zhang, J., Murphy, A.M., Liu, G.S., Donnelly, D.J., and Leclerc, Y. (2013). "Ploidy Effects on Potato Starch Granule Size.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013.

Li, X.-Q., Xu, C., Liu, X., Haroon, M., Liu, J., Xie, C.Y., Meng, F., De Koeyer, D.L., Leclerc, Y., Donnelly, D.J., and Murphy, A.M. (2013). "Identification of the major enzyme and genes controlling cold sweetening in potato tubers during storage.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013, Oral presentation.

Donnelly, D.J., Nassar, A.M.K., Kubow, S., Leclerc, Y., Li, X.-Q., Haroon, M., Molen, T.A., Bizimungu, B., Bamberg, J., and Martin, M. (2013). "History of 'Russet Burbank'.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013.

Li, X.-Q., Haroon, M., Luo, S., Bizimungu, B., Xiong, X., Zebarth, B.J., and Tai, H.H. (2013). "In vitro and field testing of drought tolerance of potato clones.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013.

Li, X.-Q. (2013). "Somatic genome research advances in 2012.", XXI Plant and Animal Genome Conference, San Diego, CA, USA, January 12-16, 2013, pp. W706.

## 2012

Li, X.-Q. (2012). "Genomic generation cycle hypothesis for plants and its interpretation from the evolutionary point of view.", XX Plant and Animal Genome Conference, San Diego, CA, USA, January 14-18, 2012, pp. W648.

Nassar, A.M.K., Kubow, S., Li, X.-Q., Leclerc, Y., and Donnelly, D.J. (2012). "Potato somaclone technology improves processing characteristics.", 96th Annual Meeting of the Potato Association of America (PAA), Crowne Plaza Denver International Airport, Denver, CO, USA, August 12-16, 2012.

Tai, H.H., Zebarth, B.J., Luo, S., Li, X.-Q., Millard, P., De Koeyer, D.L., and Xiong, X. (2012). "Development of gene expression indicators for nitrogen sufficiency in potato plants.", Potato Association of America Annual meetings, Denver, Colorado, USA.

## 2011

Li, X.-Q. (2011). "Copy number ratios of plastidic and mitochondrial genomes in potato leaves and roots.", XIX International Plant & Animal Genomes Conference, San Diego, CA, USA, January 15-19, 2011, pp. W539.

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## Research Publications:

2015

Albert, A.Y.K., Chaban, B.L., Wagner, E.C., Schellenberg, J.J., Links, M.G., van Schalkwyk, J., Reid, G., Hemmingsen, S.M., Hill, J.E., and Money, D. (2015). "A study of the vaginal microbiome in healthy Canadian women utilizing cpn60-based molecular profiling reveals distinct *Gardnerella* subgroup community state types.", *PLoS ONE*, 10(8): Article number e0135620, pp. 1-21. doi: 10.1371/journal.pone.0135620

Ghanbamia, K., Fudal, I., Larkan, N.J., Links, M.G., Balesdent, M.H., Profotová, B., Fernando, W.G.D., Rouxel, T., and Borhan, M.H. (2015). "Rapid identification of the *Leptosphaeria maculans* avirulence gene AvrLm2 using an intraspecific comparative genomics approach.", *Molecular Plant Pathology*, 16(7), pp. 699-709. doi: 10.1111/mpp.12228

Pawluczyk, M., Weiss, J., Links, M.G., Aranguren, M.E., Wilkinson, M.D., and Egea-Cortines, M. (2015). "Quantitative evaluation of bias in PCR amplification and next-generation sequencing derived from metabarcoding samples.", *Analytical and Bioanalytical Chemistry*, 407(7), pp. 1841-1848. doi: 10.1007/s00216-014-8435-y

2014

Hill, J., Chaban, B.L., Town, J.R., Links, M.G., and Dumonceaux, T.J. (2014). "Modified paired end rapid library preparation protocol for 454 GS Junior 8 kb library preparation using Covaris g-tubes and BluePippin electrophoresis.", . doi : 10.1038/protex.2014.028

Dumonceaux, T.J., Town, J.R., Links, M.G., and Boyetchko, S.M. (2014). "High-quality draft genome sequence of *Pseudomonas* sp. BRG100, a strain with bioherbicidal properties against *Setaria viridis* (green foxtail) and other pests of agricultural significance.", *Genome Announcements*, 2(5): e00995-14). doi: 10.1128/genomeA.00995-14

Kagale, S., Koh, C.S., Nixon, J.H., Bollina, V., Clarke, W.E., Tuteja, R., Spillane, C., Robinson, S.J., Links, M.G., Clarke, C., Higgins, E.E., Huebert, T., Sharpe, A.G., and Parkin, I.A.P. (2014). "The emerging biofuel crop *Camelina sativa* retains a highly undifferentiated hexaploid genome structure.", *Nature Communications*, 5(April: Article number 3706), pp. 1-11. doi : 10.1038/ncomms4706

Kagale, S., Robinson, S.J., Nixon, J.H., Xiao, R., Huebert, T., Condie, J., Kessler, D., Clarke, W.E., Edger, P.P., Links, M.G., Sharpe, A.G., and Parkin, I.A.P. (2014). "Polyploid evolution of the Brassicaceae during the Cenozoic era.", *Plant Cell*, 26(7), pp. 2777-2791. doi: 10.1105/tpc.114.126391

Town, J.R., Links, M.G., Fonstad, T.A., and Dumonceaux, T.J. (2014). "Molecular characterization of anaerobic digester microbial communities identifies microorganisms that correlate to reactor performance.", *Bioresource Technology*, 151, pp. 249-257. doi: 10.1016/j.biortech.2013.10.070

Links, M.G., Demeke, T., Gräfenhan, T., Hill, J.E., Hemmingsen, S.M., and Dumonceaux, T.J. (2014). "Simultaneous profiling of seed-associated bacteria and fungi reveals antagonistic interactions between microorganisms within a shared epiphytic microbiome on *Triticum* and *Brassica* seeds.", *New Phytologist*, 202(2), pp. 542-553. doi: 10.1111/nph.12693

2013

Wagner, E.C., Mahal, D., Albert, A., Chaban, B.L., Vicol, L., Links, M.G., Hill, J.E., and Money, D.M. (2013). "Metagenomic profiling demonstrates that HIV infection is associated with increased diversity and abundance of abnormal vaginal microbiota.", 40th Annual Meeting of Infectious Diseases Society for Obstetrics and Gynecology (IDSOG), Santa Ana Pueblo, NM., USA, August 8-10, 2013.

Links, M.G., Chaban, B.L., Hemmingsen, S.M., Muirhead, K., and Hill, J.E. (2013). "mPUMA: a computational approach to metagenomic analysis by de novo assembly of OTUs based on protein-coding barcode sequences.", *Microbiome*, 1(23). doi: 10.1186/2049-2618-1-23

Chaban, B.L., Albert, A., Links, M.G., Gardy, J., Tang, P., and Hill, J.E. (2013). "Characterization of the Upper Respiratory Tract Microbiomes of Patients with Pandemic H1N1 Influenza.", *PLoS ONE*, 8(7), pp. e69559. doi : 10.1371/journal.pone.0069559

Lazarovits, G., Turnbull, A.I., Haug, B., Links, M.G., Hill, J.E., and Hemmingsen, S.M. (2013). "Unraveling the rhizosphere using the cpn60 genomic marker and pyrosequencing.", in Frans J. de Bruijn (ed.) - *Molecular Microbial Ecology of the Rhizosphere*, John Wiley & Sons, Ltd, Chapter 108, pp. 1129-1136.

2012

Links, M.G., Dumonceaux, T.J., Hemmingsen, S.M., and Hill, J.E. (2012). "The Chaperonin-60 Universal Target Is a Barcode for Bacteria That Enables De Novo Assembly of Metagenomic Sequence Data.", *PLoS ONE*, 7(11, Article No. e49755). doi : 10.1371/journal.pone.0049755

Links, M.G. and Hill, J.E. (2012). "cpn60 universal target region as a barcode for bacteria.", Canadian Society of Microbiologists(CSM) 62nd Annual Conference/ Conférence annuelle de la Société Canadienne des Microbiologistes(SCM), Vancouver, BC, Canada, June 20-23, 2012.

Chaban, B.L., Links, M.G., and Hill, J.E. (2012). "A Molecular Enrichment Strategy Based on cpn60 for Detection of Epsilon-Proteobacteria in the Dog Fecal Microbiome.", *Microbial Ecology*, 63(2), pp. 348-357. doi : 10.1007/s00248-011-9931-7

Gruber, M.Y., Wu, L., Links, M.G., Gjetvåg, B., Durkin, J.M.H., Lewis, C.T., Sharpe, A.G., Lydiate, D.J., and Hegedus, D.D. (2012). "Analysis of expressed sequence tags in *Brassica napus* cotyledons damaged by crucifer flea beetle feeding.", *Genome*, 55(2), pp. 118-133. doi : 10.1139/G11-083

Desai, A.R., Links, M.G., Collins, S.A., Mansfield, G.S., Drew, M.D., Van Kessel, A.G., and Hill, J.E. (2012). "Effects of plant-based diets on the distal gut microbiome of rainbow trout (*Oncorhynchus mykiss*).", *Aquaculture*, 350-353, pp. 134-142. doi : 10.1016/j.aquaculture.2012.04.005

Pratt, D.L., Dumonceaux, T.J., Links, M.G., and Fonstad, T.A. (2012). "Influence of Mass Burial of Animal Carcasses on the Types and Quantities of Microorganisms within a Burial Site.", *Transactions of the ASABE*, 55(6), pp. 2195-2212.

2011

Schellenberg, J.J., Links, M.G., Hill, J.E., Dumonceaux, T.J., Kimani, J., Jaoko, W., Wachihi, C., Mungai, J.N., Peters, G.A., Tyler, S., Graham, M., Severini, A., Fowke, K.R., Ball, T.B., and Plummer, F.A. (2011). "Molecular definition of vaginal microbiota in East African commercial sex workers.", *Applied and Environmental Microbiology*, 77(12), pp. 4066-4074. doi : 10.1128/AEM.02943-10

Schellenberg, J.J., Links, M.G., Hill, J.E., Hemmingsen, S.M., Peters, G.A., and Dumonceaux, T.J. (2011). "Pyrosequencing of chaperonin-60 (cpn60) amplicons as a means of determining microbial community composition.", *Methods in Molecular Biology* (Clifton, N.J.), 733(Part 3), pp. 143-158. doi : 10.1007/978-1-61779-089-8\_10

Wang, X.W., Wang, H., Wang, J., Sun, R., Wu, J.J., Liu, S.Y., Bai, Y., Mun, J.H., Bancroft, I., Cheng, F., Huang, S.W., Li, X.X., Hua, W., Wang, J.Y., Wang, X.Y., Freeling, M., Pires, J.C., Paterson, A.H., Chalhou, B.A., Wang, B., Hayward, A., Sharpe, A.G., Park, B.S., Weisshaar, B., Liu, B.H., Li, B., Liu, B., Tong, C., Song, C., Duran, C., Peng, C., Geng, C., Koh, C., Lin, C., Edwards, D.J., Mu, D., Shen, D., Soumpourou, E., Li, F., Fraser, F.C., Conant, G.C., Lassalle, G., King, G.J., Bonnama, G.B., Tang, H., Wang, H., Belcram, H., Zhou, H., Hirakawa, H., Abe, H., Guo, H., Wang, H., Jin, H., Parkin, I.A.P., Batley, J., Kim, J.S., Just, J., Li, J.W., Xu, J., Deng, J., Kim, J.A., Li, J., Yu, J., Meng, J., Wang, J., Min, J., Poulain, J., Hatakeyama, K., Wu, K., Wang, L., Fang, L., Trick, M., Links, M.G., and others (2011). "The genome of the mesopolyploid crop species *Brassica rapa*.", *Nature Genetics*, 43(10), pp. 1035-1040. doi : 10.1038/ng.919

Links, M.G., Holub, E.B., Jiang, R.H.Y., Sharpe, A.G., Hegedus, D.D., Beynon, E., Sillito, D., Clarke, W.E., Uzuhashi, S., and Borhan, M.H. (2011). "de novo sequence assembly of *Albugo candida* reveals a small genome relative to other biotrophic oomycetes.", *BMC Genomics*, 12(503). doi : 10.1186/1471-2164-12-503

Chaban, B.L., Links, M.G., and Hill, J.E. (2011). "Characterization of the intestinal microbiota of healthy and diarrheic pet dogs using cpn60 with and without molecular enrichment for Epsilon-proteobacteria.", *International Human Microbiome Congress*, Vancouver, BC, Canada, 2011.

Paramel, J.T., Links, M.G., Schellenberg, J.J., Hemmingsen, S.M., van Schalkwyk, J., Money, D.M., and Hill, J.E. (2011). "Identification and relevance of subtypes of *Gardnerella vaginalis* defined by cpn60 universal target sequencing.",

Hill, J.E., Links, M.G., Chaban, B.L., Paramel, J.T., Fernando, C., Hemmingsen, S.M., Reid, G., van Schalkwyk, J., and Money, D.M. (2011). "High resolution profiling of the vaginal microbiome of healthy, reproductive aged Canadian women.", 38th Annual Scientific Meeting of the Infectious Diseases Society for Obstetrics and Gynecology, Chicago, IL, USA, 2011.

Links, M.G., Dumonceaux, T.J., and Hill, J.E. (2011). "cpn60, a target for metagenomic profiling of complex microbial communities.", *International Human Microbiome Congress*, Vancouver, BC, Canada, 2011.

Money, D.M., Hemmingsen, S.M., Hill, J.E., Reid, G., van Schalkwyk, J., Links, M.G., Paramel, J.T., Wagner, E.C., and Bourque, D. (2011). "Metagenomic characterization of the core vaginal microbiome in healthy women using chaperonin-60 based methods.", *International Human Microbiome Congress*, Vancouver, BC, Canada, 2011.

Verbeke, T.J., Sparling, R., Hill, J.E., Links, M.G., Levin, D.B., and Dumonceaux, T.J. (2011). "Predicting relatedness of bacterial genomes using the chaperonin-60 universal target (cpn60 UT): application to *Thermoanaerobacter* species.", *Systematic and Applied Microbiology*, 34(3), pp. 171-179. doi : 10.1016/j.syapm.2010.11.019

Paramel, J.T., Links, M.G., Money, D.M., Hemmingsen, S.M., van Schalkwyk, J., and Hill, J.E. (2011). "Distribution of cpn60-defined subtypes of *Gardnerella vaginalis* in vaginal microbiomes of women with and without bacterial vaginosis.", *International Human Microbiome Congress*, Vancouver, BC, Canada, 2011.

## **Other Science Related Publications:**

2015

Lévesque, C.A., Chen, W., Hambleton, S., Seifert, K.A., Adam, Z., Bilodeau, G.J., Cullis, J., Demeke, T., Dumonceaux, T.J., Gagnon, M., Graefenhan, T., Kawchuk, L.M., Khan, I.U.H., Lewis, C.T., Li, X., Links, M.G., Mimeo, B., Rott, M., Tambong, J.T., Topp, E., Yu, Q., and Yuan, K. (2015). Project CRTI 09-462RD - Next generation sequencing, direct detection and genotyping of fungi, bacteria and nematodes in the agri-food system. DRDC-RDDC-2015-C148. Final Close-Out Report. (Report)

2013

Town, J.R., Links, M.G., Fonstad, T.A., and Dumonceaux, T.J. (2013). "Molecular characterization of digestate identifies microorganisms that correlate to reactor performance.", CSBE/SCGAB 2013 Annual Conference, University of Saskatchewan, Saskatoon, SK, Canada, July 7-10, 2013, Presentation, No. CSBE13-128.

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## Research Publications:

2015

Du, Y., Chen, F., Zhang, Y., Rempel, C., Thompson, M.R., and Liu, Q. (2015). "Potato protein isolate-based biopolymers.", *Journal of Applied Polymer Science*, 132(44: Article number 42723). doi : 10.1002/app.42723

Chen, P.X., Dupuis, J.H., Marcone, M.F., Pauls, K.P., Liu, R., Liu, Q., Tang, Y., Zhang, B., and Tsao, R. (2015). "Physicochemical properties and in vitro digestibility of cooked regular- and non-darkening cranberry beans (*Phaseolus vulgaris* L.) and their effects on bioaccessibility, phenolic composition and antioxidant activity.", *Journal of Agricultural and Food Chemistry*, 63(48), pp. 10448-10458. doi : 10.1021/acs.jafc.5b04005

Zhang, B., Deng, Z.-Y., Ramdath, D.D., Tang, Y., Chen, P., Liu, R., Liu, Q., Tsao, R., and Tsao, R. (2015). "Phenolic profiles of 20 Canadian lentil cultivars and their contribution to antioxidant activity and inhibitory effects on  $\alpha$ -glucosidase and pancreatic lipase.", *Food Chemistry*, 172, pp. 862-872. doi : 10.1016/j.foodchem.2014.09.144

2014

Zhang, Y., Rempel, C., and Liu, Q. (2014). "Thermoplastic Starch Processing and Characteristics-A Review.", *Critical Reviews in Food Science and Nutrition*, 54(10), pp. 1353-1370. doi : 10.1080/10408398.2011.636156

Chung, H.-J., Li, X.-Q., Kalinga, D.N., Lim, S.-T., Yada, R.Y., and Liu, Q. (2014). "Physicochemical properties of dry matter and isolated starch from potatoes grown in different locations in Canada.", *Food Research International*, 57, pp. 89-94. doi : 10.1016/j.foodres.2014.01.034

Vamadevan, V. and Liu, Q. (2014). "Starch, Starch Architecture and Structure.", .

Dupuis, J.H., Liu, Q., and Yada, R.Y. (2014). "Methodologies for Increasing the Resistant Starch of Food Starches: A Review.", *Comprehensive Reviews in Food Science and Food Safety*, 13(6), pp. 1219-1234. doi : 10.1111/1541-4337.12104

Zhang, B., Deng, Z.-Y., Tang, Y., Chen, P., Liu, R., Ramdath, D.D., Liu, Q., Hernandez, M., and Tsao, R. (2014). "Fatty acid, carotenoid and tocopherol compositions of 20 Canadian lentil cultivars and synergistic contribution to antioxidant activities.", *Food Chemistry*, 161, pp. 296-304. doi : 10.1016/j.foodchem.2014.04.014

Kalinga, D.N., Bertoft, E., Tetlow, I.J., Liu, Q., Yada, R.Y., and Seetharaman, K. (2014). "Evolution of amylopectin structure in developing wheat endosperm starch Corresponding.", *Carbohydrate Polymers*, 112, pp. 316-324.

Maaran, S., Hoover, R., Donner, E.A., and Liu, Q. (2014). "Composition, structure, morphology and physicochemical properties of lablab bean, navy bean, rice bean, tepary bean and velvet bean starches.", *Food Chemistry*, 152, pp. 491-499. doi : 10.1016/j.foodchem.2013.12.014

Zhang, B., Deng, Z.-Y., Tang, Y., Chen, P.X., Liu, R., Ramdath, D.D., Liu, Q., Hernandez, M., and Tsao, R. (2014). "Effect of domestic cooking on carotenoids, tocopherols, fatty acids, phenolics, and antioxidant activities of lentils (*Lens culinaris*).", *Journal of Agricultural and Food Chemistry*, 62(52), pp. 12585-12594. doi : 10.1021/jf504181r

2013

Kalinga, D.N., Waduge, R., Liu, Q., Yada, R.Y., Bertoft, E., and Seetharaman, K. (2013). "On the differences in the granular architecture and starch structure between pericarp and endosperm wheat starches.", *Starch*. doi : 10.1002/star.201200240

Zhang, Y., Liu, Q., Hrymak, A.N., and Han, J.H. (2013). "Characterization of Extruded Thermoplastic Starch Reinforced by Montmorillonite Nanoclay.", *Journal of Polymers and the Environment*, 21(1), pp. 122-131. doi : 10.1007/s10924-012-0528-0

He, G.J., Liu, Q., and Thompson, M.R. (2013). "Characterization of structure and properties of thermoplastic potato starch film surface cross-linked by UV irradiation.", *Starch*, 65(3-4), pp. 304-311. doi : 10.1002/star.201200097



2012

Pinhero, R.G., Pazhekattu, R., Whitfield, K., Marangoni, A.G., Liu, Q., and Yada, R.Y. (2012). "Effect of genetic modification and storage on the physico-chemical properties of potato dry matter and acrylamide content of potato chips.", *Food Research International*, 49(1), pp. 7-14. doi : 10.1016/j.foodres.2012.07.013

Lu, Z.-H., Donner, E.A., Yada, R.Y., and Liu, Q. (2012). "The synergistic effects of amylose and phosphorus on rheological, thermal and nutritional properties of potato starch and gel.", *Food Chemistry*, 133(4), pp. 1214-1221. doi : 10.1016/j.foodchem.2011.07.029

Liu, F., Ahmed, Z., Lee, E.A., Donner, E.A., Liu, Q., Ahmed, R., Morell, M.K., Emes, M.J., and Tetlow, I.J. (2012). "Allelic variants of the amylose extender mutation of maize demonstrate phenotypic variation in starch structure resulting from modified protein-protein interactions.", *Journal of Experimental Botany*, 63(3), pp. 1167-1183. doi : 10.1093/jxb/err341

Lu, Z.-H., Donner, E.A., Yada, R.Y., and Liu, Q. (2012). "Rheological and structural properties of starches from  $\gamma$ -irradiated and stored potatoes.", *Carbohydrate Polymers*, 87(1), pp. 69-75. doi : 10.1016/j.carbpol.2011.07.010

Lu, Z.-H., Donner, E.A., Yada, R.Y., and Liu, Q. (2012). "Impact of  $\gamma$ -irradiation, CIPC treatment, and storage conditions on physicochemical and nutritional properties of potato starches.", *Food Chemistry*, 133(4), pp. 1188-1195. doi : 10.1016/j.foodchem.2011.07.028

Duan, D.X., Donner, E.A., Liu, Q., Smith, D.C., and Ravenelle, F. (2012). "Potentiometric titration for determination of amylose content of starch – A comparison with colorimetric method.", *Food Chemistry*, 130(4), pp. 1142-1145. doi : 10.1016/j.foodchem.2011.07.138

Zhang, Y., Yuan, X., Liu, Q., and Hrymak, A.N. (2012). "The Effect of Polymeric Chain Extenders on Physical Properties of Thermoplastic Starch and Polylactic Acid Blends.", *Journal of Polymers and the Environment*, 20(2), pp. 315-325. doi : 10.1007/s10924-011-0368-3

Chung, H.-J. and Liu, Q. (2012). "Physicochemical properties and in vitro digestibility of flour and starch from pea (*Pisum sativum* L.) cultivars.", *International Journal of Biological Macromolecules*, 50(1), pp. 131-137. doi : 10.1016/j.ijbiomac.2011.10.004

Oza, H., Thompson, M.R., Hrymak, A.N., and Liu, Q. (2012). "Influence of di-functional versus multi-functional chain extenders on the foamability of a potato starch-based biopolymer.", *Starch*, 64(12), pp. 944-954. doi : 10.5740/jaoacint.CS2012-04

Zhang, Y., Yuan, X., Thompson, M.R., and Liu, Q. (2012). "Characterization of Extruded Film Based on Thermoplastic Potato Flour.", *Journal of Applied Polymer Science*, 125(4), pp. 3250-3258. doi : 10.1002/app.36505

Fan, M.Z., Archbold, T., Lackeyram, D., Liu, Q., Mine, Y., and Paliyath, G. (2012). "Consumption of guar gum and retrograded high-amylose corn resistant starch increases IL-10 abundance without affecting pro-inflammatory cytokines in the colon of pigs fed a high-fat diet.", *Journal of Animal Science*, 90(Suppl. 4), pp. 278-280. doi : 10.2527/jas.54006

Wang, G.P., Thompson, M.R., and Liu, Q. (2012). "Controlling the moisture absorption capacity in a fiber-reinforced thermoplastic starch using sodium trimetaphosphate.", *Industrial Crops and Products*, 36(1), pp. 299-303. doi : 10.1016/j.indcrop.2011.10.015

Shalviri, A., Raval, G., Prasad Prasad, P., Chan, C., Liu, Q., Heerklotz, H., and Rauth, A.M. (2012). "pH-Dependent doxorubicin release from terpolymer of starch, polymethacrylic acid and polysorbate 80 nanoparticles for overcoming multi-drug resistance in human breast cancer cells.", *European Journal of Pharmaceutics and Biopharmaceutics*, 82(3), pp. 587-597. doi : 10.1016/j.ejpb.2012.09.001

Chen, D., Lawton, D., Thompson, M.R., and Liu, Q. (2012). "Biocomposites reinforced with cellulose nanocrystals derived from potato peel waste.", *Carbohydrate Polymers*, 90(1), pp. 709-716. doi : 10.1016/j.carbpol.2012.06.002

Wang, G.P., Thompson, M.R., and Liu, Q. (2012). "In situ kinetic study of solid-state crosslinking of potato starch.", *Starch*, 64(1), pp. 55-63. doi : 10.1002/star.201100097

2011

Ambigaipalan, P., Hoover, R., Donner, E.A., Liu, Q., Jaiswal, S., Chibbar, R.N., Nantanga, K.K.M., and Seetharaman, K. (2011). "Structure of faba bean, black bean and pinto bean starches at different levels of granule organization and their physicochemical properties.", *Food Research International*, 49(9), pp. 2962-2974. doi : 10.1016/j.foodres.2011.07.006

Zhang, J., Murphy, A.M., Liu, G.S., Bizimungu, B., Liu, Q., Leclerc, Y., Xing, T., and Li, X.-Q. (2011). "Starch granule size variation and relationship with tuber dry matter content in heritage potato varieties.", *Scientia Horticulturae*, 130(3), pp. 503-509. doi : 10.1016/j.scienta.2011.08.006

Lu, Z.-H., Yada, R.Y., Liu, Q., Bizimungu, B., Murphy, A.M., De Koeyer, D.L., and Li, X.-Q., Pinhero, R.G. (2011). "Correlation of physicochemical and nutritional properties of dry matter and starch in potatoes grown in different locations food chemistry." , *Food Chemistry*, 126(3), pp. 1246-1253. doi : 10.1016/j.foodchem.2010.12.037

Kinnear, T., Wolever, T.M.S., Murphy, A.M., Sullivan, J.A., Liu, Q., and Bizimungu, B. (2011). "Effect of preparation method on the glycaemic index of novel potato clones." , *Food & Function*, 2(8), pp. 438-444. doi : 10.1039/C1FO10042D

Zhang, Y. Thompson, M.R., Liu, Q., Hymak, A.N. (2011). "The effect of pea fiber and potato pulp on thermal property, surface tension, and hydrophilicity of extruded starch thermoplastics." , *Carbohydrate Polymers*, 86(2), pp. 700-707. doi : 10.1016/j.carbpol.2011.05.009

Varatharajan, V., Hoover, R., Jihong, L., Vasanthan, T., Nantanga, K.K.M., Seetharaman, K., Liu, Q., Donner, E.A., Jaiswal, S., and Chibbar, R.N. (2011). "Impact of structural changes due to heat-moisture treatment at different temperatures on the susceptibility of normal and waxy potato starches towards hydrolysis by porcine pancreatic alpha amylase." , *Food Research International*, 44(9), pp. 2594-2606. doi: 10.1016/j.foodres.2011.04.050

Pinhero, R.G., Pazhekattu, R., Marangoni, A.G., Liu, Q., and Yada, R.Y. (2011). "Alleviation of low temperature sweetening in potato by expressing Arabidopsis pyruvate decarboxylase gene and stress-inducible rd29A: A preliminary study." , *Physiology and Molecular Biology of Plants*, 17(2), pp. 105-114. doi : 10.1007/s12298-011-0056-8

Chung, H.-J., Liu, Q., Lee, L., and Wei, D. (2011). "Relationship between the structure, physicochemical properties and in vitro digestibility of rice starches with different amylose contents." , *Food Hydrocolloids*, 25(5), pp. 968-975. doi : 10.1016/j.foodhyd.2010.09.011

Zhang, J., Xing, T., Liu, G.S., Liu, Q., Bizimungu, B., Leclerc, Y., and Li, X.-Q. (2011). "Starch granule sizes of surface and inside tissues of potato strips after deep-freezing storage." , *The Americas Journal of Plant Science and Biotechnology*, 5(Spec. Issue 2), pp. 129-131.

## **Other Science Related Publications:**

2014

Maaran, S., Hoover, R., Liu, Q., and Donner, E.A. (2014). "How is pulse starch digestibility influenced by their molecular and supramolecular structure?" , *Canadian Nutrition Society: Scientific Abstracts from the 5th Annual Scientific Meeting*. (Abstract)

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## Research Publications:

2016

Holland, T.C., Bowen, P.A., Bogdanoff, C.P., Lowery, D.T., Shaposhnikova, O., Smith, C.A.S., and Hart, M.M. (2016). "Evaluating the diversity of soil microbial communities in vineyards relative to adjacent native ecosystems.", *Applied Soil Ecology*, 100, pp. 91-103. doi : 10.1016/j.apsoil.2015.12.001

2015

Lowery, D.T., Vickers, P.M., Bittner, L.A., Stobbs, L.W., and Footitt, R.G. (2015). "Aphid transmission of the Ontario isolate of plum pox virus.", *Journal of Economic Entomology*, 108(5), pp. 2168-2173. doi : 10.1093/jeetov172

Stobbs, L.W., Lowery, D.T., Samara, R., Greig, N., Vickers, P.M., and Bittner, L.A. (2015). "Development of a detached leaf procedure for the evaluation of seasonal susceptibility of peach to Plum pox virus infection by the green peach aphid (*Myzus persicae* (Sulzer)).", *Canadian Journal of Plant Pathology*, 37(2), pp. 230-236. doi : 10.1080/07060661.2015.1035753

2014

Saguez, J., Olivier, C.Y., Hamilton, A., Lowery, D.T., Stobbs, L.W., Lasnier, J., Galka, B., Chen, X., Mauffette, Y., and Vincent, C. (2014). "Diversity and abundance of leafhoppers in Canadian vineyards.", *Journal of Insect Science*, 14(1: Article 73), pp. 20 pages. doi : 10.1093/jis/14.1.73

Boiteau, G., Lowery, D.T., and Boisclair, J. (2014). "Insect Pest Management in Organic Cropping Systems Based on Ecological Principles", in Martin, R.C. and MacRae, R. (eds) - *Managing Energy, Nutrients, and Pests in Organic Field Crops*, CRC Press, Chapter 8, pp. 175-214.

Stobbs, L.W., Lowery, D.T., Samara, R., Vickers, P.M., Bittner, L.A., and Greig, N. (2014). "Influence of horticultural oil (Superior-70) on Plum pox virus (PPV) detection in treated and untreated PPV-infected peach (*Prunus persicae* L.) leaves.", *Canadian Journal of Plant Pathology*, 36(4), pp. 523-528. doi : 10.1080/07060661.2014.954624

Olivier, C.Y., Saguez, J., Stobbs, L.W., Lowery, D.T., Galka, B., Whybourne, K.J., Bittner, L.A., Chen, X., and Vincent, C. (2014). "Occurrence of phytoplasmas in leafhoppers and cultivated grapevines in Canada.", *Agriculture, Ecosystems and Environment*, 195, pp. 91-97. doi : 10.1016/j.agee.2014.05.008

2013

Smirle, M.J., Zurowski, C.L., Lowery, D.T., and Mostafa, A.M. (2013). "Insecticide susceptibility of three species of cutworm (Lepidoptera: Noctuidae) pests of grapes.", *Journal of Economic Entomology*, 106(5), pp. 2135-2140. doi : 10.1603/EC13110

2011

Mostafa, A.M., Lowery, D.T., Jensen, L.B.M., and Deglow, E.K. (2011). "Host Plant Suitability and Feeding Preferences of the Grapevine Pest *Abagrotis orbis* (Lepidoptera: Noctuidae).", *Environmental Entomology*, 40(6), pp. 1458-1464. doi : 10.1603/EN11049

## Other Science Related Publications:

2015

Lowery, D.T. (2015). "Insect and Mite Pests of Grape. (Available on the BC Wine Grape Council website at [www.bcwgc.org](http://www.bcwgc.org))", - *Best Practices Guide for Grapes for British Columbia Growers*, British Columbia Ministry of Agriculture and Lands and British Columbia Wine Grape Council, Chapter 5.3, pp. 27 pages.

2014

Lowery, D.T., Weis, M.M., DeLury, N.C., and Buchler, H. (2014). "Insect and Mite Pests of Grapes in British Columbia. (6 pages, 38 colour plates with text). (Available at [www.bcwgcc.org](http://www.bcwgcc.org)).", published by British Columbia Wine Grape Council, Peachland, BC, Canada.

2012

Olivier, C.Y., Saguez, J., Galka, B., Stobbs, L.W., Lowery, D.T., and Vincent, C. (2012). "Prevalence of phytoplasma diseases in Canadian vineyards.", 24th International Congress of Entomology (ICE 2012) and International Organization for Biological Control (IOBC) Global Symposium, Daegu, South Korea, August 19-25, 2012, PS4TH066. (Poster)

Lowery, D.T., Stobbs, L.W., Vickers, P.M., Bittner, L.A., and Greig, N. (2012). "Factors Affecting the Detection, Transmission and Management of Plum Pox Virus.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012. (Presentation)

Lowery, D.T., Johnson, T.S., Cossentine, J.E., and Cory, J. (2012). "Cool caterpillars: Low temperature biological control of a climbing cutworm.", Entomological Society of America (ESA) 60th Annual Meeting, Knoxville Convention Centre, Knoxville, TN, USA, November 11-14, 2012, VP34. (Poster)

2011

Lowery, D.T. (2011). "Benefits of Native Vegetation for BC Vineyards.", Ecosystem Management for Sustainable Viticulture, Environmental Farm Plan and Okanagan Similkameen Conservation Alliance, Penticton, BC, Canada, February 16, 2011. (Presentation)

Lowery, D.T. (2011). "Developing a Sustainable Pest Management Program for BC Grapes.", Cool Climate and Oenology Centre Speakers' Series, Brock University, St. Catharines, ON, Canada, April 5, 2011. (Presentation)

Lowery, D.T. (2011). "Managing Cutworm Pests of Grapes: from the Ground up.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011.

Johnson, S., Lowery, D.T., Cory, J.S., and Cossentine, J.E. (2011). "Mycosis at cool temperatures: the susceptibility of the temperate grape cutworm *Abagrotis orbis* to entomopathogenic fungi.", Entomological Society of British Columbia 2011 Annual General Meeting, Abbotsford, BC, Canada, October 14, 2011.

Johnson, S., Lowery, D.T., Cory, J.S., and Cossentine, J.E. (2011). "Mycosis at cool temperatures: the susceptibility of the temperate grape cutworm *Abagrotis orbis* to entomopathogenic fungi.", 44th Annual Meeting of the Society for Invertebrate Pathology, Halifax, NS, Canada, August 7-11, 2011. (Poster)

Erlanson, M.A., Maghodia, A.B., Cossentine, J.E., Lowery, D.T., and Theilmann, D.A. (2011). "Genome structure of a nucleopolyhedrovirus infecting *Abagrotis reedi*, a cutworm pest of vineyards.", 44th Annual Meeting of the Society for Invertebrate Pathology, Halifax, NS, Canada, August 7-11, 2011. (Poster)

Smirle, M.J., Zurowski, C.L., Lowery, D.T., and Mostafa, A.M. (2011). "Response to Insecticides of Cutworm Pests of Grapes.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011.

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## Research Publications:

2015

Zheng, K., Jiang, Q.-T., Wei, L., Zhang, X., Ma, J., Chen, G.-Y., Wei, Y.-M., Jennifer, M.F., Lu, Z.-X., and Zheng, Y.-L. (2015). "Characterization of starch morphology, composition, physicochemical properties and gene expressions in oat.", *Journal of Integrative Agriculture*, 14(1), pp. 20-28. doi: 10.1016/S2095-3119(14)60765-6

Wei, L., Wang, Q., Zhang, L., Ma, J., Wang, J.-R., Qi, P.-F., Li, W., Chen, G.-Y., Lan, X.-J., Deng, M., Lu, Z.-X., Wei, Y.-M., Zheng, Y.-L., and Jiang, Q.-T. (2015). "Genetic analyses of Glu-1Ssh in wheat/Aegilops sharonensis hybrid progenies and development of alien HMW-GSs gene-specific markers.", *Molecular Breeding*, 35(12), pp. 1-10. doi: 10.1007/s11032-015-0416-0

Zheng, K., Jiang, Q.-T., Zhang, X., Lan, X.-J., Dai, S.-F., Wei, Y.-M., Laroche, A., Lu, Z.-X., and Zheng, Y.-L. (2015). "Differences in starch composition and physicochemical properties are influenced by granule types in wheat and its relatives.", *Pakistan Journal of Botany*, 46(6), pp. 2239-2248.

Zhao, S., Jiang, Q.-T., Ma, J., Wang, J.-R., Liu, Y.-X., Chen, G.-Y., Qi, P.-F., Pu, Z.-E., Lu, Z.-X., Zheng, Y.-L., and Wei, Y.-M. (2015). "Characterization and expression analysis of WOX2 homeodomain transcription factor in Aegilops tauschii.", *Genetics and Molecular Biology*, 38(1), pp. 79-85. doi: 10.1590/S1415-475738138120140192

2014

He, J.-F., Zhao, X., Laroche, A., Lu, Z.-X., Liu, H., and Li, Z.Q. (2014). "Genotyping-by-sequencing (GBS), An ultimate marker-assisted selection (MAS) tool to accelerate plant breeding.", *Frontiers in Plant Science*, 5(September: Article 484), pp. 1-8. doi: 10.3389/fpls.2014.00484

Wang, X.M., Gaudet, D.A., Liu, W., Frick, M., Puchalski, B., Lu, Z.-X., Leggett, F.L., and Laroche, A. (2014). "Defence responses including hypersensitive cell death, oxidative burst and defence gene expression in Moro wheat inoculated with *Puccinia striiformis*.", *Canadian Journal of Plant Pathology*, 36(2), pp. 202-215. doi: 10.1080/07060661.2014.920919

Jiang, Q.-T., Zhao, Q.-Z., Yang, Q., Ma, J., Zhang, X., Wang, C.-S., Wang, X.-Y., Cao, X., Lu, Z.-X., Wei, Y.-M., and Zheng, Y.-L. (2014). "Amphidiploids between tetraploid wheat and Aegilops sharonensis Eig exhibit variations in high-molecular-weight glutenin subunits.", *Genetic Resources and Crop Evolution*, 61(2), pp. 299-305. doi: 10.1007/s10722-013-0072-3

Ma, J., Jiang, Q.-T., Zhang, X., Wei, L., Chen, G.-Y., Qi, P.-F., Wei, Y.-M., Lan, X.-J., Lu, Z.-X., and Zheng, Y.-L. (2014). "Effect of lipids on starch determination through various methods.", *Recognized Scientific Journal*, 51(3), pp. 749-755.

Zhao, Q.-Z., Jiang, Q.-T., Yang, Q., Ma, J., Wang, J.-R., Chen, G.-Y., Liu, Y.-X., Lu, Z.-X., Wei, Y.-M., and Zheng, Y.-L. (2014). "Characterization of intergeneric hybrid between common wheat and aegilops sharonensis (Eig) and transfer of alien high molecular weight glutenin subunits into wheat.", *Cereal Research Communications*, 42(4), pp. 640-647. doi: 10.1556/CRC.2014.0001

Zhao, S., Jiang, Q.-T., Ma, J., Zhang, X., Zhao, Q.-Z., Wang, X.-Y., Wang, C.-S., Cao, X., Lu, Z.-X., Zheng, Y.-L., and Wei, Y.-M. (2014). "Characterization and expression analysis of WOX5 genes from wheat and its relatives.", *Gene*, 537(1), pp. 63-69. doi: 10.1016/j.gene.2013.12.022

Hou, H., Atlhan, N., and Lu, Z.-X. (2014). "New biotechnology enhances the application of cisgenesis in plant breeding.", *Frontiers in Plant Science*, 5(AUG: Article 389), pp. 1-5. doi: 10.3389/fpls.2014.00389

2013

Zheng, K., Xu, J., Jiang, Q., Laroche, A., Wei, Y.-M., Zheng, Y.-L., and Lu, Z.-X. (2013). "Isolation and characterization of an isoamylase gene from rye.", *The Crop Journal*, 1(2), pp. 127-133. doi: 10.1016/j.cj.2013.08.001

Ma, J., Jiang, Q.-T., Zhang, X., Lan, X.-J., Pu, Z.-E., Wei, Y.-M., Liu, C., Lu, Z.-X., and Zheng, Y.-L. (2013). "Structure and expression of barley starch phosphorylase genes.", *Planta*, 238(6), pp. 1081-1093. doi: 10.1007/s00425-013-1953-6

2012

Jiang, Q.-T., Ma, J., Zhao, S., Zhao, Q.-Z., Lan, X.-J., Dai, S.-F., Lu, Z.-X., Zheng, Y.-L., and Wei, Y.-M. (2012). "Characterization of HMW-GSs and their gene inactivation in tetraploid wheat.", *Genetica*, 140(7-9), pp. 325-335. doi : 10.1007/s10709-012-9683-4

He, J.-F., Goyal, R.K., Laroche, A., Zhao, M.L., and Lu, Z.-X. (2012). "Water stress during grain development affects starch synthesis, composition and physicochemical properties in triticale.", *Journal of Cereal Science*, 56(3), pp. 552-560. doi : 10.1016/j.jcs.2012.07.011

Diedhiou, C., Gaudet, D.A., Liang, Y., Sun, J.-Y., Lu, Z.-X., Eudes, F., and Laroche, A. (2012). "Carbohydrate profiling in seeds and seedlings of transgenic triticale modified in the expression of sucrose:sucrose-1-fructosyltransferase (1-SST) and sucrose:fructan-6-fructosyltransferase (6-SFT).", *Journal of Bioscience and Bioengineering*, 114(4), pp. 371-378. doi : 10.1016/j.jbiosc.2012.05.008

Li, C.-Y., Li, C., Lu, Z.-X., Li, W.-H., and Cao, L.-P. (2012). "Morphological changes of starch granules during grain filling and seed germination in wheat.", *Starch*, 64(2), pp. 166-170. doi : 10.1002/star.201100093

2011

Li, C.-Y., Li, W.-H., Lee, B.L., Laroche, A., Cao, L.-P., and Lu, Z.-X. (2011). "Morphological characterization of triticale starch granules during endosperm development and seed germination.", *Canadian Journal of Plant Science*, 91(1), pp. 57-67. doi : 10.4141/CJPS10039

Jiang, Q.-T., Liu, T., Ma, J., Wei, Y.-M., Lu, Z.-X., Lan, X.-J., Dai, S.-F., and Zheng, Y.-L. (2011). "Characterization of barley Prp1 gene and its expression during seed development and under abiotic stress.", *Genetica*, 139(10), pp. 1283-1292. doi : 10.1007/s10709-012-9630-4

### **Other Science Related Publications:**

2012

Liu, X.-L., Jin, L., Xu, Z.J., Hao, Y.-Q., McAllister, T.A., Lu, Z.-X., and Yang, W.-Z. (2012). "Condensed tannin of purple prairie clover inhibited anti-*Escherichia coli* activity through disrupting the outer and inner membrane.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

# Lukow, Odean M., Ph.D.

Research Scientist

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## Research Publications:

2014

Smith, M.A.H., Wise, I.L., Fox, S.L., Vera, C.L., DePauw, R.M., and Lukow, O.M. (2014). "Seed damage and sources of yield loss by sitodiplosis mosellana (Diptera: Cecidomyiidae) in resistant wheat varietal blends relative to susceptible wheat cultivars in western Canada.", *The Canadian Entomologist*, 146(3), pp. 335-346. doi: 10.4039/tce.2013.77

Humphreys, D.G., Townley-Smith, T.F., Lukow, O.M., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Tkachuk, V.L., Brown, P.D., and Fox, S.L. (2014). "Peace hard red spring wheat.", *Canadian Journal of Plant Science*, 94(7), pp. 1297-1302. doi: 10.4141/CJPS2013-286

2013

Fox, S.L., Wise, I.L., Smith, M.A.H., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Fernandez, M.R., Despina, T., Lukow, O.M., and Niziol, D. (2013). "Shaw hard red spring wheat.", *Canadian Journal of Plant Science*, 93(2), pp. 299-305. doi: 10.4141/cjps2012-137

Vera, C.L., Fox, S.L., DePauw, R.M., Smith, M.A.H., Wise, I.L., Clarke, F.R., Procnier, J.D., and Lukow, O.M. (2013). "Relative performance of resistant wheat varietal blends and susceptible wheat cultivars exposed to wheat midge, *Sitodiplosis mosellana* (Géhin).", *Canadian Journal of Plant Science*, 93(1), pp. 59-66. doi: 10.4141/cjps2012-019

Adams, K., Lukow, O.M., Suchy, J., DePauw, R.M., and Humphreys, D.G. (2013). "Analysis of kernel colour, flour and whole wheat end-product quality of commercially grown Canada hard white spring wheat, 'Snowbird'.", *Journal of Agricultural Science*, 5(1), pp. 187-200. doi: 10.5539/jas.v5n1p187

Humphreys, D.G., Townley-Smith, T.F., Czamecki, E.M., Lukow, O.M., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Brown, P.D., and Fox, S.L. (2013). "Snowstar hard white spring wheat.", *Canadian Journal of Plant Science*, 93(1), pp. 143-148. doi: 10.4141/cjps2012-146

Lukow, O.M., Adams, K., Suchy, J., DePauw, R.M., and Humphreys, D.G. (2013). "The effect of the environment on the grain colour and quality of commercially grown Canada hard white spring wheat, *Triticum aestivum* L. 'Snowbird'.", *Canadian Journal of Plant Science*, 93(1), pp. 1-11. doi: 10.4141/cjps2012-102

2012

Fox, S.L., Lamb, R.J., McKenzie, R.I.H., Wise, I.L., Smith, M.A.H., Humphreys, D.G., Brown, P.D., Townley-Smith, T.F., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Fernandez, M.R., Despina, T., Lukow, O.M., and Niziol, D. (2012). "Registration of 'Fieldstar' Hard Red Spring Wheat.", *Journal of Plant Registrations*, 6(2), pp. 161-168. doi: 10.3198/jpr2011.06.0329crc

Gao, X., Lukow, O.M., and Grant, C.A. (2012). "Grain concentrations of protein, iron and zinc and bread making quality in spring wheat as affected by seeding date and nitrogen fertilizer management.", *Journal of Geochemical Exploration*, 121, pp. 36-44. doi: 10.1016/j.gexplo.2012.02.005

Watts, B., Ryland, D., Malcolmson, L.J., Ambalambal, S., Adams, K., and Lukow, O.M. (2012). "Flavor properties of pan and pita breads made from red and white hard spring wheats.", *Journal of Food Quality*, 35(1), pp. 60-68. doi: 10.1111/j.1745-4557.2011.00426.x

Prashar, S., Wolfe, D., King, M.C., Vera, C.L., Fox, S.L., DePauw, R.M., Chen, G., Smith, M.A.H., Wise, I.L., Clarke, F.R., Lukow, O.M., and Procnier, J.D. (2012). "Stability of midge tolerant varietal blends over 3-4 successive generations: High-speed / high-throughput, SNP-DNA fingerprinting in grain seeds.", *Journal of Plant Biochemistry and Biotechnology*, 3(2), pp. 1-10.

2011

Lukow, O.M., Suchy, J., Adams, K., Brown, P.D., DePauw, R.M., Fox, S.L., Humphreys, D.G., McCaig, T.N., and White, N.D.G. (2011). "Effect of Wheat Maturity and Post-Harvest Temperature Treatments on the Quality of Grain and End-Products.", *Journal of Agro Crop Science*, 2(2), pp. 15-22.

Borsuk, Y., Amtfield, S.D., Lukow, O.M., Swallow, K., and Malcolmson, L.J. (2011). "Incorporation of pulse flours of different particle size in relation to pita bread quality.", *Journal of the Science of Food and Agriculture*, 92(10), pp. 2055-2061. doi : 10.1002/jsfa.5581

Adams, K., Suchy, J., and Lukow, O.M. (2011). "Detection of wheat variety flour aromas using an electronic nose.", *Electronic Journal of Environmental, Agricultural and Food Chemistry*, 10(9), pp. 2861-2873.

## Other Science Related Publications:

2013

Badea, A., Izydorczyk, M.S., Grant, C.A., Lukow, O.M., Beta, T., and Therrien, M.C. (2013). "Breeding barley for food – progress and future prospects.", 16th Australian Barley Technical Symposium, Melbourne, Australia, September 8-11, 2013, #1, pp. 71. (Poster)

2012

Lukow, O.M., Adams, K., Brown, P.D., DePauw, R.M., Fox, S.L., Humphreys, D.G., and Suchy, J. (2012). "Measurement of Phenolics, Carotenoids and Chlorophylls During Wheat Development in Different Environments.", Pittcon 2012, Orlando, FL, USA, March 11-16, 2012. (Poster)

Lukow, O.M., Suchy, J., Adams, K., and Amtfield, S.D. (2012). "Tortilla processing: Quality and phenolic composition at different levels of shortening.", 2012 IFT Annual Meeting, Las Vegas, NV, USA, June 25-28, 2012.

Badea, A., Lukow, O.M., and Therrien, M.C. (2012). "The goodness of humble barley – 'Roseland' a new two-row spring hullless food cultivar.", 7th Canadian Barley Symposium, Calgary, AB, Canada, July 8-10, 2012, pp. 33. (Poster)

DePauw, R.M., McCallum, B.D., Voldeng, H.D., Knox, R.E., Edwards, N., Hatcher, D., Fetch Jr., T.G., Lukow, O.M., Fox, S.L., Pozniak, C.J., Hucl, P.J., Comeau, A., and Singh, A.K. (2012). "Canadian Triticologists: The Game Changers!", *Canadian Journal of Plant Science*, 92, pp. 593. (Abstract)

Humphreys, D.G., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Townley-Smith, T.F., and Lukow, O.M. (2012). "Development of hard white spring wheat for Western Canada.", 2012 American Society of Agronomy, Cincinnati, OH, USA. (Poster)

2011

Fenn, D., Lukow, O.M., Vera, C.L., DePauw, R.M., Fox, S.L., Smith, M.A.H., Wise, I.L., and Procnier, J.D. (2011). "Kernel quality of hard red spring wheat damaged by the Orange Wheat Blossom Midge insect.", in Chibar, R.N. and Dexter, J. (eds.) - *Wheat Science Dynamics: Challenges and Opportunities*, Agrobias International, Jodhpur, India, pp. 193-198.

Lukow, O.M., Adams, K., and Fenn, D. (2011). "Hard white wheat 2003-2007: Association of Snowbird seed color with end-product quality.", in Chibar, R.N. and Dexter, J. (eds.) - *Wheat Science Dynamics: Challenges and Opportunities*, Agrobias International, Jodhpur, India, pp. 251-256.

Fox, S.L., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Wise, I.L., Smith, M.A.H., Thomas, J.B., Hiebert, C.W., McCartney, C.A., Lukow, O.M., and Niziol, D. (2011). "Breeding for Canada's premier wheat marker class: Canadian Western Red Spring.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

DePauw, R.M., McCallum, B.D., Voldeng, H.D., Knox, R.E., Edwards, N., Fetch Jr., T.G., Lukow, O.M., Fox, S.L., Pozniak, C.J., Hucl, P.J., Singh, A.K., and Comeau, A. (2011). "Canadian Triticologists: the game changers.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Borsuk, Y., Amtfield, S.D., and Lukow, O.M. (2011). "Incorporation of pulse flours (green lentils, navy beans, yellow peas and pinto beans) of different particle sizes into pita bread.", 8th Canadian Pulse Research Workshop, Calgary, AB, Canada, November 3-5, 2010.



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## Research Publications:

2015

Lupwayi, N.Z., Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Hall, L.M., Willenborg, C.J., Gan, Y.T., Lafond, G.P., May, W.E., and Grant, C.A. (2015). "Relating soil microbial properties to yields of no-till canola on the Canadian prairies.", *European Journal of Agronomy*, 62, pp. 110-119. doi: 10.1016/j.eja.2014.10.004

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Dossall, L.M., Hall, L.M., Kutcher, H.R., Willenborg, C.J., Peng, G., Irvine, R.B., and Mohr, R.M. (2015). "Canola cultivar mixtures and rotations do not mitigate the negative impacts of continuous canola.", *Canadian Journal of Plant Science*, 95(6), pp. 1085-1099. doi: 10.4141/cjps-2015-126

Lupwayi, N.Z. and Soon, Y.K. (2015). "Carbon and Nitrogen Release from Legume Crop Residues for Three Subsequent Crops.", *Soil Science Society of America Journal*, 79(6), pp. 1650-1659. doi: 10.2136/sssaj2015.05.0198

Harker, K.N., Yu, A.Z., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Johnson, E.N., Gan, Y.T., Kutcher, H.R., Dossall, L.M., Peng, G. (2015). "Canola rotation frequency impacts canola yield and associated pest species.", *Canadian Journal of Plant Science*, 95(1), pp. 9-20. doi: 10.4141/cjps-2014-289

2014

Pageni, B.B., Lupwayi, N.Z., Akter, Z., Lamey, F.J., Kawchuk, L.M., and Gan, Y.T. (2014). "Plant growth-promoting and phytopathogen-antagonistic properties of bacterial endophytes from potato (*Solanum tuberosum* L.) cropping systems.", *Canadian Journal of Plant Science*, 94(5), pp. 835-844. doi: 10.4141/CJPS2013-356

Akter, Z., Pageni, B.B., Lupwayi, N.Z., and Balasubramanian, P.M. (2014). "Biological nitrogen fixation and nifH gene expression in dry beans (*Phaseolus vulgaris* L.).", *Canadian Journal of Plant Science*, 94(2), pp. 203-212. doi: 10.4141/cjps2013-200

Lupwayi, N.Z., Benke, M.B., Hao, X., O'Donovan, J.T., and Clayton, G.W. (2014). "Relating Crop Productivity to Soil Microbial Properties in Acid Soil Treated with Cattle Manure.", *Agronomy Journal*, 106(2), pp. 612-621. doi: 10.2134/agronj2013.0427

Dai, M., Hamel, C., Bainard, L.D., St. Amand, M., Grant, C.A., Lupwayi, N.Z., Malhi, S.S., and Lemke, R.L. (2014). "Negative and positive contribution of arbuscular mycorrhizal fungal taxa to wheat production and nutrient uptake efficiency in organic and conventional systems in the Canadian prairie.", *Soil Biology & Biochemistry*, 74, pp. 156-166. doi: 10.1016/j.soilbio.2014.03.016

Lopetinsky, K., Lupwayi, N.Z., Olson, M., Akter, Z., and Clayton, G.W. (2014). "Contrasting Rhizobium inoculation requirements of zero-tannin faba bean and narrow-leaved lupin in western Canada.", *Canadian Journal of Plant Science*, 94(7), pp. 1117-1123. doi: 10.4141/CJPS2013-314

Khakbazan, M., Grant, C.A., Huang, J., Smith, E.G., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Lafond, G.P., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., and Lupwayi, N.Z. (2014). "Economic effects of preceding crops and nitrogen application on canola and subsequent barley.", *Agronomy Journal*, 106(6), pp. 2055-2066. doi: 10.2134/agronj14.0253

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Turkington, T.K., Lupwayi, N.Z., Stevenson, F.C., McLaren, D.L., Khakbazan, M., and Smith, E.G. (2014). "Rotational effects of legumes and non-legumes on hybrid canola and malting barley.", *Agronomy Journal*, 106(6), pp. 1921-1932. doi: 10.2134/agronj14.0236

2013

Khakbazan, M., Grant, C.A., Finlay, G., Wu, R.G., Malhi, S.S., Selles, F., Clayton, G.W., Lupwayi, N.Z., Soon, Y.K., and Harker, K.N. (2013). "An economic study of controlled release urea and split applications of nitrogen as compared with non-coated urea under conventional and reduced tillage management.", *Canadian Journal of Plant Science*, 93(3), pp. 523-534. doi: 10.4141/CJPS2012-107

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Kawchuk, L.M., and Gan, Y.T. (2013). "Populations, diversity and identities of bacterial endophytes in potato (*Solanum tuberosum* L.) cropping systems.", *Canadian Journal of Plant Science*, 93, pp. 1125-1142. doi: 10.4141/CJPS2013-166

Lupwayi, N.Z. and Blackshaw, R.E. (2013). "Soil microbial properties in Bt (*Bacillus thuringiensis*) corn cropping systems.", *Applied Soil Ecology*, 63, pp. 127-133. doi : 10.1016/j.apsoil.2012.09.005

2012

Dai, M., Hamel, C., St. Arnaud, M., He, Y., Grant, C.A., Lupwayi, N.Z., Janzen, H.H., Malhi, S.S., Yang, X., and Zhou, Z. (2012). "Arbuscular mycorrhizal fungi assemblages in Chernozem great groups revealed by massively parallel pyrosequencing.", *Canadian Journal of Microbiology*, 58(1), pp. 81-92. doi: 10.1139/W11-111

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Klein-Gebbinck, H.W., Dosedall, L.M., Hall, L.M., Willenborg, C.J., Kutcher, H.R., Malhi, S.S., Vera, C.L., Gan, Y.T., Lafond, G.P., May, W.E., Grant, C.A., and McLaren, D.L. (2012). "High-yield no-till canola production on the Canadian prairies.", *Canadian Journal of Plant Science*, 92(2), pp. 221-233. doi: 10.4141/CJPS2011-125

Lupwayi, N.Z., Lafond, G.P., Ziadi, N., and Grant, C.A. (2012). "Soil microbial response to nitrogen fertilizer and tillage in barley and corn.", *Soil & Tillage Research*, 118, pp. 139-146. doi: 10.1016/j.still.2011.11.006

Lupwayi, N.Z. and Blackshaw, R.E. (2012). "Soil microbiology in Glyphosate-Resistant corn cropping systems.", *Agronomy Journal*, 104(4), pp. 1041-1048. doi: 10.2134/agronj2012.0054

Lupwayi, N.Z., Lafond, G.P., May, W.E., Holzapfel, C.B., and Lemke, R.L. (2012). "Intensification of field pea production: Impact on soil microbiology.", *Agronomy Journal*, 104(5), pp. 1189-1196. doi: 10.2134/agronj2012.0046

Soon, Y.K. and Lupwayi, N.Z. (2012). "Straw management in a cold semi-arid region: Impact on soil quality and crop productivity.", *Field Crops Research*, 139, pp. 39-46. doi: 10.1016/j.fcr.2012.10.010

Arshad, M.A., Soon, Y.K., Azooz, R.H., Lupwayi, N.Z., and Chang, S.X. (2012). "Soil and Crop Response to Wood Ash and Lime Application in Acidic Soils.", *Agronomy Journal*, 104(3), pp. 715-721. doi: 10.2134/agronj211.0355

Benke, M.B., Goh, T.B., Karamanos, R.E., Lupwayi, N.Z., and Hao, X. (2012). "Retention and nitrification of injected anhydrous NH<sub>3</sub> as affected by soil pH.", *Canadian Journal of Soil Science*, 92(4), pp. 589-598. doi: 10.4141/CJSS2011-108

Grant, C.A., Wu, R.G., Selles, F., Harker, K.N., Clayton, G.W., Bittman, S., Zebarth, B.J., and Lupwayi, N.Z. (2012). "Crop yield and nitrogen concentration with controlled release urea and split applications of nitrogen as compared to non-coated urea applied at seeding", *Field Crops Research*, 127(27), pp. 170-180. doi: 10.1016/j.fcr.2011.11.002

2011

Lupwayi, N.Z., Clayton, G.W., O'Donovan, J.T., and Grant, C.A. (2011). "Soil Microbial Response to Nitrogen Rate and Placement and Barley Seeding Rate under No Till.", *Agronomy Journal*, 103(4), pp. 1064-1071. doi: 10.2134/agronj2010.0334

Lafond, G.P., May, W.E., Holzapfel, C.B., Lemke, R.L., and Lupwayi, N.Z. (2011). "Intensification of field pea production: Impact on grain production, grain protein and water use efficiency.", *Agronomy Journal*, 103(2), pp. 396-403. doi: 10.2134/agronj2010.0309

Soon, Y.K., Malhi, S.S., Lemke, R.L., Lupwayi, N.Z., and Grant, C.A. (2011). "Effect of polymer-coated urea and tillage on the dynamics of available N and nitrous oxide emission from Gray Luvisols.", *Nutrient Cycling in Agroecosystems*, 90(2), pp. 267-279. doi: 10.1007/s10705-011-9428-2

## Other Science Related Publications:

2015

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Johnson, E.N., Kutcher, H.R., Willenborg, C.J., Gan, Y.T., Dosedall, L.M., Hall, L.M., Peng, G., Irvine, R.B., and Mohr, R.M. (2015). "Sustainable canola production increases with cropping system diversity.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. (Poster)

Beres, B.L., Pageau, D., Dion, Y., Turkington, T.K., Lupwayi, N.Z., Lamey, F.J., Ellert, B.H., and Smith, E.G. (2015). "Rotational Diversity Effects in a Cereal-Based Cropping System.", Botany 2015, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015.

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2015). "Legumes in rotation affect hybrid canola and malting barley.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015, Keynote Theme D oral presentation.

Turkington, T.K., Xi, K., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., McAllister, T.A., and Lupwayi, N.Z. (2015). "The impact of barley variety rotation, mixtures, and intercropping on leaf disease and silage production.", *Canadian Journal of Plant Pathology*. (Abstract)

Beres, B.L., Pageau, D., Dion, Y., Turkington, T.K., Lupwayi, N.Z., Lamey, F.J., Ellert, B.H., and Smith, E.G. (2015). "Rotational diversity effects in a cereal-based cropping system.", Canadian Journal of Plant Science. (Abstract)

Turkington, T.K., Xi, K., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., McAllister, T.A., and Lupwayi, N.Z. (2015). "The impact of barley variety rotation, mixtures, and intercropping on leaf disease and silage production.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015.

## 2014

Lamey, F.J., Li, L., Lupwayi, N.Z., Angers, D.A., Pearson, D.C., and Blackshaw, R.E. (2014). "Soil quality changes over 12 years of conservation management on irrigated crop rotations in southern Alberta.", Canadian Geophysical Union-Canadian Society of Soil Science (CGU/CSSS) Joint Annual Meeting, Banff, AB, Canada, May 4-8, 2014, Poster. (Abstract)

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Lafond, G.P., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2014). "Rotational Effects of Legumes and Non-Legumes on Hybrid Canola, and Malting Barley.", American Society of Agronomy Annual Meeting 2014, Long Beach, CA, USA, November 3-5, 2014.

Beres, B.L., Pageau, D., Dion, Y., Turkington, T.K., Lupwayi, N.Z., Lamey, F.J., Ellert, B.H., and Smith, E.G. (2014). "Rotational Diversity Effects in a Triticale-Based Cropping System.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

O'Donovan, J.T., Harker, K.N., Turkington, T.K., Blackshaw, R.E., Beres, B.L., Clayton, G.W., Lafond, G.P., Lupwayi, N.Z., and Dosdall, L.M. (2014). "The role of agronomic research in meeting cropping system challenges in western Canada.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Lupwayi, N.Z., Harker, K.N., Lamey, F.J., Blackshaw, R.E., and O'Donovan, J.T. (2014). "Correlating soil microbial properties with crop yields in the Canadian prairies: two case studies.", Soil's Role in Restoring Ecosystem Services Conference, Sacramento, CA, USA, March 6-9, 2014. (Abstract)

Lupwayi, N.Z., Lamey, F.J., Pearson, D.C., Kanashiro, D.A., and Blackshaw, R.E. (2014). "Shifts in soil microbial community structure after 12 years of conservation management on irrigated crop rotations.", 51st Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 12-14, 2014, pp. 37. (Abstract)

Lamey, F.J., Li, L., Lupwayi, N.Z., Angers, D.A., Pearson, D.C., and Blackshaw, R.E. (2014). "Irrigated crop rotations: soil quality.", Irrigated Crop Production Update, Lethbridge, AB, Canada, January 21-22, 2014.

Turkington, T.K., Xi, K., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., McAllister, T.A., and Lupwayi, N.Z. (2014). "The impact of barley variety monoculture, rotation and mixtures, and intercropping on leaf disease and silage production.", 1st International Workshop on Barley Leaf Diseases, Salsomaggiore Terme, Italy, June 3-6, 2014, pp. 73. (Abstract)

## 2013

Pageni, B.B., Lupwayi, N.Z., Akter, Z., Lamey, F.J., and Kawchuk, L.M. (2013). "Characterization of bacterial endophytes from potato (*Solanum tuberosum* L.) reveals growth-promoting and antagonistic properties in vitro.", 50th Annual Alberta Soil Science Workshop, Lethbridge, AB, Canada, February 19-21, 2013.

Pearson, D.C., Lamey, F.J., Blackshaw, R.E., and Lupwayi, N.Z. (2013). "Soil carbon changes over 12 years on the Vauxhall irrigated rotation study.", 50th Annual Alberta Soil Science Workshop, Lethbridge, AB, Canada, February 19-21, 2013. (Abstract)

O'Donovan, J.T., Harker, K.N., Turkington, T.K., Lafond, G.P., Lupwayi, N.Z., Blackshaw, R.E., Clayton, G.W., and Dosdall, L.M. (2013). "The Role of Agronomic Research in Meeting Current and Future Cropping System Challenges in Western Canada.", ASA/CSSA/SSSA International annual meeting: Water, Food, Energy and Innovation for a Sustainable World, Tampa, Florida, USA, November 3-6, 2013.

## 2012

Olson, M., Lupwayi, N.Z. (2012). "Has the faba bean's time arrived?", Pulse Crop News, 2012 (Winter), pp. 23-24.

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Kawchuk, L.M., Pearson, D.C., Blackshaw, R.E., and Gan, Y.T. (2012). "Characterization of bacterial endophytes associated with *Solanum tuberosum* in irrigated cropping systems.", 112th General Meeting of American Society for Microbiology, San Francisco, CA, USA, June 15-19, 2012. (Abstract)

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Kawchuk, L.M., Pearson, D.C., Blackshaw, R.E., and Gan, Y.T. (2012). "Preceding crop, rotation length and soil management effects on bacterial endophytes.", 49th Annual Alberta Soil Science Workshop, Ramada Inn, Edmonton, AB, Canada, February 14-16, 2012. (Abstract)

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., and Regitnig, P.J. (2012). "Building soil quality on irrigated rotations in southern Alberta.", 49th Annual Alberta Soil Science Workshop, Ramada Inn, Edmonton, AB, Canada, February 14-16, 2012. (Abstract)

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., Regitnig, P.J., and Balasubramanian, P.M. (2012). "Irrigated crop rotation research: Findings from the Vauxhall rotation study over 12 years (2000-11).", 2012 Irrigated Crop Production Update Conference, Lethbridge, AB, Canada, January 31-February 1, 2012. (Abstract)

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., and Balasubramanian, P.M. (2012). "Irrigated dry bean response to cropping history and soil management practices in southern Alberta.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Abstract)

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., and Regitnig, P.J. (2012). "What have we learned about potatoes in the 12 yr Vauxhall irrigated rotation study.", Potato Growers of Alberta Annual Meeting, Red Deer, AB, Canada, November 13-15, 2012. (Poster)

## 2011

Grant, C.A., Zebarth, B.J., Malhi, S.S., Soon, Y.K., Selles, F., Lupwayi, N.Z., O'Donovan, J.T., Harker, K.N., and Clayton, G.W. (2011). "Changes in soil ammonium and nitrate concentration over the growing season in western Canada as affected by urea or controlled release urea application.", 12th International Symposium on Soil and Plant Analysis, Mediterranean Agronomic Institute of Chania, Crete, Greece, June 6-10, 2011.

Dai, M., Hamel, C., St. Arnaud, M., Grant, C.A., Lupwayi, N.Z., Janzen, H.H., Yang, X.Q., and Zhou, Z. (2011). "Composition and diversity of arbuscular mycorrhizal fungi in cropping system associated with different soil zones using pyrosequencing.", Soils Ecology Society Meeting 2011, University of British Columbia - Okanagan, Kelowna, BC, Canada, May 24-27, 2011, pp. 43.

O'Donovan, J.T., Blackshaw, R.E., Grant, C.A., Harker, K.N., Lafond, G.P., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., and Lupwayi, N.Z. (2011). "Legume Crops to Improve Soil Fertility for Enhanced Canola Production.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Poster)

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Pearson, D.C., and Blackshaw, R.E. (2011). "Soil microbial biomass and diversity in irrigated crop systems.", Soil Ecology Society Meeting, Kelowna, BC, Canada, May 24-27, 2011. (Abstract)

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., and Regitnig, P.J. (2011). "A soil conservation package for irrigated rotations in southern Alberta.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Abstract)

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., and Regitnig, P.J. (2011). "Potato performance in the Vauxhall irrigated rotation study over 12 growing seasons (2000-11).", 2011 Annual Meeting of Potato Growers of Alberta, Calgary, AB, Canada, November 15-18, 2011. (Abstract)

Pageni, B.B., Lupwayi, N.Z., Lamey, F.J., Kawchuk, L.M., Pearson, D.C., Blackshaw, R.E., and Gan, Y.T. (2011). "Preceding crop, rotation length and soil management effects on bacterial endophytes.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011. (Abstract)

Lamey, F.J., Pearson, D.C., Blackshaw, R.E., Lupwayi, N.Z., Regitnig, P.J., and Balasubramanian, P.M. (2011). "Dry bean performance in the Vauxhall irrigated rotation study over 12 growing seasons (2000-11).", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011. (Abstract)

Aker, Z., Lupwayi, N.Z., and Balasubramanian, P.M. (2011). "Nitrogen-use efficiency and biological nitrogen fixation of dry beans.", Biennial Meeting of the Bean Improvement Cooperative and North American Pulse Improvement Association (BIC/NAPIA 2011), Verdanza Hotel, San Juan, Puerto Rico, October 30-November 2, 2011. (Abstract)

Aker, Z., Lupwayi, N.Z., and Balasubramanian, P.M. (2011). "Nitrogen-use efficiency and biological nitrogen fixation of dry beans.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011. (Abstract)

Aker, Z., Lupwayi, N.Z., and Balasubramanian, P.M. (2011). "Nitrogen-use efficiency and biological nitrogen fixation of dry beans.", 49th Annual Alberta Soil Science Workshop, Ramada Inn, Edmonton, AB, Canada, February 14-16, 2012. (Abstract)

Lupwayi, N.Z. (2011). "Crop rotation effects on soil biology and health.", Agronomy Update Conference 2011, Lethbridge, AB, Canada, January 18-19, 2011. (Presentation)

Lupwayi, N.Z. (2011). "Conserving biological soil health.", Southern Alberta Soil Conservation Association (SACA) AGM, Taber, AB, Canada, February 26, 2011. (Presentation)

Lupwayi, N.Z. (2011). "Crop residues for improving biological soil health.", International No Till Conference, Dnipropetrovsk, Ukraine, June 29-July 1, 2011.

Lupwayi, N.Z. (2011). "Microbial decomposition of legume crop residues and N release.", Soils Ecology Society Meeting 2011, University of British Columbia - Okanagan, Kelowna, BC, Canada, May 24-27, 2011. (Abstract)

Lupwayi, N.Z. and Soon, Y.K. (2011). "Nitrogen fixation and multi-year N release from pulse crop residues.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011. (Abstract)

Lupwayi, N.Z. and Soon, Y.K. (2011). "Nitrogen released from legume crop residues during two succeeding non-legume crops.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011. (Abstract)

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## Research Publications:

2015

Gao, M.-J., Li, X., Huang, J., Gropp, G.M., Gjetvaj, B., Lindsay, D., Wei, S., Coutu, C., Chen, Z., Wan, X.-C., Hannoufa, A., Lydiate, D.J., Gruber, M.Y., Chen, Z.J., and Hegedus, D.D. (2015). "SCARECROW-LIKE15 interacts with HISTONE DEACETYLASE19 and is essential for repressing the seed maturation programme.", *Nature Communications*, 6(Article number 7243). doi : 10.1038/ncomms8243

Lydiate, D.J., Pilcher, R.L.R., Higgins, E.E., and Walsh, J.A. (2015). "Genetic control of immunity to Turnip mosaic virus (TuMV) pathotype 1 in *Brassica rapa* (Chinese cabbage).", *Genome*, 57(8), pp. 419-425. doi : 10.1139/gen-2014-0070

2014

Hegedus, D.D., Baron, M., Labbe, N., Coutu, C., Lydiate, D.J., Liu, H.L., and Rozwadowski, K. (2014). "A strategy for targeting recombinant proteins to protein storage vacuoles by fusion to *Brassica napus* napin in napin-depleted seeds.", *Protein Expression and Purification*, 26(5), pp. 162-168.

2013

Withana-Gamage, T.S., Hegedus, D.D., Qiu, X., Yu, P., May, T., Lydiate, D.J., and Wanasundara, P.K.J.P.D. (2013). "Characterization of *Arabidopsis thaliana* lines with altered seed storage protein profiles using synchrotron-powered FT-IR spectromicroscopy.", *Journal of Agricultural and Food Chemistry*, 61(4), pp. 901-912. doi : 10.1021/jf304328n

Larkan, N.J., Lydiate, D.J., Parkin, I.A.P., Nelson, M.N., Epp, D.J., Cowling, W.A., Rimmer, S.R., and Borhan, M.H. (2013). "The *Brassica napus* blackleg resistance gene LepR3 is a receptor-like protein triggered by the *Leptosphaeria maculans* effector AvrLm1.", *New Phytologist*, 197(2), pp. 595-605. doi : 10.1111/nph.12043

2012

Yu, F.Q., Lydiate, D.J., Gugel, R.K., Sharpe, A.G., and Rimmer, S.R. (2012). "Introgression of *Brassica rapa* subsp. *sylvestris* blackleg resistance into *B. napus*.", *Molecular Breeding*, 30(3), pp. 1495-1506. doi : 10.1007/s11032-012-9735-6

Gruber, M.Y., Wu, L., Links, M.G., Gjetvaj, B., Durkin, J.M.H., Lewis, C.T., Sharpe, A.G., Lydiate, D.J., and Hegedus, D.D. (2012). "Analysis of expressed sequence tags in *Brassica napus* cotyledons damaged by crucifer flea beetle feeding.", *Genome*, 55(2), pp. 118-133. doi : 10.1139/G11-083

2011

Gao, M.-J., Li, X.L., Lui, H., Gropp, G.M., Lydiate, D.J., Wei, S., and Hegedus, D.D. (2011). "ASIL1 is required for proper timing of seed filling in *Arabidopsis*.", *Plant Signaling & Behavior*, 6(12), pp. 1886-1888. doi : 10.4161/psb.6.12.18709

Ghanbarnia, K., Lydiate, D.J., Rimmer, S.R., Li, G., Kutcher, H.R., Larkan, N.J., McVetty, P.B.E., and Fernandez, W.G.D. (2011). "Genetic mapping of the *Leptosphaeria maculans* avirulence gene corresponding to the LepR1 resistance gene of *Brassica napus*.", *Theoretical and Applied Genetics (TAG)*, 124(3), pp. 505-513. doi : 10.1007/s00122-011-1724-3

Li, X.L., Gruber, M.Y., Hegedus, D.D., Lydiate, D.J., and Gao, M.-J. (2011). "Effects of a Coumarin Derivative, 4-Methylumbelliferone, on Seed Germination and Seedling Establishment in *Arabidopsis*.", *Journal of Chemical Ecology*, 37(8), pp. 880-890. doi : 10.1007/s10886-011-9987-3

Wang, J., Lydiate, D.J., Parkin, I.A.P., Falentin, C., Delourme, R., Carion, P.W.C., and King, G.J. (2011). "Integration of linkage maps for the Amphidiploid *Brassica napus* and comparative mapping with *Arabidopsis* and *Brassica rapa*.", *BMC Genomics*, 12(101). doi : 10.1186/1471-2164-12-101

## Other Science Related Publications:

2014

Gao, M-G., Li, X., Huang, J., Gropp, G.M., Lindsay, D., Gjetvaj, B., Wei, S., Wan, X-C., Chen, Z., Gruber, M.Y., Hannoufa, A., Lydiate, D.J., Chen, Z.J., and Hegedus, D.D. (2014). "SCARECROW-LIKE 15 interacts with HISTONE DEACETYLASE19 and is essential to the repression of the seed maturation program.", 25th International Conference on Arabidopsis Research, Vancouver, BC, Canada, July 28-August 1, 2014, #207. (Poster)

2013

Mayerhofer, R., Wilde, K., Mayerhofer, M., Lydiate, D.J., Bansal, V.K., Good, A.G., and Parkin, I.A.P. (2013). "Complexities of chromosome landing in a highly duplicated genome: Toward map-based cloning of a gene controlling blackleg resistance in *Brassica napus*.", Plant & Animal Genome XXI Conference, Town & Country Convention Center, San Diego, CA, USA, January 12-16, 2013. (Presentation)

2012

Gao, M.-J., Gropp, G.M., Wei, S., Hegedus, D.D., and Lydiate, D.J. (2012). "Combinatorial networks regulating seed development and seed filling.", in Sato, K.I. (ed.) - Embryogenesis, InTech, Open Access Publisher, Chapter 9, pp. 189-228.

2011

Buchwaldt, L., Lydiate, D.J., Yu, F.Q., Hegedus, D.D., and Rimmer, S.R. (2011). "QTLs contributing to sclerotinia stem rot resistance in *Brassica napus* Zhongyou 821.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011.

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## Research Publications:

2015

Ruder, M.G., Lysyk, T.J., Stallknecht, D.E., Foil, L.D., Johnson, D.J., Chase, C.C., Dargatz, D.A., and Gibbs, E.P.J. (2015). "Transmission and Epidemiology of Bluetongue and Epizootic Hemorrhagic Disease in North America: Current Perspectives, Research Gaps, and Future Directions.", *Vector-Borne and Zoonotic Diseases*, 15(6), pp. 348-363. doi : 10.1089/vbz.2014.1703

Bouchard, C., Leonard, E., Koffi, J.K., Pelcat, Y., Peregrine, A.S., Chilton, N., Rochon, K., Lysyk, T.J., Lindsay, L.R., and Ogden, N. (2015). "Special report: The increasing risk of Lyme disease in Canada.", *Canadian Veterinary Journal*, 56(7), pp. 693-699.

2014

Lysyk, T.J. (2014). "Influence of temperature on oviposition by *Dermacentor andersoni* (Acari: Ixodidae).", *Journal of Medical Entomology*, 51(5), pp. 932-940. doi : 10.1603/ME14090

Lysyk, T.J. and Galloway, T.D. (2014). "Biting Flies (Culicidae, Ceratopogonidae, Tabanidae) of the Prairie Ecozone.", in Cárcamo, H.A. and Giberson, D. (eds.) - *Arthropods of Canadian Grasslands. Vol. 3: Biodiversity of Arthropods in Canadian Grasslands*, Biological Survey of Canada (BSC), pp. 389-398.

2013

Lysyk, T.J. (2013). "Movement of male *Dermacentor andersoni* (Acari: Ixodidae) among cattle.", *Journal of Medical Entomology*, 50(5), pp. 977-985. doi : 10.1603/ME13012

2012

Cohnstaedt, L.W., Rochon, K., Duehl, A.J., Anderson, J.F., Barrera, R., Su, N.-Y., Gerry, A.C., Obenauer, P.J., Campbell, J.F., Lysyk, T.J., and Allan, S.A. (2012). "Arthropod Surveillance Programs: Basic Components, Strategies, and Analysis.", *Annals of the Entomological Society of America*, 105(2), pp. 135-149. doi : 10.1603/AN11127

Lysyk, T.J., Kalischuk-Tymensen, L.D., and Selinger, L.B. (2012). "Mortality of Adult *Stomoxys calcitrans* Fed Isolates of *Bacillus thuringiensis*.", *Journal of Economic Entomology*, 105(5), pp. 1863-1870. doi : 10.1603/EC12238

Lysyk, T.J. and Selinger, L.B. (2012). "Effects of Temperature on Mortality of Larval Stable Fly (Diptera: Muscidae) Caused by Five Isolates of *Bacillus thuringiensis*.", *Journal of Economic Entomology*, 105(4), pp. 732-737. doi : 10.1603/EC11359

Rochon, K., Scoles, G.A., and Lysyk, T.J. (2012). "Dispersion and sampling of adult *Dermacentor andersoni* in rangeland in western North America.", *Journal of Medical Entomology*, 49(2), pp. 253-261. doi : 10.1603/ME11160

2011

Lysyk, T.J. (2011). "Arthropods Associated with Livestock Grazing Systems.", in Floate, K.D. (ed.) - *Arthropods of Canadian Grasslands. Vol. 2: Inhabitants of a Changing Landscape*, Biological Survey of Canada (BSC), Chapter 3, pp. 45-69.

## Other Science Related Publications:

2013

Zuliani, A., Massolo, A., Marshall, S.A., Lysyk, T.J., Johnson, G., and Cork, S.C. (2013). "Effects of climate change on the distribution of bluetongue and epizootic haemorrhagic disease vector in Southern Alberta (Canada) and Montana (USA).", *International Meeting on Emerging Diseases and Surveillance*, Vienna, Austria, February 15-18, 2013.

Lysyk, T.J. and Dergousoff, S. (2013). "Variation in vectorial capacity of *C. sonorensis* for Bluetongue virus in Alberta.", *International Congress of Vector Ecology*, Palm Springs, California, USA.



Dergousoff, S. and Lysyk, T.J. (2013). "Overwintering survival of two strains of *Dermacentor andersoni*.", International Congress of Vector Ecology, Palm Springs, California, USA.

Ambagala, A., Pahari, S., Agboton, B.V., Lysyk, T.J., Babiuk, S., Pasick, J., and Lung, O. (2013). "DNA microarray identification of *Culicoides* species; the vectors of bluetongue virus.", Conference of Research Workers on Animal Disease, Chicago, IL, USA.

Floate, K.D., Lysyk, T.J., and Gibson, G.A.P. (2013). "*Haematobia irritans* L., Horn Fly, *Musca domestica* L., House Fly, and *Stomoxys calcitrans* (L.), Stable Fly (Diptera: Muscidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, Chapter 25, pp. 182-191.

## 2012

Dergousoff, S.J., Rochon, K., and Lysyk, T.J. (2012). "Distribution and abundance of *Dermacentor andersoni* in Alberta, Canada.", 2012 Annual Meeting of the Society of Vector Ecology, St. Augustine, FL, USA, September 23-27, 2012.

Lysyk, T.J. (2012). "Dynamics of Rocky Mountain Wood Tick populations.", Department of Biological Science Seminar, University of Lethbridge, Lethbridge, AB, Canada, February 9, 2012. (Presentation)

Walgama, R.S. and Lysyk, T.J. (2012). "Diurnal activity of biting flies in southern Alberta.", Entomological Society of America (ESA) 60th Annual Meeting, Knoxville Convention Centre, Knoxville, TN, USA, November 11-14, 2012, D0428. (Poster)

Rochon, K., Lysyk, T.J., and Selinger, L.B. (2012). "Immature development and *Escherichia coli* retention in house flies and stable flies.", Entomological Society of America (ESA) North Central Branch 2012 Annual Meeting, Lincoln, NE, USA, June 3-6, 2012.

Zuliani, A., Lysyk, T.J., Johnson, G., Massolo, A., Waeckerlin, R., Cully, A.S., and Cork, S.C. (2012). "Working towards a risk-based surveillance system for *Culicoides*-borne diseases in Southern Alberta (Canada) and Montana (USA).", 13th Conference of the International Society for Veterinary Epidemiology and Economics (ISVEE XIII), Maastricht, Limburg, The Netherlands, August 20-24, 2012.

Rochon, K. and Lysyk, T.J. (2012). "Habitat association of *Dermacentor andersoni* in Alberta.", 56th Livestock Insect Workers' Conference, Red Lion Hotel, Kalispell, MT, USA, June 24-27, 2012.

Dergousoff, S., Rochon, K., and Lysyk, T.J. (2012). "Distribution of *Dermacentor andersoni* in Alberta.", 56th Livestock Insect Workers' Conference, Red Lion Hotel, Kalispell, MT, USA, June 24-27, 2012.

Lysyk, T.J., Kalischuk-Tymensen, L.D., and Selinger, L.B. (2012). "Activity of *Bacillus thuringiensis* against stable fly larvae and adults.", 56th Livestock Insect Workers' Conference, Red Lion Hotel, Kalispell, MT, USA, June 24-27, 2012.

Walgama, R.S. and Lysyk, T.J. (2012). "Diurnal activity of biting flies in Southern Alberta.", 56th Livestock Insect Workers' Conference, Red Lion Hotel, Kalispell, MT, USA, June 24-27, 2012.

Zuliani, A., Massolo, A., Waeckerlin, R., Cork, S.C., Cully, A.S., Lysyk, T.J., and Johnson, G. (2012). "Probability maps to assess risk of *Culicoides sonorensis* occurrence in Southern Alberta (Canada) and Montana (U.S.A.).", 56th Livestock Insect Workers' Conference, Red Lion Hotel, Kalispell, MT, USA, June 24-27, 2012.

Lysyk, T.J. (2012). "*Fannia canicularis* on mink ranches in Newfoundland.", 56th Livestock Insect Workers' Conference, Red Lion Hotel, Kalispell, MT, USA, June 24-27, 2012.

Rochon, K. and Lysyk, T.J. (2012). "Habitat predictors of *Dermacentor andersoni* (Acari: Ixodidae) in Alberta.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012.

Lysyk, T.J. (2012). "Dynamics of Rocky Mountain Wood Tick populations.", Seminar, Department of Biological Science, University of Lethbridge, Lethbridge, AB, Canada, February 9, 2012. (Presentation)

## 2011

Lysyk, T.J. (2011). "Modelling arthropod vector populations.", CFIA-CRTI Modelling Workshop, Ottawa, ON, Canada, January 19-20, 2012.

Lysyk, T.J. (2011). "Entomological Perspectives on Arthropod-Borne Diseases of Cattle in Canada.", Seminar, Department of Entomology and Nematology, University of Florida, Gainesville, FL, USA, February 10, 2011. (Presentation)

Rochon, K., Scoles, G.A., and Lysyk, T.J. (2011). "Dispersion and sampling of adult *Dermacentor andersoni* in rangeland in western North America.", 59th Annual Meeting of the Entomological Society of Alberta, Kananaskis, AB, Canada, October 13-15, 2011. (Presentation)

Rochon, K., Scoles, G.A, and Lysyk, T.J. (2011). "Dispersion and sampling of adult *Dermacentor andersoni* in rangeland in western North America.", Entomological Society of Manitoba 59th Annual Meeting, Winnipeg, MB, Canada, October 21 -22, 2011.

Rochon, K. and Lysyk, T.J. (2011). "Spatial distribution of *Dermacentor andersoni* in southern Alberta.", 59th Annual Meeting of the Entomological Society of America, Reno-Sparks Convention Center, Reno, NV, USA, November 13-16, 2011. (Presentation)

Lysyk, T.J. (2011). "Variation in vectorial capacity for bluetongue in Alberta.", Entomological Society of America (ESA) 59th Annual Meeting, Reno-Sparks Convention Center, Reno, NV, USA, November 13-16, 2011.

Zuliani, A., Lysyk, T.J., Johnson, G.D., Massolo, A., Cully, A.S., and Cork, S.C. (2011). "Mapping the distribution of *Culicoides sonorensis* (Diptera: Ceratopogonidae) in southern Alberta (Canada) and Montana (U.S.A.).", Entomological Society of America (ESA) 59th Annual Meeting, Reno-Sparks Convention Center, Reno, NV, USA, November 13-16, 2011.

Zuliani, A., Cork, S.C., Massolo, A., Lysyk, T.J., and Johnson, G.D. (2011). "*Culicoides sonorensis* Distribution Models: An example for Alberta and Montana.", CFIA-CRTI Modelling Workshop, Ottawa, ON, Canada, January 19-20, 2012.

Lysyk, T.J. (2011). "On host dynamics of tick vectors of animal disease.", 2011 Annual Meeting of the Society of Vector Ecology, Flagstaff, AZ, USA, September 25-29, 2011.

Lysyk, T.J. (2011). "Movement of *Dermacentor andersoni* among cattle.", 1st joint meeting of American Association of Veterinary Parasitologists (AAVP) 56th Annual Meeting, Livestock Insect Workers' Conference (LIWC) 55th Annual Meeting, and International Symposium on Ectoparasites of Pets (ISEP) 11th Bi-Annual Meeting, St. Louis, MO, USA, July 16-19, 2011.

Zuliani, A., Lysyk, T.J., Johnson, G.D., Massolo, A., Waeckerlin, R., and Cork, S.C. (2011). "Abundance of *Culicoides sonorensis* (Diptera: Ceratopogonidae) in Southern Alberta (Canada) and Montana (USA).", International Meeting of Emerging Diseases and Surveillance, Vienna, Austria, February 4-11, 2011.

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## Research Publications:

2015

Wu, W. and Ma, B.-L. (2015). "Integrated Nutrient Management (INM) for Sustaining Crop Productivity and Reducing Environmental Impact: A review.", *Science of the Total Environment*, 512-513, pp. 415-427. doi : 10.1016/j.scitotenv.2014.12.101

Jing, Q., Shang, J., Qian, B., Hoogenboom, G., Huffman, E.C., Liu, J., Ma, B.-L., Geng, X.Y., Jiao, X., Kovacs, J.M., and Walters, D. (2015). "Evaluation of the CSM-CROPGRO-Canola Model for Simulating Canola Growth and Yield at West Nipissing in Eastern Canada.", *Agronomy Journal*. doi: 10.2134/agronj2015.0401

Wang, Z., Ma, B.-L., Gao, J., and Sun, J. (2015). "Effects of different management systems on root distribution of maize.", *Canadian Journal of Plant Science*, 95(1), pp. 21-28. doi: 10.4141/cjps-2014-026

Zhao, B., Ma, B.-L., Hu, Y.G., and Liu, J.H. (2015). "Characterization of nitrogen and water status in oat leaves using optical sensing approach.", *Journal of the Science of Food and Agriculture*, 95(2), pp. 367-378. doi: 10.1002/jsfa.6729

Reid, L.M., Morrison, M.J., Zhu, X., Jindal, K.K., and Ma, B.-L. (2015). "High stalk sugar corn - A potential biofuel crop for Canada.", *Agronomy*, 107(2), pp. 475-485. doi: 10.2134/agronj14.0271

Li, P.-F., Ma, B.-L., Yan, W., Cheng, Z., Li, F.-M., and Xiong, Y.-C. (2015). "Plant architecture, plasticity, and adaptation strategies of two oat genotypes under different competition intensities.", *Journal of the Science of Food and Agriculture*. doi : 10.1002/jsfa.7237

Wu, W., Ma, B.-L., and Uphoff, N. (2015). "A review of the system of rice intensification in China.", *Plant and Soil*, 393(1-2), pp. 361-381. doi: 10.1007/s11104-015-2440-6

Nimir, N.E.A., Lu, S., Zhou, G., Guo, W., Ma, B.-L., and Wang, Y. (2015). "Comparative effects of gibberellic acid, kinetin and salicylic acid on emergence, seedling growth and the antioxidant defence system of sweet sorghum (*Sorghum bicolor*) under salinity and temperature stresses.", *Crop & Pasture Science*, 66(2), pp. 145-157. doi: 10.1071/CP14141

Ma, B.-L., Biswas, D.K., Herath, A., Whalen, J.K., Ruan, S.Q., Caldwell, C.D., Earl, H.J., Vanasse, A., Scott, P., and Smith, D.L. (2015). "Growth, yield, and yield components of canola as affected by nitrogen, sulfur, and boron application.", *Journal of Plant Nutrition and Soil Science*, 178(4), pp. 658-670. doi: 10.1002/jpln.201400280

Shang, J., Liu, J., Ma, B.-L., Zhao, T., Jiao, X., Geng, X.Y., Huffman, E.C., Kovacs, J.M., and Walters, D. (2015). "Mapping spatial variability of crop growth conditions using RapidEye data in Northern Ontario, Canada.", *Remote Sensing of Environment*, 168, pp. 113-125. doi: 10.1016/j.rse.2015.06.024

Diochon, A., Gregorich, E.G., Kellman, L.M., Morrison, M.J., and Ma, B.-L. (2015). "Greater C inputs accelerate loss of C in cropping systems with low N input.", *Plant and Soil*, pp. 1-13. doi: 10.1007/s11104-015-2718-8

Gao, Y. and Ma, B.-L. (2015). "Nitrogen, phosphorus, and zinc supply on yield and metal accumulation in canola grain.", *Journal of Plant Nutrition*, 38(3), pp. 473-483. doi: 10.1080/01904167.2014.963121

2014

Gillespie, A.W., Diochon, A., Ma, B.-L., Morrison, M.J., Kellman, L.M., Walley, F.L., Regier, T.Z., Chevrier, D., Dynes, J.J., and Gregorich, E.G. (2014). "Nitrogen input quality changes the biochemical composition of soil organic matter stabilized in the fine fraction - a long-term study.", *Biogeochemistry*, 117(2-3), pp. 337-350. doi: 10.1007/s10533-013-9871-z

Gregorich, E.G., McLaughlin, N.B., Lapen, D.R., Ma, B.-L., and Rochette, P. (2014). "Soil Compaction, Both an Environmental and Agronomic Culprit Increased Nitrous Oxide Emissions and Reduced Plant Nitrogen Uptake.", *Soil Science Society of America Journal*, 78(6), pp. 1913-1923. doi: 10.2136/sssaj2014.03.0117

Jiao, X., Kovacs, J.M., Shang, J., McNair, H., Walters, D., Ma, B.-L., and Geng, X.Y. (2014). "Object-oriented crop mapping and monitoring using multi-temporal polarimetric RADARSAT-2 data.", *ISPRS Journal of Photogrammetry and Remote Sensing*, 96, pp. 38-46. doi: 10.1016/j.isprsjprs.2014.06.014

Li, P.-F., Cheng, Z., Ma, B.-L., Palta, J.A., Kong, H.-Y., Mo, F., Wang, J.-Y., Zhu, Y., Lv, G.-C., Batool, A., Bai, X., Li, F.-M., and Xiong, Y.-C. (2014). "Dryland wheat domestication changed the development of aboveground architecture for a well-structured canopy.", *PLoS ONE*, 9(9): Article e95825. doi: 10.1371/journal.pone.0095825

Wang, Z., Gao, J., and Ma, B.-L. (2014). "Concurrent improvement in maize yield and nitrogen use efficiency with integrated agronomic management strategies.", *Agronomy Journal*, 106(4), pp. 1243-1250. doi: 10.2134/agronj13.0487

Zhao, H., Wang, R.Y., Ma, B.-L., Xiong, Y.-C., Qiang, S.C., Wang, C.L., Liu, C.-A., and Li, F.-M. (2014). "Ridge-furrow with full plastic film mulching improves water use efficiency and tuber yield of potato in a semiarid rainfed ecosystem.", *Field Crops Research*, 161, pp. 137-148. doi: 10.1016/j.fcr.2014.02.013

Ma, B.-L., Wu, T.-Y., and Shang, J. (2014). "On-farm comparison of variable rates of nitrogen with uniform application to maize on canopy reflectance, soil nitrate and grain yield.", *Journal of Plant Nutrition*, 177(2), pp. 216-226. doi: 10.1002/jpln.201200338

Wu, W., Li, C., Ma, B.-L., Shah, F., Liu, G., and Liao, Y. (2014). "Genetic progress in wheat yield and associated traits in China since 1945 and future prospects: A review.", *Euphytica*, 196(2), pp. 155-168. doi: 10.1007/s10681-013-1033-9

Zhou, H., Zhang, H., Mo, F., Zhao, H., Wang, R.Y., Wu, S., Deng, H., Asfa, B., Ma, B.-L., and Xiong, Y.-C. (2014). "Ecological process of water transformation in furrow and ridge mulching system in oat field under extreme drought scenario.", *Acta Ecologica Sinica*, 34(7), pp. 1757-1771. doi: 10.5846/stxb201306101580

Nimir, N.E.A., Lu, S., Zhou, G., Ma, B.-L., Guo, W., and Wang, Y. (2014). "Exogenous hormones alleviated salinity and temperature stresses on germination and early seedling growth of sweet sorghum.", *Agronomy Journal*, 106(6), pp. 2305-2315. doi: 10.2134/agronj13.0594

## 2013

Zhou, Q.P., Biswas, D.K., and Ma, B.-L. (2013). "Comparisons among cultivars of wheat, naked and hulled oats: dry matter, N and P accumulation and partitioning as affected by N supply and crop lodging.", *Journal of Plant Nutrition and Soil Science*, 176(6), pp. 929-941. doi: 10.1002/jpln.201200265

Biswas, D.K., Xu, H., Li, Y.-G., Ma, B.-L., and Jiang, G.M. (2013). "Modification of photosynthesis and growth responses to elevated CO<sub>2</sub> by ozone in two cultivars of winter wheat with different years of release.", *Journal of Experimental Botany*, 64(6), pp. 1485-1496. doi: 10.1093/jxb/ert005

Ma, B.-L., Subedi, K.D., Xue, A.G., and Voldeng, H.D. (2013). "Crop Management Effects on Fusarium Head Blight, Fusarium-Damaged Kernels and Deoxynivalenol Concentration of Spring Wheat.", *Journal of Plant Nutrition*, 36(5), pp. 717-730. doi: 10.1080/01904167.2012.748799

Liang, A.-Z., McLaughlin, N.B., Ma, B.-L., Gregorich, E.G., Morrison, M.J., Burt, S.D., Patterson, B.S., and Evenson, L.I. (2013). "Changes in mouldboard plough draught and tractor fuel consumption on continuous corn after 18 years of organic and inorganic N amendments.", *Energy*, 52, pp. 89-95. doi: 10.1016/j.energy.2012.10.064

Chan, Y.-K., McCormick, W.A., and Ma, B.-L. (2013). "Effects of inorganic fertilizer and manure on soil archaeal abundance at two experimental farms during three consecutive rotation-cropping seasons.", *Applied Soil Ecology*, 68, pp. 26-35. doi: 10.1016/j.apsoil.2013.03.004

## 2012

Ma, B.-L., Liang, B.C., Biswas, D.K., Morrison, M.J., and McLaughlin, N.B. (2012). "The carbon footprint of maize production as affected by nitrogen fertilizer and maize-legume rotations.", *Nutrient Cycling in Agroecosystems*, 94(1), pp. 15-31. doi: 10.1007/s10705-012-9522-0

Hussain, S., Ma, B.-L., Saleem, M.F., Anjum, A., Saeed, A., and Iqbal, J. (2012). "Abscisic acid spray on sunflower acts differently under drought and irrigation conditions.", *Agronomy Journal*, 104(3), pp. 561-568. doi: 10.2134/agronj2011.0315

Ma, B.-L. and Dwyer, L.M. (2012). "Changes in kernel characteristics during grain filling in silage-specific and dual-purpose corn hybrids.", *Canadian Journal of Plant Science*, 92(3), pp. 427-439. doi: 10.4141/CJPS2011-071

Zhao, G.Q., Ma, B.-L., Ren, C.Z., and Liang, B.C. (2012). "Timing and level of nitrogen supply affect nitrogen distribution and recovery in two contrasting oat genotypes.", *Journal of Plant Nutrition and Soil Science*, 175(4), pp. 614-621. doi: 10.1002/jpln.201100279

Wang, T.-C., Ma, B.-L., Xiong, Y.-C., and Li, F.-M. (2012). "A reflectance-based method for estimating transpirational water use efficiency in maize exposed to drought stress.", *Journal of Plant Nutrition*, 35(5), pp. 651-663. doi: 10.1080/01904167.2012.636128

Ma, B.-L., Biswas, D.K., Zhou, Q.P., and Ren, C.Z. (2012). "Comparisons among cultivars of wheat, hulled and hullless oats: Effects of N fertilization on growth and yield.", *Canadian Journal of Plant Science*, 92(6), pp. 1213-1222. doi: 10.4141/cjps2011-167

2011

Wang, T.-C., Wei, L., Wang, H.-Z., Ma, S.C., and Ma, B.-L. (2011). "Responses of rainwater conservation, precipitation-use efficiency and grain yield of summer maize to a furrow-planting and straw-mulching system in northern China.", *Field Crops Research*, 124(2), pp. 223-230. doi: 10.1016/j.fcr.2011.06.014

Liu, K., Ma, B.-L., Luan, L., and Li, C. (2011). "Nitrogen, phosphorus, and potassium nutrient effects on grain filling and yield of high-yielding summer corn.", *Journal of Plant Nutrition*, 34(10), pp. 1516-1531. doi: 10.1080/01904167.2011.585208

Wang, T.-C., Ma, B.-L., Xiong, Y.-C., Saleem, M.F., and Li, F.-M. (2011). "Optical sensing estimation of leaf nitrogen concentration in maize across a range of water-stress levels.", *Crop & Pasture Science*, 62(6), pp. 474-480. doi: 10.1071/CP10374

Ma, B.-L., Blackshaw, R.E., Roy, J., and He, T. (2011). "Investigation on gene transfer from genetically modified corn (*Zea mays* L.) plants to soil bacteria.", *Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Wastes*, 46(7), pp. 590-599. doi: 10.1080/03601234.2011.586598

Zhao, B.P., Ma, B.-L., Hu, Y.G., and Liu, J.H. (2011). "Leaf photosynthesis, biomass production and water and nitrogen use efficiencies of two contrasting naked vs. hulled oat genotypes subjected to water and nitrogen stresses.", *Journal of Plant Nutrition*, 34(14), pp. 2139-2157. doi: 10.1080/01904167.2011.618574

Gregorich, E.G., Lapen, D.R., Ma, B.-L., McLaughlin, N.B., and VandenBygaart, A.J. (2011). "Soil and Crop Response to Varying Levels of Compaction, Nitrogen Fertilization, and Clay Content.", *Soil Science Society of America Journal*, 75(4), pp. 1483-1492. doi: 10.2136/sssaj2010.0395

Wei, L., Xiong, Y.-C., Ma, B.-L., Ma, C., Zhang, H., Shao, Y., Li, P.-F., Cheng, Z., and Wang, T.-C. (2011). "Photosynthetic characterization and yield of summer corn (*Zea mays* L.) during grain filling stage under different planting pattern and population densities.", *Acta Ecologica Sinica*, 31(9), pp. 2524-2531.

Yanni, S.F., Whalen, J.K., and Ma, B.-L. (2011). "Field-grown Bt and non-Bt corn: Yield, chemical composition, and decomposability.", *Agronomy Journal*, 103(2), pp. 486-493. doi: 10.2134/agronj2010.0367

Yanni, S.F., Whalen, J.K., Ma, B.-L., and Gelinas, Y. (2011). "European corn borer injury effects on lignin, carbon and nitrogen in corn tissues.", *Plant and Soil*, 341(1-2), pp. 165-177. doi: 10.1007/s11104-010-0632-7

## Other Science Related Publications:

2015

Ma, B.-L. and Herath, A. (2015). "Nitrogen dynamics and yields of corn in a long-term rotation study.", 69th Northeastern Corn Improvement Conference, The Penn State Conference Center Hotel, The Pennsylvania State University, State College, PA, USA, February 12, 2015.

2014

Shang, J., Huffman, E.C., Liu, J., Ma, B.-L., Zhao, T., Qian, B., McNaim, H., Geng, X.Y., Lantz, N., and Wang, J. (2014). "Using Earth Observation to Monitor Corn Growth in Eastern Canada.", 68th North Eastern Corn Improvement Conference, Wooster, Ohio, USA, February 13-14, 2014.

Ma, B.-L. (2014). "Quantification of seasonal soil nitrogen mineralization and corn N uptake in Eastern Ontario.", 68th Northeastern Corn Improvement Conference, Agriculture Research and Development Center, Wooster, Ohio, USA, February 13-14, 2014.

Ma, B.-L., Smith, D.L., Shang, J., Whalen, J.K., Caldwell, B.C., Earl, H.J., Vanasse, A., and Scott, P. (2014). "Improving nutrient use efficiency and yield of canola in eastern Canada.", 20th World Congress of Soil Science, Jeju, South Korea, June 8-13, 2014, Presentation. (Poster)

Shang, J., Liu, J., Huffman, E.C., Qian, B., Pattey, E., Zhao, T., Ma, B.-L., and Wang, J.M. (2014). "Estimation of crop leaf area index using Landsat-8 and Rapideye images.", 3rd International Conference on Agro-Geoinformatics, Beijing, China, August 11-14, 2014.

Ma, B.-L., Yan, W., Pageau, D., Vera, C.L., and Herath, A. (2014). "Does Phosphorus Uptake Affect Crop Lodging in Oat Genotypes?", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

Ma, B.-L., Frégeau-Reid, J.A., Pageau, D., Vera, C.L., and Yan, W. (2014). "β-Glucan, Oil, and Protein of Oats as Affected by Variety, Location, and N Application.", American Oat Workers Conference 2014, Ottawa Marriott Hotel, Ottawa, ON, Canada, July 13-16, 2014.

## 2012

Ma, B.-L. (2012). "Responses of contrasting oat genotypes to abiotic stresses.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012.

Zhang, T.Q., Tan, C.S., Ma, B.-L., and Ng, H.Y.F. (2012). "Effects of Compost Addition on Soil Phosphorus and Nitrate-N Losses in Tile Drainage Water under Long-term Conventional Tillage and No-tillage.", 2012 ASABE Annual International Meeting, Hilton Anatole Dallas, Dallas, TX, USA, July 29-August 1, 2012, Paper #12-1336986. 11 pages.

## 2011

Ma, B.-L. (2011). "Improvement of field crop production efficiency with the application of optical sensing technologies.", Dow AgroSciences, Indianapolis, IN, USA, February 27-March 2, 2011.

Ma, B.-L. (2011). "Development of Nutrient Best management Practices for Canola Production in Eastern Canada.", Eastern Canada Oilseed Development Canola Workshop, Sheraton Hotel, Dorval, QC, Canada, December 14, 2011.

Biswas, D.K., Ma, B.-L., Jiang, G.M., and Jansen, M.A.K. (2011). "UV-B adaptation in Arabidopsis thaliana ecotypes.", Canadian Society of Plant Physiologists Eastern Regional Meeting & Plant Development Workshop / Congrès de la Société Canadienne de Physiologie Végétale & Congrès de Développement Végétale (Congrès Régional de l'Est), Carleton University, Ottawa, ON, Canada, December 2-3, 2011, SE-4, pp. 26.

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## Research Publications:

2015

Deans, A.R., Balhoff, J.P., Macklin, J.A., Sharkey, M.J., and others (2015). "Finding Our Way through Phenotypes.", *PLoS Biology*, 13(1), pp. 1-9. doi: 10.1371/journal.pbio.1002033

2013

Morris, R.A., Dou, L., Hanken, J., Kelly, M., Lowery, D.B., Ludaescher, B., Macklin, J.A., and Morris, P.J. (2013). "Semantic annotation of mutable data.", *PLoS ONE*, 8(11: Article number e76093). doi: 10.1371/journal.pone.0076093

Tschöpe, O., Macklin, J.A., Morris, R.A., Suhrbier, L., and Berendsohn, W.G. (2013). "Annotating biodiversity data via the Internet.", *Taxon*, 62(6), pp. 1248-1258. doi: 10.12705/626.4

2011

Macklin, J.A. and Phipps, J.B. (2011). "*Crataegus coccinea* var. *fulleriana* (Sargent) J.A. Macklin & J.B. Phipps, comb. et stat. nov.", *Phytoneuron*, 2011-29, pp. 1-1.

Morris, P.J., Macklin, J.A., Croft, J., Nicolson, N., and Whitbread, G. (2011). "Letter of concern regarding props. (117-119) to amend the ICBN to require pre-publication deposit of nomenclatural information.", *Mycotaxon*, 116, pp. 513-517. doi: 10.5248/116.513

## Other Science Related Publications:

2014

Bouchard, P., Bilodeau, G.J., Abbott, C.L., Footitt, R.G., Rott, M., Lewis, C.T., Macklin, J.A., Neuspiel, M., Esber, P., Sharpe, A.G., Lévesque, A., and Lévesque, C.A. (2014). "Development of novel genomics tools for the rapid detection of quarantine and invasive species in Canada: A new inter-departmental approach to address a complex problem.", *Global Summit on Regulatory Science (GSRS14)*, Montreal, Canada, August 21-22, 2014, Invited poster presentation. (Poster)

Macklin, J.A., Lewis, C.T., and others (2014). "Standards-based management of specimen-derived DNA sequences.", *TDWG 2014 ANNUAL CONFERENCE*, Jonkoping, Sweden.

Mitrow, G., Catling, P.M., Cayouette, J., Macklin, J.A., Smith, T.W., and Ward, A. (2014). "Preventing humidity and direct water damage in a dried plant collection (DAO).", *The Society for Preservation of Natural History Collection (SPNHC)*, June 2014. (Poster)

Côté, M.J., Leduc, L., Kerr, D., Dollard, C., Blain, A., Catling, P.M., Mitrow, G., Martin, S.L., Smith, T.W., and Macklin, J.A. (2014). "Barcoding of Quarantine and invasive species in Canada: Invasive Plants.", *Weeds Across Borders*, Ottawa, Canada, October 2014. (Abstract)

Mitrow, G., Catling, P.M., Cayouette, J., Macklin, J.A., Smith, T.W., and Ward, A. (2014). *Annual Report of the AAFC National Collection of Vascular Plants (DAO Herbarium) and National Vascular Plant Identification Service (January – December 2013). Completed in May 2014. (Report)*

2013

Mitrow, G., Catling, P.M., Cayouette, J., Macklin, J.A., and Ward, A. (2013). *Annual Report – Vascular Plant Herbarium. (Report)*

Côté, M.J., Leduc, L., Kerr, D., Dollard, C., Catling, P.M., Mitrow, G., Martin, S.L., Smith, T.W., and Macklin, J.A. (2013). "Barcoding of Quarantine and Invasive Species in Canada: Invasive Plants. Co-operation project between the Canadian Food Inspection Agency – CFIA and AAFC (GRDI - Genomics Research and Development).", *Plant Genome Evolution Meeting 2013*, Amsterdam, The Netherlands, September 8-10, 2013. (Abstract)

Catling, P.M., Mitrow, G., Small, E., Macklin, J.A., and Cayouette, J. (2013). "Examples of the value of The AAFC National Collection of Vascular Plants.", *Bulletin technique soumis à la Direction du CRECO*, 2013(Avril), pp. 9p.

2012

Alice, L., Macklin, J.A., Moore, G., and Goldman, D. (2012). "Rubus.", in Flora of North America Editorial Committee (eds.) - Flora of North America: North of Mexico. Vol. 9. Magnoliophyta: Picramniaceae to Rosaceae, Oxford University Press, UK.

2011

Nicolson, N., Paton, A., Macklin, J.A., Morris, P.J., Whitbread, G., and Gandhi, K. (2011). "Advancing the International Plant Names Index (IPNI).", XVIII International Botanical Congress, Melbourne Congress & Exhibition Centre, Melbourne, Australia, July 23-30, 2011, pp. 333. (Poster)

Macklin, J.A., Cui, H., Morris, P.J., and Morris, R.A. (2011). "Floras in the 21st Century: The Flora of North America Saga.", XVIII International Botanical Congress, Melbourne Congress & Exhibition Centre, Melbourne, Australia, July 23-30, 2011, pp. 337. (Poster)

Macklin, J.A., Desmet, P., and Sweeney, P. (2011). "Apple Core: Darwin Core guidelines for herbaria.", Biodiversity Information Standards (TDWG) Annual Conference 2011, Astor Crown Plaza Hotel, New Orleans, LA, USA, October 16-21, 2011.

Macklin, J.A. (2011). "Annotations: No longer just a slip of paper...", Biodiversity Information Standards (TDWG) Annual Conference 2011, Astor Crown Plaza Hotel, New Orleans, LA, USA, October 16-21, 2011.

Dou, L., Hanken, J., Ludaescher, B., Macklin, J.A., McPhillips, T.M., Morris, P.J., Morris, R.A., Wang, Z., and Koehler, S. (2011). "Automating Data Curation with Kepler Workflows.", 7th International Digital Curation Conference, Marriott Royal Hotel, Bristol, UK, December 5-7, 2011. (Poster)

Dou, L., Hanken, J., Ludaescher, B., Macklin, J.A., McPhillips, T.M., Morris, P.J., Morris, R.A., and Wang, Z. (2011). "Building specimen-data curation pipelines using Kepler workflow technology in a Filtered Push network.", 4th Joint Meeting of the Society for the Preservation of Natural History Collections and the Natural Science Collections Alliance (NSCA), San Francisco, CA, USA, May 23-28, 2011, pp. 46.



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## Research Publications:

2015

Mafu, A.A., Massicotte, R., Pichette, G., and Ahmad, D. (2015). "Importance of mechanical action in a terminal disinfection process for decontamination of *Clostridium difficile* spores on hospital inert contact surfaces.", *International Journal of Infection Control*, 11(3), pp. 1-9. doi: 10.3396/IJC.v11i3.018.15

2014

Vogeleer, P., Tremblay, Y.D.N., Mafu, A.A., Jacques, M., and Harel, J. (2014). "Life on the outside: Role of biofilms in environmental persistence of Shiga-toxin producing *Escherichia coli*.", *Frontiers in Microbiology*, 5(July: Article number Article 317). doi: 10.3389/fmicb.2014.00317

Robitaille, G., Choinière, S., Ells, T.C., Deschênes, L., and Mafu, A.A. (2014). "Attachment of *Listeria innocua* to Polystyrene: Effects of Ionic Strength and Conditioning Films from Culture Media and Milk Proteins.", *Journal of Food Protection*, 77(3), pp. 427-434.

2013

Mafu, A.A., Massicotte, R., Pichette, G., Lafleur, S., Lemay, M.-J., and Ahmad, D. (2013). "Influence of surface and cloth characteristics on mechanical removal of methicillin-resistant *Staphylococcus aureus* (MRSA) attached to inanimate environmental surfaces in hospital and healthcare facilities.", *International Journal of Infection Control*, 9(3), pp. 1-11. doi: 10.3396/IJC.v9i3.021.13

2012

Deshaies, F., Ahmad, D., Massicotte, R., Pichette, G., Belhumeur, P., and Mafu, A.A. (2012). "Comparison of efficacy profiles for minimum lethal concentrations (MLCs) of some commonly used commercial hospital microbicidal detergent-disinfectant products for disinfectants and sporicidal activity.", *International Journal of Infection Control*, 8(2), pp. 1-10. doi: 10.3396/ijic.v8i2.013.12

2011

Mafu, A.A., Plumety, C., Deschênes, L., and Goulet, J. (2011). "Influence du pH de culture sur les propriétés physico-chimiques de surface des bactéries pathogènes.", *Annales de la Faculté de médecine vétérinaire*, XXII(1).

Massicotte, R., Ginestet, P., Yahia, L., Pichette, G., and Mafu, A.A. (2011). "Comparative study from a chemical perspective of two- and three-step disinfection techniques to control *Clostridium difficile* spores.", *International Journal of Infection Control*, 7(4), pp. 1-8. doi: 10.3396/ijic.V7i4.031.11

Ali, F., Mafu, A.A., and Robert, C. (2011). "*Gnetum africanum*: A wild food plant from the African forest with many nutritional and medicinal properties.", *Journal of Medicinal Food*, 14(11), pp. 1289-1297. doi: 10.1089/jmf.2010.0327

Dubois-Brissonnet, F., Mafu, A.A., Naïtali, M., and Briandet, R. (2011). "Induction of fatty acid composition modifications and tolerance to biocides in *Salmonella enterica* serovar typhimurium by plant-derived terpenes.", *Applied and Environmental Microbiology*, 77(3), pp. 906-910. doi: 10.1128/aem.01480-10

Mafu, A.A., Plumety, C., Deschênes, L., and Goulet, J. (2011). "Adhesion of pathogenic bacteria to food contact surfaces: Influence of pH of culture.", *International Journal of Microbiology*, 2011(Article ID 972494). doi: 10.1155/2011/972494

## Other Science Related Publications:

2012

Raymond, P., Venne, P., Richard, M.-A., Deschênes, L., Lego, B., Paul, S., St-Germain, F., and Mafu, A.A. (2012). "IMS/MS based quantification of fullerenes spiked into model food matrices.", 60th American Society for Mass Spectrometry Conference on Mass Spectrometry and Allied Topics, Vancouver, BC, Canada, May 20-24, 2012.

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## Research Publications:

2014

Malhi, S.S., Vera, C.L., and Brandt, S.A. (2014). "Feasibility of rock phosphate and other amendments in preventing P deficiency in barley on a P-deficient soil in northeastern Saskatchewan.", *Agricultural Sciences*, 5(14), pp. 1491-1500. doi : 10.4236/as.2014.514160

Wang, Y., Xie, Z., Malhi, S.S., Vera, C.L., and Zhang, Y. (2014). "Gravel-sand mulch thickness effects on soil temperature, evaporation, water use efficiency and yield of watermelon yield in semi-arid Loess Plateau, China.", *Acta Ecologica Sinica*, 34(5), pp. 261-265. doi: 10.1016/j.chnaes.2014.05.007

Malhi, S.S., Vera, C.L., and Brandt, S.A. (2014). "Feasibility of a new granular rapid release elemental S fertilizer in preventing S deficiency of canola on an S-deficient soil.", *Agricultural Sciences*, 5, pp. 1025-1036. doi: 10.4236/as.2014.51111

Foster, A., Vera, C.L., Malhi, S.S., and Clarke, F.R. (2014). "Forage yield of simple and complex grass-legume mixtures under two management strategies.", *Canadian Journal of Plant Science*, 94(1), pp. 41-50. doi: 10.4141/cjps2013-095

Malhi, S.S., Berkenkamp, W.B., and McBeath, D.K. (2014). "Relative Nitrogen Fertilizer Requirements of Forage Versus Grain for Barley and Oat.", *Journal of Plant Nutrition*, 37(9), pp. 1514-1521. doi: 10.1080/01904167.2014.907422

Shahidi, B.M.R., Dyck, M.F., and Malhi, S.S. (2014). "Carbon dioxide emissions from tillage of two long-term no-till Canadian prairie soils.", *Soil & Tillage Research*, 144, pp. 72-82. doi: 10.1016/j.still.2014.07.008

Giweta, M., Dyck, M.F., Malhi, S.S., Puurveen, D., and Robertson, J.A. (2014). "Long-term S-fertilization increases carbon sequestration in a sulfur-deficient soil.", *Canadian Journal of Soil Science*, 94(3), pp. 295-301. doi : 10.4141/CJSS2013-022

Feng, W., Xu, M., Fan, M., Malhi, S.S., Schoenau, J.J., Six, J., and Plante, A.F. (2014). "Testing for soil carbon saturation behavior in agricultural soils receiving long-term manure amendments.", *Canadian Journal of Soil Science*, 94(3), pp. 281-294. doi: 10.4141/CJSS2013-012

Goglio, P., Grant, B.B., Smith, W.N., Desjardins, R.L., Worth, D.E., Zentner, R.P., and Malhi, S.S. (2014). "Impact of management strategies on the global warming potential at the cropping system level.", *Science of the Total Environment*, 490, pp. 921-933. doi: 10.1016/j.scitotenv.2014.05.070

Dai, M., Hamel, C., Bainard, L.D., St. Amand, M., Grant, C.A., Lupwayi, N.Z., Malhi, S.S., and Lemke, R.L. (2014). "Negative and positive contribution of arbuscular mycorrhizal fungal taxa to wheat production and nutrient uptake efficiency in organic and conventional systems in the Canadian prairie.", *Soil Biology & Biochemistry*, 74, pp. 156-166. doi : 10.1016/j.soilbio.2014.03.016

Malhi, S.S., Johnson, E.N., Hall, L.M., May, W.E., Phelps, S.M., and Nybo, B.X. (2014). "Effect of nitrogen fertilizer application on seed yield, N uptake, and seed quality of *Camelina sativa*.", *Canadian Journal of Soil Science*, 94(1), pp. 35-47. doi : 10.4141/CJSS2012-086

2013

Malhi, S.S., Vera, C.L., and Brandt, S.A. (2013). "Relative effectiveness of organic and inorganic nutrient sources in improving yield, seed quality and nutrient uptake of canola.", *Agricultural Sciences*, 4(12A), pp. 1-18. doi: 10.4236/as.2013.412A001

Foster, A. and Malhi, S.S. (2013). "Influence of Seeding Date and Growing Season Conditions on Forage Yield and Quality of Four Annual Crops in Northeastern Saskatchewan.", *Communications in Soil Science and Plant Analysis*, 44(5), pp. 884-891. doi: 10.1080/00103624.2012.747610

Kutcher, H.R., Brandt, K., Smith, E.G., Ulrich, D.J., and Malhi, S.S. (2013). "Blackleg disease of canola mitigated by resistant cultivars and four-year crop rotations in western Canada.", *Canadian Journal of Plant Pathology*. doi : 10.1080/07060661.2013.775600

Khakbazan, M., Grant, C.A., Finlay, G., Wu, R.G., Malhi, S.S., Selles, F., Clayton, G.W., Lupwayi, N.Z., Soon, Y.K., and Harker, K.N. (2013). "An economic study of controlled release urea and split applications of nitrogen as compared with non-coated urea under conventional and reduced tillage management.", *Canadian Journal of Plant Science*, 93(3), pp. 523-534. doi : 10.4141/CJPS2012-107

Malhi, S.S. and Lemke, R.L. (2013). "Effectiveness of Seedrow-Placed N with Polymer-Coated NTP-Treated Urea for Canola and Wheat.", *Journal of Plant Nutrition*, 36(14), pp. 2205-2224. doi : 10.1080/01904167.2013.836227

Niaz, A., Ahmad, W., Zia, M.H., and Malhi, S.S. (2013). "Relationship of soil extractable and fertilizer boron to some soil properties, crop yields, and total boron in cotton and wheat plants on selected soils of Punjab, Pakistan.", *Journal of Plant Nutrition*, 36(3), pp. 343-356. doi : 10.1080/01904167.2012.744037

Smith, E.G., Kutcher, H.R., Brandt, S.A., Ulrich, D.J., Malhi, S.S., and Johnston, M. (2013). "The profitability of short-duration canola and pea rotations in western Canada.", *Canadian Journal of Plant Science*, 93(5), pp. 933-940. doi : 10.4141/cjps2013-021

Malhi, S.S., Sahota, T.S., and Gill, K.S. (2013). "Potential of Management Practices and Amendments for Preventing Nutrient Deficiencies in Field Crops under Organic Cropping Systems.", in Bhullar, G.S. and Bhullar, N.K. (eds.) - *Agricultural Sustainability: Progress and Prospects in Crop Research*, Academic Press, Chapter 5, pp. 77-101.

Ali, M.K., Ahmad, W., Malhi, S.S., Atta, B.M., Ghafoor, A., and Zia, M.H. (2013). "Potential of Carbon Dioxide Biosequestration on Saline-Sodic Soils during Amelioration under Rice-Wheat Land Use.", *Communications in Soil Science and Plant Analysis*, 44(17), pp. 2625-2635. doi : 10.1080/00103624.2013.811522

## 2012

Gan, Y.T., Liang, C., Huang, G., Malhi, S.S., Brandt, S.A., and Katepa-Mupondwa, F. (2012). "Carbon footprint of canola and mustard is a function of the rate of N fertilizer.", *International Journal of Life Cycle Assessment*, 17(1), pp. 58-68. doi : 10.1007/s11367-011-0337-z

Dai, M., Hamel, C., St. Arnaud, M., He, Y., Grant, C.A., Lupwayi, N.Z., Janzen, H.H., Malhi, S.S., Yang, X., and Zhou, Z. (2012). "Arbuscular mycorrhizal fungi assemblages in Chernozem great groups revealed by massively parallel pyrosequencing.", *Canadian Journal of Microbiology*, 58(1), pp. 81-92. doi : 10.1139/W11-111

Malhi, S.S. (2012). "Improving organic C and N fractions in a sulfur-deficient soil with S fertilization.", *Biology and Fertility of Soils*, 48(6), pp. 735-739. doi : 10.1007/s00374-012-0668-3

Gan, Y.T., Liang, C., May, W.E., Malhi, S.S., Niu, J., and Wang, X. (2012). "Carbon footprint of spring barley in relation to preceding oilseeds and N fertilization.", *International Journal of Life Cycle Assessment*, 17(5), pp. 635-645. doi : 10.1007/s11367-012-0383-1

Li, K.Y., Zhao, Y.-Y., Yuan, X.-L., Zhao, H.-B., Wang, Z.-H., Li, S.-X., and Malhi, S.S. (2012). "Comparison of Factors Affecting Soil Nitrate Nitrogen and Ammonium Nitrogen Extraction.", *Communications in Soil Science and Plant Analysis*, 43(3), pp. 571-588. doi : 10.1080/00103624.2012.639108

Huang, C., Wang, Z.-H., Li, S.-X., and Malhi, S.S. (2012). "Measurement of Nitrate Efflux from Roots and Its Relation to Nitrate Accumulation in Two Oilseed Rape Cultivars.", *Communications in Soil Science and Plant Analysis*, 43(3), pp. 507-518. doi : 10.1080/00103624.2012.639426

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Klein-Gebbinck, H.W., Dossall, L.M., Hall, L.M., Willenborg, C.J., Kutcher, H.R., Malhi, S.S., Vera, C.L., Gan, Y.T., Lafond, G.P., May, W.E., Grant, C.A., and McLaren, D.L. (2012). "High-yield no-till canola production on the Canadian prairies.", *Canadian Journal of Plant Science*, 92(2), pp. 221-233. doi : 10.4141/CJPS2011-125

May, W.E., Malhi, S.S., Holzapfel, C.B., Nybo, B.X., Schoenau, J.J., and Lafond, G.P. (2012). "The Effects of Chloride and Potassium Nutrition on Seed Yield of Annual Canarygrass.", *Agronomy Journal*. doi : 10.2134/agronj2011.0414

Smith, W.N., Grant, B.B., Campbell, C.A., McConkey, B.G., Desjardins, R.L., Kröbel, R., and Malhi, S.S. (2012). "Crop residue removal effects on soil carbon: Measured and inter-model comparisons.", *Agriculture, Ecosystems and Environment*, 161, pp. 27-38. doi : 10.1016/j.agee.2012.07.024

Malhi, S.S. (2012). "Short-term residual effects of various amendments on organic C and N, and available nutrients in soil under organic crop production.", *Agricultural Sciences*, 3(3), pp. 375-384. doi : 10.4236/as.2012.33044

Malhi, S.S. (2012). "Relative Effectiveness of Various Amendments in Improving Yield and Nutrient Uptake under Organic Crop Production.", *Open Journal of Soil Science*, 2(3), pp. 299-311. doi : 10.4236/ojss.2012.23036

Grant, C.A., Malhi, S.S., and Karamanos, R.E. (2012). "Sulfur management for rapeseed.", *Field Crops Research*, 128, pp. 119-128. doi : 10.1016/j.fcr.2011.12.018

Lemke, R.L., Malhi, S.S., Johnson, E.N., Brandt, S.A., Zentner, R.P., and Olfert, O.O. (2012). "Alternative Cropping Systems Study - Scott, Saskatchewan.", *Prairie Soils and Crops*, 5, pp. 74-84.

Malhi, S.S., Nyborg, M., Goddard, T.W., and Puurveen, D. (2012). "Long-Term Tillage, Straw Management, and Nitrogen Fertilization Effects on Organic Matter and Mineralizable Carbon and Nitrogen in a Black Chernozem Soil.", *Communications in Soil Science and Plant Analysis*, 43(20), pp. 2679-2690. doi: 10.1080/00103624.2012.711880

2011

Malhi, S.S., Nyborg, M., Solberg, E.D., McConkey, B.G., Dyck, M.F., and Puurveen, D. (2011). "Long-term straw management and N fertilizer rate effects on quantity and quality of organic C and N and some chemical properties in two contrasting soils in Western Canada.", *Biology and Fertility of Soils*, 47(7), pp. 785-800. doi: 10.1007/s00374-011-0587-8

Yaseen, M. and Malhi, S.S. (2011). "Exploitation of genetic variability among wheat genotypes for tolerance to phosphorus deficiency stress.", *Journal of Plant Nutrition*, 34(5), pp. 665-699. doi: 10.1080/01904167.2011.540623

Wang, Y., Xie, Z., Malhi, S.S., Vera, C.L., Zhang, Y., and Guo, Z. (2011). "Effects of gravel-sand mulch, plastic mulch and ridge and furrow rainfall harvesting system combinations on water use efficiency, soil temperature and watermelon yield in a semi-arid Loess Plateau of northwestern China.", *Agricultural Water Management*, 101(1), pp. 88-92. doi: 10.1016/j.agwat.2011.09.006

Malhi, S.S., Nyborg, M., Goddard, T.W., and Puurveen, D. (2011). "Long-term tillage, straw management and N fertilization effects on quantity and quality of organic C and N in a Black Chernozem soil.", *Nutrient Cycling in Agroecosystems*, 90(2), pp. 227-241. doi: 10.1007/s10705-011-9424-6

Amanullah, Jr., Hassan, M., and Malhi, S.S. (2011). "Phenology and seed quality response of rape (*B. Napus*) versus mustard (*B. Juncea*) to sulfur and potassium fertilization in Northwest Pakistan.", *Journal of Plant Nutrition*, 34(8), pp. 1175-1185. doi: 10.1080/01904167.2011.558160

Malhi, S.S., Kutcher, H.R., Brandt, S.A., and Ulrich, D.J. (2011). "Effects of broad-leaf crop frequency in various rotations on nitrate nitrogen and extractable phosphorus in a black chernozem soil.", *Communications in Soil Science and Plant Analysis*, 42(19), pp. 2379-2390. doi: 10.1080/00103624.2011.605496

Kutcher, H.R., Johnston, A.M., Bailey, K.L., and Malhi, S.S. (2011). "Managing crop losses from plant diseases with foliar fungicides, rotation and tillage on a Black Chernozem in Saskatchewan, Canada.", *Field Crops Research*, 124(2), pp. 205-212. doi: 10.1016/j.fcr.2011.05.018

Fan, J., Hao, M., Malhi, S.S., Wang, Q., and Huang, M. (2011). "Influence of 24 annual applications of fertilisers and/or manure to alfalfa on forage yield and some soil properties under dryland conditions in northern China.", *Crop & Pasture Science*, 62(5), pp. 437-443. doi: 10.1071/CP10370

Malhi, S.S., Nyborg, M., Solberg, E.D., Dyck, M.F., and Puurveen, D. (2011). "Improving crop yield and N uptake with long-term straw retention in two contrasting soil types.", *Field Crops Research*, 124(3), pp. 378-391. doi: 10.1016/j.fcr.2011.07.009

Malhi, S.S., Nyborg, M., Solberg, E.D., Wang, Z.-H., and Henriquez, B. (2011). "Influence of twenty-three annual applications of nitrogen and sulfur fertilizers, and one-time liming on dry matter yield of grass and some soil properties on a dark gray chernozem soil.", *Journal of Plant Nutrition*, 34(10), pp. 1567-1578. doi: 10.1080/01904167.2011.587584

Amanullah, Jr., Hassan, M., and Malhi, S.S. (2011). "Seed yield and yield components response of rape (*B. napus*) versus mustard (*B. juncea*) to sulfur and potassium fertilizer application in northwest Pakistan.", *Journal of Plant Nutrition*, 34(8), pp. 1164-1174. doi: 10.1080/01904167.2011.558159

Yang, S.-M., Wang, P., Suo, D.-R., Malhi, S.S., Chen, Y., Guo, Y.-J., E, S.-Z., and Zhang, D.W. (2011). "Short-term irrigation level effects on residual nitrate in soil profile and N balance from long-term manure and fertilizer applications in the arid areas of Northwest China.", *Communications in Soil Science and Plant Analysis*, 42(7), pp. 790-802. doi: 10.1080/00103624.2011.552661

Malhi, S.S., Brandt, S.A., Kutcher, H.R., and Ulrich, D.J. (2011). "Effects of broad-leaf crop frequency and fungicide application in various rotations on nitrate nitrogen and extractable phosphorus in a dark brown soil.", *Communications in Soil Science and Plant Analysis*, 42(22), pp. 2795-2812. doi: 10.1080/00103624.2011.622825

Malhi, S.S., Nyborg, M., Dyck, M.F., and Puurveen, D. (2011). "Influence of long-term tillage, straw, and n fertilizer management on crop yield, N uptake, and n balance sheet in two contrasting soil types.", *Communications in Soil Science and Plant Analysis*, 42(20), pp. 2548-2560. doi: 10.1080/00103624.2011.609262

Malhi, S.S., Nyborg, M., Goddard, T.W., and Puurveen, D. (2011). "Long-term tillage, straw and N rate effects on quantity and quality of organic C and N in a Gray Luvisol soil.", *Nutrient Cycling in Agroecosystems*, 90(1), pp. 1-20. doi: 10.1007/s10705-010-9399-8

Malhi, S.S. (2011). "Relative response of forage and seed yield of alfalfa to sulfur, phosphorus, and potassium fertilization.", *Journal of Plant Nutrition*, 34(6), pp. 888-908. doi: 10.1080/01904167.2011.544357

Soon, Y.K., Malhi, S.S., Lemke, R.L., Lupwayi, N.Z., and Grant, C.A. (2011). "Effect of polymer-coated urea and tillage on the dynamics of available N and nitrous oxide emission from Gray Luvisols.", *Nutrient Cycling in Agroecosystems*, 90(2), pp. 267-279. doi: 10.1007/s10705-011-9428-2

Lkhagvasuren, B., Schoenau, J.J., Anderson, D.W., and Malhi, S.S. (2011). "Plant and soil responses to nitrogen and phosphorus fertilization of brome-grass-dominated haylands in Saskatchewan, Canada.", *Grass and Forage Science*, 66(3), pp. 351-360. doi: 10.1111/j.1365-2494.2011.00790.x

Zentner, R.P., Basnyat, P., Brandt, S.A., Thomas, A.G., Ulrich, D.J., Campbell, C.A., Nagy, C.N., Frick, B.L., Lemke, R.L., Malhi, S.S., Olfert, O.O., and Fernandez, M.R. (2011). "Effects of input management and crop diversity on economic returns and riskiness of cropping systems in the semi-arid Canadian Prairie.", *Renewable Agriculture and Food Systems*, 26(3), pp. 208-223. doi: 10.1017/s1742170510000591

Zhang, M., Malhi, S.S., Panasuik, R., and Henriquez, B. (2011). "Response of turfgrass growth in a black chernozemic soil amended with municipal solid/biosolid waste compost.", *Journal of Plant Nutrition*, 34(2), pp. 183-205. doi: 10.1080/01904167.2011.533321

Zentner, R.P., Basnyat, P., Brandt, S.A., Thomas, A.G., Ulrich, D.J., Campbell, C.A., Nagy, C.N., Frick, B.L., Lemke, R.L., Malhi, S.S., and Fernandez, M.R. (2011). "Effects of input management and crop diversity on non-renewable energy use efficiency of cropping systems in the Canadian Prairie.", *European Journal of Agronomy*, 34(2), pp. 113-123. doi: 10.1016/j.eja.2010.11.004

Malhi, S.S., Nyborg, M., Goddard, T.W., and Puurveen, D. (2011). "Long-term tillage, straw and N rate effects on some chemical properties in two contrasting soil types in Western Canada.", *Nutrient Cycling in Agroecosystems*, 90(1), pp. 133-146. doi: 10.1007/s10705-010-9417-x

## Other Science Related Publications:

2013

Légère, A., Vanasse, A., Parent, G., Malhi, S.S., and Stevenson, F.C. (2013). "Productivity unleashed: crop and weed response to plowing 24 year-old no-till plots.", 53rd Annual Meeting of the Weed Science Society of America (WSSA), Baltimore, MD, USA, February 4-7, 2013.

2012

Malhi, S.S. and Leach, D. (2012). "Relative Effectiveness of Organic and Inorganic Nutrient Sources in Improving Seed Yield and Nutrient Uptake of Canola.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012, pp. 56. (Poster)

Malhi, S.S., Brandt, S.A., Zentner, R.P., Gill, K.S., and Sahota, T.S. (2012). "Potential of Various Management Practices and Amendments in Preventing Nutrient Deficiencies in Organic Crop Production.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012, pp. 106.

2011

Smith, W.N., Grant, B.B., Campbell, C.A., McConkey, B.G., Desjardins, R.L., Kröbel, R., and Malhi, S.S. (2011). "Analysis and inter-model comparisons of crop residue removal effects on soil carbon.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Poster)

Malhi, S.S. (2011). "Long-term tillage, straw and N rate effects on quantity and quality of organic C and N in a Gray Luvisol soil [Nutr Cycl Agroecosyst, (2010), 90(1), pp. 1-20] (Erratum).", *Nutrient Cycling in Agroecosystems*, 90(1), pp. 21-22.

Grant, C.A., Zebarth, B.J., Malhi, S.S., Soon, Y.K., Selles, F., Lupwayi, N.Z., O'Donovan, J.T., Harker, K.N., and Clayton, G.W. (2011). "Changes in soil ammonium and nitrate concentration over the growing season in western Canada as affected by urea or controlled release urea application.", 12th International Symposium on Soil and Plant Analysis, Mediterranean Agronomic Institute of Chania, Crete, Greece, June 6-10, 2011.

Grant, C.A., Beres, B.L., Malhi, S.S., Pageau, D., Lafond, J., Schoenau, J.J., Walley, F.L., Heard, J., Flaten, D.N., Hellegards, B., and Sahota, T.S. (2011). "New developments in nutrition research for canola.", Canola Research Summit meeting, Winnipeg, MB, Canada, April 12-13, 2011.

Karamanos, R.E., Grant, C.A., and Malhi, S.S. (2011). "Sulfur Management in the Northern Great Plains.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Abstract)

Grant, C.A., Gao, X., Flaten, D.N., Tenuta, M., and Malhi, S.S. (2011). "Impact of Long-term Application of Cadmium in Phosphate Fertilizer on Extractable Cadmium as Affected by Soil Characteristics.", 11th International Conference of Biogeochemistry of Trace Elements, Florence, Italy, July 3-7, 2011.

Grant, C.A., Gao, X., Flaten, D.N., Tenuta, M., Malhi, S.S., and Akinremi, W. (2011). "Impact of long-term application of cadmium in phosphate fertilizer on extractable cadmium as affected by soil characteristics.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Abstract)

Akinremi, W., Grant, C.A., Ige, D.V., Gao, X., Flaten, D.N., Tenuta, M., and Malhi, S.S. (2011). "Changes in soil test phosphorus following seven consecutive applications of high rates of phosphate fertilizer.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Abstract)

DePauw, R.M., Malhi, S.S., Bullock, P.R., Gan, Y.T., McKenzie, R.H., Lamey, F.J., Janzen, H.H., Cutforth, H.W., and Wang, H. (2011). "Wheat Production in Northern High Latitudes – Canadian example.", in Bonjean, A., Angus, W., and Van Ginkel, M. (eds.) - The World Wheat Book A History of Wheat Breeding. Vol. 2, Lavoisier Techet Doc, Paris, France, pp. 607-651.

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## Research Publications:

2015

De Ron, A.M., González, A.M., Papa, R., Bitocchi, E., Debouck, D.G., Brick, M.A., Fourie, D., Marsolais, F., Beaver, J.S., Geffroy, V., McClean, P.E., Lozano, R., Yuste-Lisbona, F., and Casquero, P.A. (2015). "Common bean.", in De Ron, A.M. (ed.) - Grain Legumes, Series Handbook of Plant Breeding. Vol 10., Springer-Verlag GmbH, pp. 1-36.

Pandurangan, S., Pajak, A., Rintoul, T.L., Beyaert, R.P., Hernández-Sebastià, C., Brown, D.C.W., and Marsolais, F. (2015). "Soybean seed overexpressing asparaginase exhibit reduced protein concentration.", *Physiologia Plantarum*, 152(2), pp. 126-137. doi: 10.1111/ppl.12341

Groves, R.A., Hagel, J.M., Zhang, Y., Kilpatrick, K.G., Levy, A., Marsolais, F., Lewinsohn, E., Sensen, C.W., and Facchini, P.J. (2015). "Transcriptome profiling of khat (*Catha edulis*) and *Ephedra sinica* reveals gene candidates potentially involved in amphetamine-type alkaloid biosynthesis.", *PLoS ONE*, 10(3): e0119701, pp. 21 pages. doi: 10.1371/journal.pone.0119701

2014

Pandurangan, S., Sandercock, M., Beyaert, R.P., Conn, K.L., Hou, A., and Marsolais, F. (2014). "Differential response to sulfur nutrition of two common bean genotypes differing in storage protein composition.", *Frontiers in Plant Science*, 6(Feb: Article 92), pp. 1-11. doi: 10.3389/fpls.2015.00092

Zhang, Q. and Marsolais, F. (2014). "Identification and characterization of  $\omega$ -amidase as an enzyme metabolically linked to asparagine transamination in *Arabidopsis*.", *Phytochemistry*, 99, pp. 36-43. doi: 10.1016/j.phytochem.2013.12.020

Zou, X., Shi, C., Austin, R.S., Merico, D., Munholland, S., Marsolais, F., Navabi, A., Crosby, W.L., Pauls, K.P., Yu, K., and Cui, Y. (2014). "Genome-wide single nucleotide polymorphism and Insertion-Deletion discovery through next-generation sequencing of reduced representation libraries in common bean.", *Molecular Breeding*, 33(4), pp. 769-778. doi: 10.1007/s11032-013-9997-7

Bejger, M., Imiolczyk, B., Clavel, D., Gilski, M., Pajak, A., Marsolais, F., and Jaskolski, M. (2014). "Na<sup>+</sup>/K<sup>+</sup> exchange switches the catalytic apparatus of K-dependent plant L-asparaginase.", *Acta Crystallographica Section D Biological Crystallography*, 70(7), pp. 1854-1872. doi: 10.1107/s1399004714008700

2013

Zhang, Q., Lee, J., Pandurangan, S., Clarke, M., Pajak, A., and Marsolais, F. (2013). "Characterization of *Arabidopsis* serine: glyoxylate aminotransferase, AGT1, as an asparagine aminotransferase.", *Phytochemistry*, 85, pp. 30-35. doi: 10.1016/j.phytochem.2012.09.017

Lin, Y., Pajak, A., Marsolais, F., McCourt, P., and Riggs, C.D. (2013). "Characterization of a cruciferin deficient mutant of *Arabidopsis* and its utility for overexpression of foreign proteins in plants.", *PLoS ONE*, 8(5), pp. e64980. doi: 10.1371/journal.pone.0064980

Liao, D., Cram, D., Sharpe, A.G., and Marsolais, F. (2013). "Transcriptome profiling identifies candidate genes associated with the accumulation of distinct sulfur  $\gamma$ -glutamyl dipeptides in *Phaseolus vulgaris* and *Vigna mungo* seeds.", *Frontiers in Plant Science*, 4:60. doi: 10.3389/fpls.2013.00060

2012

Ivanov, A., Kameka, A., Pajak, A., Bruneau, L., Beyaert, R.P., Hernández-Sebastià, C., and Marsolais, F. (2012). "Arabidopsis mutants lacking asparaginases develop normally but exhibit enhanced root inhibition by exogenous asparagine.", *Amino Acids*, 42(6), pp. 2307-2318. doi: 10.1007/s00726-011-0973-4

Pandurangan, S., Pajak, A., Molnar, S.J., Cober, E.R., Dhaubhadel, S., Hernández-Sebastià, C., Kaiser, W.M., Nelson, R.L., Huber, S.C., and Marsolais, F. (2012). "Relationship between asparagine metabolism and protein concentration in soybean seed.", *Journal of Experimental Botany*, 63(8), pp. 3173-3184. doi: 10.1093/jxb/ers039

Hagel, J.M., Krizevski, R., Marsolais, F., Lewinsohn, E., and Facchini, P.J. (2012). "Biosynthesis of amphetamine analogues in plants.", *Trends in Plant Science*, 17(7), pp. 404-412. doi: 10.1016/j.tplants.2012.03.004

Krizevski, R., Bar, E., Shalit, O., Levy, A., Hagel, J.M., Kilpatrick, K.G., Marsolais, F., Facchini, P.J., Ben-Shabat, S., Sitrit, Y., and Lewinsohn, E. (2012). "Benzaldehyde is a precursor of phenylpropylamino alkaloids as revealed by targeted metabolic profiling and comparative biochemical analyses in *Ephedra* spp.", *Phytochemistry*, 81, pp. 71-79. doi : 10.1016/j.phytochem.2012.05.018

Liu, W., Liang, Z., Shan, C.-J., Marsolais, F., and Tian, L.-N. (2012). "Genetic transformation and full recovery of alfalfa plants via secondary somatic embryogenesis.", *In Vitro Cellular & Developmental Biology - Plant*, 49(1), pp. 17-23. doi : 10.1007/s11627-012-9463-y

Liao, D., Pajak, A., Karcz, S.R., Chapman, B. P., Austin, R.S., Sharpe, A.G., Datla, R.S.S., Dhaubhadel, S., and Marsolais, F. (2012). "Transcripts of sulfur metabolic genes are coordinately regulated in developing seeds of common bean lacking phaseolin and major lectins.", *Journal of Experimental Botany*, 63(17), pp. 6283-6295. doi : 10.1093/jxb/ers280

2011

Gabriel, M., Telmer, P.G., and Marsolais, F. (2011). "Role of asparaginase variable loop at the carboxyl terminal of the alpha subunit in the determination of substrate preference in plants.", *Planta*, 235(5), pp. 1013-1022. doi : 10.1007/s00425-011-1557-y

Yin, F., Pajak, A., Chapman, R.A., Sharpe, A.G., Huang, S.Z., and Marsolais, F. (2011). "Analysis of common bean expressed sequence tags identifies sulfur metabolic pathways active in seed and sulfur-rich proteins highly expressed in the absence of phaseolin and major lectins.", *BMC Genomics*, 12:268. doi : 10.1186/1471-2164-12-268

Hagel, J.M., Krizevski, R., Kilpatrick, K.G., Sitrit, Y., Marsolais, F., Lewinsohn, E., and Facchini, P.J. (2011). "Expressed sequence tag analysis of khat (*Catha edulis*) provides a putative molecular biochemical basis for the biosynthesis of phenylpropylamino alkaloids.", *Genetics and Molecular Biology*, 34, pp. 640-646. doi : 10.1590/S1415-47572011000400017

## Other Science Related Publications:

2015

Pandurangan, S., Crosby, W.L., Pauls, K.P., and Marsolais, F. (2015). "Genomic analysis of polymorphisms conferring storage protein deficiency in common bean.", ASPB Midwestern Section's Annual Meeting, Saint-Louis, MO, USA, March 21-22, 2015, Presentation. (Poster)

Bett, K.E., Stonehouse, R.G., Miklas, P.N., Dhaubhadel, S., Austin, R.S., and Marsolais, F. (2015). "Is the slow-darkening gene another allele at P?", Bean Improvement Cooperatives 2015, Niagara Falls, ON, Canada, November 1-4, 2015. (Abstract)

Pandurangan, S., Diapari, M., Munholland, S., Perry, G.E., Crosby, W.L., Pauls, K.P., and Marsolais, F. (2015). "Genome wide analysis of beans with novel protein compositions.", Symposium on applied bean genomics. Biennial Bean Improvement Cooperative Meeting, Niagara Falls, Canada, November 2-3, 2015, Invited oral presentation.

Cohen, R.D.H., Pajak, A., Pandurangan, S., Amir, R., and Marsolais, F. (2015). "Methionine over-accumulation in transgenic *Arabidopsis* seeds alters the composition of storage compounds.", 10th Jubilee Plant Sulfur Workshop, Goslar, Germany, September 1-4, 2015. (Poster)

Joshi, J. and Marsolais, F. (2015). "Unraveling sulfur amino acid metabolism in common bean seeds (*Phaseolus vulgaris*).", 10th Jubilee Plant Sulfur Workshop, Goslar, Germany, September 1-4, 2015. (Poster)

Ajewole, E., Pajak, A., Jaskolski, M., and Marsolais, F. (2015). "K<sup>+</sup> Dependent and K<sup>+</sup> independent asparaginase from common bean (*Phaseolus vulgaris*): mechanism of activation by K<sup>+</sup>.", 54th Annual Meeting of the Phytochemical Society of North America, Urbana-Champaign, August 8-12, 2015.

Kambhampati, S. and Marsolais, F. (2015). "Role of a class I glutamine amidotransferase (GAT1\_2.1) in maintaining C/N balance in roots of *Arabidopsis thaliana*.", Botany 2015 Joint Conference: Science and plants for people, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015, Oral presentation.

Pandurangan, S., Crosby, W.L., Pauls, K.P., and Marsolais, F. (2015). "Genomic analysis of polymorphisms conferring storage protein deficiency in common bean.", EUCARPIA Symposium on Protein Crops, Pontevedra, Spain, May 4-7, 2015.

Pandurangan, S., Crosby, W.L., Pauls, K.P., and Marsolais, F. (2015). "Genomic analysis of polymorphisms conferring storage protein deficiency in common bean.", EUCARPIA Symposium on Protein Crops, Pontevedra, Spain, May 4-7, 2015, *Actas Asociacion Española Leguminosas*, no. 6, 69-70.

Pandurangan, S. and Marsolais, F. (2015). "Determining sulfur-limiting conditions for studies of seed composition in common bean (*Phaseolus vulgaris*). *Molecular Physiology and Ecophysiology of Sulfur*", in De Kok, L.J., Hawkesford, M.J., Rennenberg, H., Saito, K., and Schnug, E. (eds.) - Series Proceedings of the International Plant Sulfur Workshop, Springer, pp. 207-213.



Ajewole, E., Marsolais, F., Jaskolski, M., and Pajak, A. (2015). "K<sup>+</sup>-Dependent and K<sup>+</sup>-independent asparaginase from common bean (*Phaseolus vulgaris*): mechanism of activation by K<sup>+</sup>. Oral presentation.", Eastern Regional Meeting of the Canadian Society of Plant Biologists, Toronto, Canada, November 20-21, 2015. (Presentation)

2014

Ajewole, E., Pajak, A., and Marsolais, F. (2014). "K<sup>+</sup> dependent and K<sup>+</sup> independent asparaginases from common bean (*Phaseolus vulgaris*): mechanism of activation by K<sup>+</sup>.", Biology Graduate Research Forum, University of Western Ontario, London, ON, Canada, October 3, 2014, Presentation. (Poster)

Pandurangan, S., Crosby, W., Pauls, K.P., and Marsolais, F. (2014). "Genomic analysis of polymorphisms conferring storage protein deficiency in common bean.", 6th International Food Legumes Research Conference (IFLRC VI) and 7th International Conference on Legume Genetics and Genomics (ICLGG VII), Saskatoon, SK, Canada, July 14-17, 2014. (Poster)

Marsolais, F. (2014). "Protein Chemistry of grain legumes.", Science Day, Southern Crop Protection and Food Research Centre, London, ON, Canada, December 9, 2014. (Presentation)

Marsolais, F. (2014). "Protein chemistry.", Ontario Pulse Research Subcommittee, London, ON, Canada, February 7, 2014. (Presentation)

Lin, Y., Pajak, A., Marsolais, F., McCourt, P., and Riggs, C.D. (2014). "Characterization of a cruciferin deficient mutant of *Arabidopsis* and its utility for overexpression of foreign proteins in plants.", 9th Canadian Plant Biotechnology Conference, Montreal, QC, Canada, May 12-15, 2014. (Poster)

Zhang, Q., Sutton, M., Pajak, A., and Marsolais, F. (2014). "Identification and characterization of short chain dehydrogenases/reductases (SDRs) catalyzing the reduction of  $\alpha$ -ketosuccinamate to  $\alpha$ -hydroxysuccinamate in the asparagine catabolic pathway.", Banff Conference on Plant Metabolism, Banff, AB, Canada, June 26-30, 2014, Presentation. (Poster)

Ma, Z., Marsolais, F., Igamberdiev, A.U., and Bykova, N.V. (2014). "Metabolism of organic acids in barley seeds during germination.", Plant Biology 2014, Portland, Oregon, USA, July 12-16, 2014, Presentation. (Poster)

Nowak, J.J., Tian, L.-N., and Marsolais, F. (2014). "Tolerance to the herbicide imazethapyr (Pursuit) in common bean. Oral presentation.", Eastern Regional Meeting of the Canadian Society of Plant Biologists, Guelph, ON, Canada, November 28-29, 2014.

Joshi, J., Pandurangan, S., and Marsolais, F. (2014). "Analysis of candidate enzymes for the conversion of cysteine into S-methylcysteine in seed of common bean (*Phaseolus vulgaris*).", Biology Graduate Research Forum, University of Western Ontario, London, ON, Canada, October 3, 2014, Oral presentation.

Dhaubhadel, S., Austin, R.S., Marsolais, F., Mainali, H.R., P-Behnam, S., Pajak, A., and Chen, L. (2014). "Seed coat RNAseq analysis of two Pinto bean cultivars that differ in post-harvest seed coat darkening.", Joint conference of the 6th International Food Legumes Research Conference (IFLRC VI) and 7th International Conference on Legume Genetics and Genomics (ICLGG VII), Saskatoon, SK, Canada, July 6-11, 2014.

Kambhampati, S., Pandurangan, S., Pajak, A., Austin, R.S., and Marsolais, F. (2014). "Transcriptional responses to exogenous asparagine in *Arabidopsis* roots.", Eastern Regional Meeting of the Canadian Society of Plant Biologists, Guelph, ON, Canada, November 28-29, 2014. (Poster)

Zou, X., Shi, C., Austin, R.S., Merico, D., Munholland, S., Marsolais, F., Navabi, A., Crosby, W.L., Pauls, K.P., Yu, K., and Cui, Y. (2014). "Genome-wide SNP and InDel discovery and transcriptional profiling of CBB resistance in common bean.", 6th International Food Legumes Research Conference (IFLRC VI) and 7th International Conference on Legume Genetics and Genomics (ICLGG VII), Saskatoon, SK, Canada, July 14-17, 2014, Presentation. (Poster)

Hou, A., Marsolais, F., Pajak, A., and Conner, R.L. (2014). "Genetic improvement of protein quality in edible beans with adaptation to Manitoba.", Annual Report of the Bean Improvement Cooperative (BIC), 57(129).

Pandurangan, S., Crosby, W.L., Pauls, K.P., and Marsolais, F. (2014). "Genomic analysis of mutations conferring storage protein deficiency in common bean.", Annual Report of the Bean Improvement Cooperative (BIC), 57(29).

Pandurangan, S., Sandercock, M., Hou, A., and Marsolais, F. (2014). "Differential response to sulphur nutrition of two common bean genotypes differing in storage protein composition. Poster presentation.", 9th International Workshop on Sulfur Metabolism in Plants "Molecular Physiology and Ecophysiology of Sulfur", Freiburg, Germany, April 14-17, 2014.

Joshi, J., Pandurangan, S., and Marsolais, F. (2014). "Analysis of candidate enzymes for the biosynthesis of S-methylcysteine in seed of common bean (*Phaseolus vulgaris*).", 6th International Food Legumes Research Conference (IFLRC VI) and 7th International Conference on Legume Genetics and Genomics (ICLGG VII), Saskatoon, SK, Canada, July 14-17, 2014, Presentation. (Poster)

## 2013

Pandurangan, S., Crosby, W.L., Pauls, K.P., and Marsolais, F. (2013). "Genomic analysis of mutations conferring storage protein deficiency in common bean (*Phaseolus vulgaris*).", Canadian Plant Genomics Workshop, Halifax, NF, Canada, August 12-15, 2013. (Poster)

Pandurangan, S., Crosby, W.L., Pauls, K.P., and Marsolais, F. (2013). "Genomic analysis of mutations conferring storage protein deficiency in common bean (*Phaseolus vulgaris*).", Canada NGS Symposia, Toronto, ON, Canada, June 14, 2013. (Poster)

Hou, A., Marsolais, F., Pajak, A., and Conner, R.L. (2013). "Genetic improvement of protein quality in edible beans with adaptation to Manitoba. Poster presentation.", Bean Improvement Cooperatives, Portland, OR, USA, October 28-30, 2013. (Poster)

Pandurangan, S., Crosby, W.L., Pauls, K.P., and Marsolais, F. (2013). "Genomic analysis of mutations conferring storage protein deficiency in common bean.", Bean Improvement Cooperative Meeting, Portland, OR, USA, October 28-29, 2013.

## 2012

Pandurangan, S., Pajak, A., Austin, R.S., and Marsolais, F. (2012). "Transcriptional responses to exogenous asparagine in *Arabidopsis* roots.", 51st Phytochemical Society of North America (PSNA) Annual Meeting, University of Western Ontario, London, ON, Canada, August 11-15, 2012.

Bejger, M., Imiolczyk, B., Gilski, M., Marsolais, F., Pajak, A., and Jaskolski, M. (2012). "The first crystal structure of potassium-dependent Ntn-hydrolase. Oral presentation.", 15th Heart of Europe Biocrystallography Meeting (HEC-15), Beilngries, Germany, September 28-30, 2012.

Dhaubhadel, S. and Marsolais, F. (2012). "Transcriptomics of Legume Seed: Soybean a Model Grain Legume.", in Agrawal, G.K. and Rakwal, R. (eds.) - Seed Development: OMICS Technologies toward Improvement of Seed Quality and Crop Yield. OMICS in Seed Biology, Springer, Chapter 8, pp. 129-142.

Zhang, Q., Pajak, A., and Marsolais, F. (2012). "Identification and characterization of AGT1 as an asparagine aminotransferase in *Arabidopsis thaliana*. Poster presentation.", Canadian Society of Plant Biologists Meeting (CSPB 2012), University of Alberta Campus, Edmonton, AB, Canada, June 25-27, 2012.

Liao, D., Pajak, A., and Marsolais, F. (2012). "Transcripts of sulfur metabolic genes are coordinately regulated by protein demand in seed lacking phaseolin and major lectins.", Phaseomics – The Genome Meeting, Guanajuato, México, June 21-23, 2012. (Presentation)

Pandurangan, S. and Marsolais, F. (2012). "Genomic analysis of storage protein deficient lines of common bean.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Poster)

Perry, G.E., Crosby, W.L., Yu, K., Navabi, A., Zou, X., Power, K.A., Marsolais, F., Xie, W., Weersink, A., Tsao, R., Cooper, D., and Pauls, K.P. (2012). "Sequencing the bean genome: Using comparative genomics to examine interspecific introgressions.", Canadian Society of Plant Biologists Meeting (CSPB 2012), University of Alberta Campus, Edmonton, AB, Canada, June 25-27, 2012. (Presentation)

Hou, A., Marsolais, F., Pajak, A., and Conner, R.L. (2012). "Genetic improvement of protein quality in edible beans with adaptation to Manitoba.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, Poster.

Kilpatrick, K.G., Krizevski, R., Hagel, J.M., Lewinsohn, E., Facchini, P.J., and Marsolais, F. (2012). "Functional genomic investigation of ephedrine alkaloid biosynthesis in *Ephedra sinica* – cloning and characterization of aminotransferases.", *Pharmaceutical Biology*, 50, pp. 1345. (Abstract)

Kilpatrick, K.G., Krizevski, R., Hagel, J.M., Lewinsohn, E., Facchini, P.J., and Marsolais, F. (2012). "Functional genomic investigation of ephedrine alkaloid biosynthesis in *Ephedra sinica* – cloning and characterization of aminotransferases.", 51st Phytochemical Society of North America (PSNA) Annual Meeting, University of Western Ontario, London, ON, Canada, August 11-15, 2012, Published in: *Pharm Biol* 50: 1345.

Schemthaner, J.P., Singh, J., Labbé, N.M., Liao, D., and Marsolais, F. (2012). "The unfolded protein response in plant seeds.", in Hendriks, B.P. (ed.) - *Agricultural Research Updates*. Vol. 2, Nova Science Publishers Inc, pp. 429-454.

Kilpatrick, K.G., Krizevski, R., Hagel, J.M., Lewinsohn, E., Facchini, P.J., and Marsolais, F. (2012). "Functional genomic investigation of ephedrine alkaloid biosynthesis in *Ephedra sinica* – cloning and characterization of aminotransferases.", 3rd Annual Biology Graduate Research Forum 2012, University of Western Ontario, London, ON, Canada, October 20, 2012, Oral presentation.

Pandurangan, S., Pajak, A., Marsolais, F., and Austin, R.S. (2012). "Transcriptional responses to exogenous asparagine in *Arabidopsis* roots.", *Pharmaceutical Biology*, 50, pp. 1341. (Abstract)

2011

Zhang, Q. and Marsolais, F. (2011). "Metabolism and transcriptional responses to asparagine in *Arabidopsis thaliana*.", 2nd Annual Biology Graduate Research Forum, University of Western Ontario, London, ON, Canada, October 22, 2011. (Poster)

Kilpatrick, K.G., Krizevski, R., Hagel, J.M., Lewinsohn, E., Facchini, P.J., and Marsolais, F. (2011). "Functional genomics investigation of aminotransferases involved in ephedrine alkaloid biosynthesis in *Ephedra sinica* Stapf.", 8th Canadian Plant Genomics Workshop, Niagara Falls, ON, Canada, August 22-25, 2011. (Presentation)

Lee, J. and Marsolais, F. (2011). "Genetic characterization of the response to exogenous asparagine in asparaginase double knock-out mutants of *Arabidopsis thaliana* seedlings.", Ontario Biology Day 2011, Wilfrid Laurier University, Waterloo, ON, Canada, March 12-13, 2011.

Perry, G.E., Crosby, W., Yu, K., Shi, C., Powers, K., Marsolais, F., Xie, W., Weersink, A., Tsao, R., Siddiqua, M., Cooper, D.M., and Pauls, K.P. (2011). "The applied bean genomics and bioproducts project: sequencing the bean genome.", Biennial Meeting of the Bean Improvement Cooperative and North American Pulse Improvement Association (BIC/NAPIA 2011), Verdanza Hotel, San Juan, Puerto Rico, October 30-November 2, 2011.

Perry, G.E., Crosby, W., Shi, C., Power, K.A., Marsolais, F., Xie, W., Weersink, A., Tsao, R., Cooper, D.M., and Pauls, K.P. (2011). "Sequencing the bean genome: the applied bean genomics and bioproducts project.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011. (Poster)

Kilpatrick, K.G., Krizevski, R., Hagel, J.M., Lewinsohn, E., Facchini, P.J., and Marsolais, F. (2011). "Functional genomics investigation of aromatic aminotransferase enzymes involved in ephedrine alkaloid biosynthesis.", 2nd Annual Biology Graduate Research Forum, University of Western Ontario, London, ON, Canada, October 22, 2011. (Poster)

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## Research Publications:

2015

- Choo, T.-M., Vigier, B.J., Savard, M.E., Blackwell, B.A., Martin, R.A., Wang, J.M., Yang, J., and Abdel-Aal, E-S.M. (2015). "Black Barley as a Means of Mitigating Deoxynivalenol Contamination.", *Crop Science*, 55(May-June), pp. 1096-1103. doi : 10.2135/cropsci2014.05.0405
- Choo, T.-M., Martin, R.A., ter Beek, S.M., MacDonald, D., Scott, P., Dion, Y., Rioux, S., Pageau, D., and Abdel-Aal, E-S.M. (2015). "AAC purpose barley.", *Canadian Journal of Plant Science*, 95(3), pp. 599-602. doi : 10.4141/CJPS-2014-395
- Choo, T.-M., ter Beek, S.M., Martin, R.A., MacDonald, D., Scott, P., Dion, Y., Rioux, S., Pageau, D., Fregeau-Reid, J., and Abdel-Aal, E-S.M. (2015). "AAC starbuck hullless barley.", *Canadian Journal of Plant Science*, 95(3), pp. 595-598. doi : 10.4141/CJPS-2014-371
- Yan, W., Frégeau-Reid, J.A., Martin, R.A., Pageau, D., and Mitchell Fetch, J.W. (2015). "How many test locations and replications are needed in crop variety trials in a target region?", *Euphytica*, 202(3), pp. 361-372. doi : 10.1007/s10681-014-1253-7

2014

- Fofana, B., Main, D., Ghose, K., Grimmett, M.G., Peters, R.D., Martin, R.A., Mester, Z., Yang, L., Locke, S.J., and Sweeney, M. (2014). "Selenomethionine and Total Methionine Ratio is Conserved in Seed Proteins of Selenium-Treated and Non-treated Soybean, Flax, and Potato.", *Crop Science*, 54(5), pp. 2251-2261. doi : 10.2135/cropsci2013.10.0711
- Reid, L.M., Zhu, X., Voloaca, C., Wu, J.-H., Woldemariam, T., Martin, R.A., and Beres, B.L. (2014). "CO450 corn inbred line.", *Canadian Journal of Plant Science*, 94(1), pp. 161-167. doi : 10.4141/cjps2013-190
- Choo, T.-M., Martin, R.A., Xue, A.G., MacDonald, D., Scott, P., Rowsell, J., Dion, Y., and Rioux, S. (2014). "AAC Mirabel barley.", *Canadian Journal of Plant Science*, 94, pp. 465-468. doi : 10.4141/CJPS2013-3151
- Choo, T.-M., Martin, R.A., Savard, M.E., and Blackwell, B.A. (2014). "Effects of planting date and earliness on deoxynivalenol contamination in barley under natural epidemic conditions.", *Canadian Journal of Plant Science*, 94(8), pp. 1363-1371. doi : 10.4141/CJPS2013-369

2013

- Choo, T.-M., ter Beek, S.M., Martin, R.A., Rowsell, J., and Frégeau-Reid, J.A. (2013). "AAC Azimuth hullless barley.", *Canadian Journal of Plant Science*, 93(4), pp. 755-757. doi : 10.4141/CJPS2013-031
- Beres, B.L., Pozniak, C.J., Eudes, F., Graf, R.J., Randhawa, H.S., Salmon, D.F., McLeod, G.J., Dion, Y., Irvine, R.B., Voldeng, H.D., Martin, R.A., Pageau, D., Comeau, A., DePauw, R.M., Phelps, S.M., and Spaner, D.M. (2013). "A Canadian Ethanol Feedstock Study to Benchmark the Relative Performance of Triticale: I. Agronomics.", *Agronomy Journal*, 105, pp. 1695-1706. doi : 10.2134/agronj2013.0192
- Beres, B.L., Pozniak, C.J., Bressler, D., Gibreel, A., Eudes, F., Graf, R.J., Randhawa, H.S., Salmon, D.F., McLeod, G.J., Dion, Y., Irvine, R.B., Voldeng, H.D., Martin, R.A., Pageau, D., Comeau, A., DePauw, R.M., Phelps, S.M., and Spaner, D.M. (2013). "A Canadian Ethanol Feedstock Study to Benchmark the Relative Performance of Triticale: II. Grain Quality and Ethanol Production.", *Agronomy Journal*, 105, pp. 1707-1720. doi : 10.2134/agronj2013.0193
- Legge, W.G., Tucker, J.R., Bizimungu, B., Tekauz, A., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Turkington, T.K., Martin, R.A., Choo, T.-M., Vigier, B.J., Blackwell, B.A., and Savard, M.E. (2013). "Taylor barley.", *Canadian Journal of Plant Science*, 93(5), pp. 969-977. doi : 10.4141/cjps2013-126

2011

- Legge, W.G., Tucker, J.R., Bizimungu, B., Tekauz, A., Noll, J.S., Fetch Jr., T.G., Menzies, J.G., Haber, S.M., Savard, M.E., Vigier, B.J., Choo, T.-M., Martin, R.A., Turkington, T.K., Rossnagel, B.G., and Harvey, B.L. (2011). "Norman barley.", *Canadian Journal of Plant Science*, 91(6), pp. 1105-1113. doi : 10.4141/cjps2010-020

## Other Science Related Publications:

2015

Turkington, T.K., Xi, K., Peng, G., Martin, R.A., Harker, K.N., O'Donovan, J.T., Beres, B.L., May, W.E., and Mohr, R.M. (2015). "The impact of seed treatment, foliar fungicide timing, and plant growth regulator on barley leaf disease severity and productivity.", *Canadian Journal of Plant Pathology*. (Abstract)

2014

Mills, A.A.S., Choo, T.-M., Izydorczyk, M.S., Durand, J., Kobler, J.F., Martin, R.A., and Sorrells, M.E. (2014). "Evaluation of malting barley quality in Eastern North America as affected by improved cultural practices.", 2014 North American Barley Researchers Workshop, Minneapolis, MN, USA, June 29-July 2, 2014.

Legge, W.G., Tucker, J.R., Banik, M., Tekauz, A., Martin, R.A., Choo, T.-M., Blackwell, B.A., and Savard, M.E. (2014). "Development of TR10214 two-row malting barley with low deoxynivalenol accumulation.", 21st North American Barley Research Workshop, Minneapolis, Minnesota, USA, June 29-July 2, 2014. (Poster)

Turkington, T.K., Xi, K., Peng, G., Martin, R.A., Harker, K.N., and O'Donovan, J.T. (2014). "The impact of seed treatment, foliar fungicide, and variety resistance on barley leaf disease severity and productivity.", 1st International Workshop on Barley Leaf Diseases, Salsomaggiore Terme, Italy, June 3-6, 2014, Also in *Canadian Journal of Plant Pathology* (in press), pp. 18. (Abstract)

2012

Gardner, K.M., Wight, C.P., Mitchell Fetch, J.W., Yan, W., Ames, N.P., Rossnagel, B.G., Hermann, M., Molnar, S.J., Frégeau-Reid, J.A., Miller, S.S., Fetch Jr., T.G., Chong, J., Martin, R.A., Tekauz, A., Haber, S.M., Savard, M.E., and Tinker, N.A. (2012). "Prospects of whole genome selection in oat using high throughput genetic markers.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

Yan, W., Frégeau-Reid, J.A., Mitchell Fetch, J.W., Pageau, D., Martin, R.A., Rowsell, J., Beattie, A.D., and Cummiskey, A. (2012). "Breeding for an "ideal" Milling Oat: Challenges and Strategies.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012.

Nilsen, K., Randhawa, H.S., McCallum, B.D., McCartney, C., MacLachlan, R., Humphreys, D.G., Martin, R.A., and Pozniak, C.J. (2012). "Application of Illumina 9K iSelect Genotyping Towards Mapping Leaf and Stripe Rust Resistance in the Spring Wheat Cross AC Domain x RL4452.", The Annual General Meeting of Canadian Triticum Advancement through Genomics (CTAG), Saskatoon, SK, Canada, November 23-24, 2012.

Frégeau-Reid, J.A., Yan, W., Martin, R.A., Cummiskey, A., Pageau, D., Sibbitt, D., De Haan, B., Thomas, S., and Morasse, I. (2012). "Associations among grain yield, groat percentage, and beta-glucan in two oat genetic populations.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

2011

Comeau, A., Langevin, F., Voldeng, H.D., Haber, S.M., Gilbert, J., Randhawa, H.S., Dion, Y., Rioux, S., McCallum, B.D., Fetch Jr., T.G., Eudes, F., Blackwell, B.A., Martin, R.A., Scheeren, P., Caetano, V., Frégeau-Reid, J.A., and Fedak, G. (2011). "The systemic approach: faster genetic progress for complex goals.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Legge, W.G., Tucker, J.R., Tekauz, A., Martin, R.A., Choo, T.-M., Blackwell, B.A., and Savard, M.E. (2011). "Development of two-row malting barley with improved fusarium head blight resistance at Agriculture and Agri-Food Canada's Brandon Research Centre.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, Published in: Gilbert, J. and Tekauz, A. (Eds.), *Proceedings of the 7th Canadian Workshop on Fusarium Head Blight*, pp. 105.

Singh, A.K., Knox, R.E., DePauw, R.M., Clarke, F.R., Martin, R.A., Xue, A.G., Gilbert, J., Brûlé-Babel, A.L., Campbell, H., and Cuthbert, R.D. (2011). "Validation of molecular markers linked to Sumai 3 resistance to DON and FDK in Canadian spring wheat populations.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 106.

Comeau, A., Langevin, F., Voldeng, H.D., Haber, S.M., Gilbert, J., Randhawa, H.S., Dion, Y., Rioux, S., Eudes, F., Blackwell, B.A., and Martin, R.A. (2011). "One quick solution to FHB problems: the systemic approach.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 72.

Beattie, A.D., Zhang, X.M., Yajima, W., Dokken-Bouchard, F.L., Tekauz, A., Mitchell Fetch, J.W., Martin, R.A., Yan, W., Scoles, G.J., and Rossnagel, B.G. (2011). "Real-time quantitative PCR in oat FHB resistance breeding.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 67.

Choo, T.-M., Martin, R.A., Savard, M.E., and Xue, A.G. (2011). "Breeding barley for resistance to Fusarium head blight for Eastern Canada.", 15th International EWAC Conference, Novi Sad, Serbia, November 7-11, 2011, pp. 32.

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## Research Publications:

2015

Cheung, K.W., Razeq, F.M., Sauder, C.A., James, T., and Martin, S.L. (2015). "Bidirectional but asymmetrical sexual hybridization between *Brassica carinata* and *Sinapis arvensis* (Brassicaceae).", *Journal of Plant Research*, 128(3), pp. 469-480. doi : 10.1007/s10265-015-0702-2

Martin, S.L., Sauder, C.A., James, T., Cheung, K.W., Razeq, F.M., Kron, P., and Hall, L.M. (2015). "Sexual hybridization between *Capsella bursa-pastoris* (L.) Medik and *Camelina sativa* (L.) Crantz (Brassicaceae).", *Plant Breeding*, 134(2), pp. 212-220. doi : 10.1111/pbr.12245

2014

Walsh, K.D., Hills, M.J., Martin, S.L., and Hall, L.M. (2014). "Pollen-Mediated Gene Flow in *Camelina sativa* (L.) Crantz.", *Crop Science*, 55(1), pp. 196-202. doi : 10.2135/cropsci2014.03.0194

2013

Warwick, S.I. and Martin, S.L. (2013). "Gene flow from transgenic oilseed *Brassica juncea* (L.) Czern. into weedy *Sinapis arvensis* L. (wild mustard).", *Plant Breeding*, 132(6), pp. 688-693. doi : 10.1111/pbr.12098

Beckie, H.J., Blackshaw, R.E., Low, R., Hall, L.M., Sauder, I.C.A., Martin, S.L., Brandt, R.N., and Shirriff, S. (2013). "Glyphosate- and acetolactate synthase inhibitor-resistant *kochia* (*Kochia scoparia*) in Western Canada.", *Weed Science*, 61(2), pp. 310-318. doi : 10.1614/WS-D-12-00140.1

2011

Martin, S.L., Cakmak, S., Hebbem, C.A., Avramescu, M.-L., and Tremblay, N. (2011). "Climate change and future temperature-related mortality in 15 Canadian cities.", *International Journal of Biometeorology*, 56(4), pp. 605-619. doi : 10.1007/s00484-011-0449-y

## Other Science Related Publications:

2014

Cheung, K.W., Razeq, F.M., Sauder, C.A., James, T., and Martin, S.L. (2014). "Wild sex – The case of Ethiopian and Wild Mustard.", *Canadian Weed Science Society meeting 2014, Montreal, Canada, November 16-19, 2014. (Abstract)*

Côté, M.J., Leduc, L., Kerr, D., Dollard, C., Blain, A., Catling, P.M., Mitrow, G., Martin, S.L., Smith, T.W., and Macklin, J.A. (2014). "Barcoding of Quarantine and invasive species in Canada: Invasive Plants.", *Weeds Across Borders, Ottawa, Canada, October 2014. (Abstract)*

Benedict, L., Sauder, C.A., James, T., Beckie, H.J., and Martin, S.L. (2014). "Is there a cost to glyphosate resistance in *kochia*?", *2014 CWSS Annual Meeting, Montreal, QC, Canada, November 17-20, 2014. (Abstract)*

2013

Côté, M.J., Leduc, L., Kerr, D., Dollard, C., Catling, P.M., Mitrow, G., Martin, S.L., Smith, T.W., and Macklin, J.A. (2013). "Barcoding of Quarantine and Invasive Species in Canada: Invasive Plants. Co-operation project between the Canadian Food Inspection Agency – CFIA and AAFC (GRDI - Genomics Research and Development).", *Plant Genome Evolution Meeting 2013, Amsterdam, The Netherlands, September 8-10, 2013. (Abstract)*

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## Research Publications:

2015

Haye, T., Mason, P.G., Gillespie, D.R., Miall, J.H., Gibson, G.A.P., Diaconu, A., Brauner, A.M., and Kuhlmann, U. (2015). "Determining the host specificity of the biological control agent *Trichomalus perfectus* (Hymenoptera: Pteromalidae): the importance of ecological host range.", *Biocontrol Science and Technology*, 25(1), pp. 21-47. doi : 10.1080/09583157.2014.945900

2014

Mason, P.G., Miall, J.H., Bouchard, P., Brauner, A.M., Gillespie, D.R., and Gibson, G.A.P. (2014). "The parasitoid communities associated with *Ceutorhynchus* spp. (Coleoptera: Curculionidae) in Ontario and Quebec, Canada.", *Canadian Entomologist*, 146(2), pp. 224-235. doi : 10.4039/tce.2013.65

Fernández-Triana, J.L., Shaw, M.R., Cardinal, S., Dossall, L.M., and Mason, P.G. (2014). "First Nearctic record of *Diolcogaster claritibia* (Hymenoptera, Braconidae, Microgasterinae), with notes on taxonomic status and biology", *The Canadian Entomologist*, 146(6), pp. 609-620. doi : 10.4039/tce.2014.16

Jenner, W.H., Kuhlmann, U., Miall, J.H., Cappuccino, N., and Mason, P.G. (2014). "Does parasitoid state affect host range expression?", *Biological Control*, 78, pp. 15-22. doi : 10.1016/j.biocontrol.2014.07.005

Fernández-Triana, J.L., Shaw, M.R., Cardinal, S., and Mason, P.G. (2014). "Contributions to the study of the Holarctic fauna of Microgasterinae (Hymenoptera, Braconidae). I. Introduction and first results of transatlantic comparisons.", *Journal of Hymenoptera Research*, 37, pp. 61-76. doi : 10.3897/JHR.37.7186

2013

Smith, A., Fernández-Triana, J.L., Eveleigh, E.S., Gómez, J., Guclu, C., Hallwachs, W., Hebert, P.D.N., Hrcek, J., Huber, J.T., Janzen, D.H., Mason, P.G., Miller, S., Quicke, D.L.J., Rodriguez, J.J., Rougerie, R., Shaw, M.R., Várkonyi, G., Ward, D.F., Whitfield, J.B., and Zaldívar-Riverón, A. (2013). "DNA barcoding and the taxonomy of Microgasterinae wasps (Hymenoptera, Braconidae): impacts after 8 years and nearly 20 000 sequences.", *Molecular Ecology Resources*, 13(2), pp. 168-176. doi : 10.1111/1755-0998.12038

Gillespie, D.R. and Mason, P.G. (2013). "Invasive alien species and future biological control targets.", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 71, pp. 474-484.

Corrigan, J., Gillespie, D.R., De Clerck-Floate, R.A., and Mason, P.G. (2013). "*Lythrum salicaria* L., Purple Loosestrife (Lythraceae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 54, pp. 363-366.

Abram, P.K., Boivin, G., Haye, T., and Mason, P.G. (2013). "*Contarinia nasturtii* Kieffer, swede midge (Diptera: Cecidomyiidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, pp. 134-138.

Haye, T., Mason, P.G., Dossall, L.M., Gillespie, D.R., Gibson, G.A.P., and Kuhlmann, U. (2013). "*Ceutorhynchus obstrictus* (Marsham), Cabbage Seedpod Weevil (Coleoptera: Curculionidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 16, pp. 119-129.

Mason, P.G., Brauner, A.M., Miall, J.H., and Bennett, A.M.R. (2013). "*Diadromus pulchellus* in North America: field release against leek moth and new characters to distinguish it from *Diadromus subtilicornis*, a native diamondback moth parasitoid.", *Biocontrol Science and Technology*, 23(3), pp. 260-276. doi : 10.1080/09583157.2012.755613

Haye, T., Mason, P.G., Dossall, L.M., Gillespie, D.R., Gibson, G.A.P., and Kuhlmann, U. (2013). "*Ceutorhynchus obstrictus* (Marsham), cabbage seedpod weevil (Coleoptera: Curculionidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, pp. 119-129.

Mason, P.G., Jenner, W.H., Brauner, A.M., Kuhlmann, U., and Cappuccino, N. (2013). "*Acrolepiopsis assectella* (Zeller), Leek Moth (Lepidoptera: Acrolepiidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, pp. 56-62.

Mason, P.G. and Brodeur, J. (2013). "Access and Benefit Sharing and Biological Control.", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, pp. 6-11.

Mason, P.G., Kabaluk, J.T., Spencer, B., and Gillespie, D.R. (2013). "Regulation of biological control in Canada.", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, pp. 1-5.

Murdoch, V.J., Cappuccino, A.A., and Mason, P.G. (2013). "The effects of periodic warming on the survival and fecundity of *Diadromus pulchellus* during long-term storage.", *Biocontrol Science and Technology*, 23(2), pp. 211-219. doi : 10.1080/09583157.2012.748183

Kealey, C., Cappuccino, N., and Mason, P.G. (2013). "First record of *Lilioceris lili* (Coleoptera: Chrysomelidae) eggs in a wild population of *Streptopus amplexifolius* (Lilaceae).", *Journal of the Entomological Society of Ontario*, 144, pp. 131-134.

Corrigan, J., Gillespie, D.R., De Clerck-Floate, R.A., and Mason, P.G. (2013). "*Lythrum salicaria* L., Purple Loosestrife (Lythraceae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 54, pp. 363-366.

## 2012

Abram, P.K., Haye, T., Mason, P.G., Cappuccino, N., Boivin, G., and Kuhlmann, U. (2012). "Identity, distribution, and seasonal phenology of parasitoids of the swede midge, *Contarinia nasturtii* (Kieffer) (Diptera: Cecidomyiidae) in Europe.", *Biological Control*, 62(3), pp. 197-205. doi : 10.1016/j.biocontrol.2012.04.003

Jenner, W.H., Kuhlmann, U., Cappuccino, N., and Mason, P.G. (2012). "Manipulation of parasitoid state influences host exploitation by *Diadromus pulchellus* Wesmael (Hymenoptera: Ichneumonidae).", *Biological Control*, 63(3), pp. 264-269. doi : 10.1016/j.biocontrol.2012.09.012

Abram, P.K., Haye, T., Mason, P.G., Cappuccino, N., Boivin, G., and Kuhlmann, U. (2012). "Biology of *Synopeas myles*, a parasitoid of the swede midge, *Contarinia nasturtii*, in Europe.", *BioControl*, 57(6), pp. 789-800. doi : 10.1007/s10526-012-9459-x

## 2011

Muller, F.J., Mason, P.G., Dossall, L.M., and Kuhlmann, U. (2011). "European ectoparasitoids of two classical weed biological control agents released in North America.", *Canadian Entomologist*, 143(2), pp. 197-210. doi : 10.4039/n10-057

Mason, P.G., Miall, J.H., Bouchard, P., Gillespie, D.R., Broadbent, A.B., and Gibson, G.A.P. (2011). "The parasitoid communities associated with an invasive canola pest, *Ceutorhynchus obstrictus* (Coleoptera: Curculionidae), in Ontario and Quebec, Canada.", *Canadian Entomologist*, 143(5), pp. 524-537. doi : 10.4039/n11-041

Muller, F.J., Dossall, L.M., Mason, P.G., and Kuhlmann, U. (2011). "Larval phenologies and parasitoids of two seedfeeding weevils associated with hoary cress and shepherd's spurge (Brassicaceae) in Europe.", *Canadian Entomologist*, 143(4), pp. 399-410. doi : 10.4039/n11-020

van Lenteren, J.C., Cock, M.J.W., Brodeur, J., Barratt, B.I.P., Bigler, F., Bolckmans, K., Mason, P.G., Haas, F., and Parra, J.R.P. (2011). "Will the convention on biological diversity put an end to biological control?", *Revista Brasileira de entomologia*, 55(1), pp. 1-5. doi : 10.1590/s0085-56262011000100001

Mason, P.G., Broadbent, A.B., Whistlecraft, J.W., and Gillespie, D.R. (2011). "Interpreting the host range of *Peristenus digoneutis* and *Peristenus relictus* (Hymenoptera: Braconidae) biological control agents of *Lygus* spp. (Hemiptera: Miridae) in North America.", *Biological Control*, 57(2), pp. 94-102. doi : 10.1016/j.biocontrol.2011.02.002

Mason, P.G., Weiss, R.M., Olfert, O.O., Appleby, M.E., and Landry, J.-F. (2011). "Actual and potential distribution of *Acrolepiopsis assectella* (Lepidoptera: Acrolepiidae), an invasive alien pest of *Allium* spp. in Canada.", *Canadian Entomologist*, 143(2), pp. 185-196. doi : 10.4039/n10-058

Mason, P.G., Goulet, H., and Bostanian, N.J. (2011). "Effect of harvest on *Euphorine* (Hymenoptera: Braconidae) parasitism of *Lygus lineolaris* and *Adelphocoris lineolatus* (Hemiptera: Miridae) in alfalfa.", *Journal of the Entomological Society of Ontario*, 142, pp. 3-10.

## Other Science Related Publications:

### 2014

Fernández, D.C., Cárcamo, H.A., Laird, R.A., Mason, P.G., Otani, J.K., and Lachance, S. (2014). "Ecological interactions between *Lygus* bugs and *Peristenus*: an approach in southern Alberta.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014.



Cossentine, J.E., Blatt, S.E., Mason, P.G., Franklin, J.L., Brauner, A.M., Robertson, M.C., Appleby, M.E., Grigg-McGuffin, K., Fraser, H.M., Hueppelsheuser, T., and Garipey, T.D. (2014). "Adventures in moving. The challenges in introducing a classical biological control agent into other provinces.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014.

Fernandez, C., Carcamo, H., Cárcamo, H.A., Laird, R.A., Mason, P.G., Otani, J.K., and Lachance, S. (2014). "Ecological interactions between lygus bugs and *Peristenus*: an approach in southern Alberta.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014, pp. 37.

Vincent, C., Mason, P.G., and Gillespie, D.R. (2014). "La lutte biologique au Canada.", Conférence à l'Unité de recherche FRE 3498-Ecologie et Dynamiques des Systèmes Anthropisés (EDYSAN), Université de Picardie Jules Verne, Amiens, France, 20 février 2014. (Presentation)

Vincent, C., Mason, P.G., and Gillespie, D.R. (2014). "Portrait de la lutte biologique au Canada.", Académie d'Agriculture de France, Paris, France, 5 février 2014. (Presentation)

Cossentine, J.E., Blatt, S.E., Mason, P.G., Franklin, J.L., Brauner, A.M., Robertson, M.C., Appleby, M.E., Grigg-McGuffin, K., Fraser, H.M., Hueppelsheuser, T., and Garipey, T.D. (2014). "Adventures in moving: The challenges in introducing a classical biological control agent into other provinces.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014, Poster Presentation.

## 2013

Mason, P.G. and Gillespie, D.R. (Eds.) (2013). *Biological Control Programmes in Canada 2001-2012.*, CABI Publishing, Wallingford, UK. (Book)

Haye, T., Mason, P.G., Gillespie, D.R., and Kuhlmann, U. (2013). "Progress and problems in host specificity testing of arthropod biological control agents.", in Mason, P.G., Gillespie, D.R., and Vincent, C. (eds.) - *Proceedings of the Fourth International Symposium on Biological Control of Arthropods*. Pucón, Chile, March 4-8, 2013, Instituto de Investigaciones Agropecuarias (INIA), Chile and Universidad de Chile.

Mason, P.G. (2013). *Release of *Diadromus pulchellus* for Biological Control of Leek Moth in Canada*. PRR10-030 Final Report, March 31, 2013, 100 pp. (Report)

Mason, P.G., Gillespie, D.R., and Vincent, C. (2013). "Proceedings of the Fourth International Symposium on Biological Control of Arthropods (380 pages)", 4th International Symposium on Biological Control of Arthropods, Pucón, Chile, March 4-8, 2013.

Haye, T., Mason, P.G., Gillespie, D.R., and Kuhlmann, U. (2013). "Progress and problems in host specificity testing of arthropod biological control agents.", 4th International Symposium on Biological Control of Arthropods, Pucón, Chile, March 4-8, 2013, in Mason, P.G., Gillespie, D.R. and Vincent, C. Vincent (Eds.), 380 p., pp. 8-10.

Mason, P.G., Gillespie, D.R., and Vincent, C. (2013). "Proceedings of the 4th International Symposium on Biological Control of Arthropods.", 4th International Symposium on Biological Control of Arthropods, Pucón, Chile, March 4-8, 2013, 380 pages.

Mason, P.G., Gillespie, D.R., and Jian, J.D. (2013). "Risk assessment in arthropod biological control: Where are we?", 4th International Symposium on Biological Control of Arthropods, Pucón, Chile, March 4-8, 2013, in Mason, P.G., Gillespie, D.R. and Vincent, C. Vincent (Eds.), 380 p., pp. 1-2.

Mason, P.G., Gillespie, D.R., and Vincent, C. (2013). "Proceedings of the Fourth International Symposium on Biological Control of Arthropods.", (eds. 401 pages) at 4th International Symposium on Biological Control of Arthropods, Pucón, Chile, March 4-8, 2013.

Mason, P.G., De Clerck-Floate, R.A., Erlandson, M.A., and Bailey, K.L. (2013). *AAFC National Containment, Biosafety and Biosecurity Committee (NCBB) update for AAFC Biological Control Working Group*, 18 October 2013, Guelph, Ontario, 1pp. (Report)

Mason, P.G. and Bennett, A.M.R. (2013). *Access and Benefit Sharing Update for AAFC Biological Control Working Group*, 18 October 2013, Guelph, Ontario, 1pp. (Report)

Mason, P.G. (2013). *NAPPO update for AAFC Biological Control Working Group*, 18 October 2013, Guelph, Ontario, 1pp. (Report)

Mason, P.G. (2013). *Biological Control Review Committee Report to the AAFC Biological Control Working Group*, 18 October 2013, Guelph, Ontario, 5pp. (Report)

Mason, P.G. (2013). "Biological control in Ontario 1952–2012: A summary of publications in the *Journal of the Entomological Society of Ontario*.", *Journal of the Entomological Society of Ontario*, 144, pp. 27-111.

Cossentine, J.E., Blatt, S.E., Mason, P.G., Franklin, J.L., Brauner, A.M., Appleby, M.E., Grigg-McGuffin, K., Fraser, H., and Garipey, T.D. (2013). "A difficult directed biological control decision.", *Joint Annual Entomological Society of Ontario and Canada meeting*, Guelph, ON, Canada, October, 2013. (Poster)

Labrie, G., Mason, P.G., Vincent, C., and Broadbent, A.B. (2013). "Natural enemies of pollen beetle *Brassicogethes viridescens* (Coleoptera: Nitidulidae) in Québec and Ontario", Joint meeting, Entomological Society of Canada / Entomological Society of Ontario, Guelph, Ontario, Canada, October 20-22, 2013, CP14. (Poster)

## 2012

Abram, P.K., Haye, T., Mason, P.G., Cappuccino, N., Boivin, G., and Kuhlmann, U. (2012). "The biology of *Synopeas myles*, a parasitoid of the swede midge, *Contarinia nasturtii*.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #2. (Abstract)

Mason, P.G., Floate, K.D., Brooks, S.E., Buddle, C.M., and Bennett, R.G. (2012). "Cambridge University Press – ESC's new partner for publication of *The Canadian Entomologist*.", *Bulletin of the Entomological Society of Canada*, 44(1), pp. 36.

Mason, P.G. (2012). "Empire of the Beetle: How Human Folly and a Tiny Bug Are Killing North America's Great Forests. Nikiforuk, A. 2011. Greystone Books, D & M Publishers Inc., Vancouver/Toronto/Berkeley, co-published with the David Suzuki Foundation, 230 pp. ISBN 978-1-55365-510-7. Book Review.", *Bulletin of the Entomological Society of Canada*, 44, pp. 55-56.

Mason, P.G. and Brauner, A.M. (2012). "Biological control programs against invasive pests.", 10th Ontario Fruit and Vegetable Convention (OFVC 2012), Niagara Falls, ON, Canada, February 22-23, 2012. (Presentation)

Mason, P.G., Haye, T., Gillespie, D.R., Miall, J.H., Gibson, G.A.P., Kuhlmann, U., and Bouchard, P. (2012). "Environmental risk assessment of biological control agents in Canada: the cabbage seedpod weevil, *Ceutorhynchus obstrictus*, case study.", 24th International Congress of Entomology (ICE 2012) and International Organization for Biological Control (IOBC) Global Symposium, Daegu, South Korea, August 19-25, 2012. (Presentation)

Mason, P.G., Haye, T., Gillespie, D.R., Miall, J.H., Gibson, G.A.P., Dossall, L.M., Kuhlmann, U., and Bouchard, P. (2012). "Risk assessment of biocontrol agents: the case of cabbage seedpod weevil, *Ceutorhynchus obstrictus*.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #126. (Abstract)

Mason, P.G. (2012). Release of *Diadromus pulchellus* for Biological Control of Leek Moth in Canada. PRR10-030 Progress Report, March 31, 2012, 172 pp. (Report)

Mason, P.G. (2012). Canada country report. Report to the North American Plant Protection Organization Biological Control Panel, Newark, Delaware, USA (February 29-March 1, 2012). (Report)

Bourchier, R.S., Floate, K.D., and Mason, P.G. (2012). "Biocontrol Data: Agriculture and Agri-Food Canada.", National Invasive Species Forum, Delta Ottawa Hotel & Suites, Ottawa, ON, Canada, February 28-March 1, 2012. (Presentation)

Haye, T., Hohman, L., Zhang, J.X., Gillespie, D.R., Mason, P.G., and Garipey, T.D. (2012). "Egg parasitism of brown marmorated stink bug, *Halyomorpha halys*, in China and Europe and implications for biological control.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #79. (Abstract)

Mason, P.G. and Brauner, A.M. (2012). "Update on leek moth research.", can, Woodstock OMAFRA Office, Woodstock, NB, March 24, 2012. (Presentation)

Mason, P.G. and Brauner, A.M. (2012). "The leek moth in Canada: an IPM solution.", Garlic Grower Workshop, Carp, ON, Canada, February 17, 2012. (Presentation)

Bourchier, R.S., Mason, P.G., and Floate, K.D. (2012). "Agriculture and Agri-Food Canada and Invasive Species.", National Invasive Species Forum, Delta Ottawa Hotel & Suites, Ottawa, ON, Canada, February 28-March 1, 2012. (Presentation)

Bourchier, R.S., Mason, P.G., and Floate, K.D. (2012). "Agriculture Information and IAS Management National Invasive Species Forum.", National Invasive Species Forum, Delta Ottawa Hotel & Suites, Ottawa, ON, Canada, February 28-March 1, 2012. (Presentation)

Abram, P.K., Haye, T., Mason, P.G., Cappuccino, A.A., Boivin, G., and Kuhlmann, U. (2012). "La biologie de *Synopeas myles*, un parasitoïde de la cécidomyie du chou, *Contarinia nasturtii*, en Europe.", 139e réunion annuelle de la Société d'entomologie du Québec, Boucherville, QC, Canada, November 1-2, 2012.

## 2011

Mason, P.G., Weiss, R.M., and Olfert, O.O. (2011). "Predicting insect distributions: CLIMEX as a tool, Better Models – Better Assessments: The Use of Models in Plant Health and Biotechnology Risk Assessment.", Plant and Biotechnology Risk Assessment Unit, Canadian Food Inspection Agency (CFIA) Workshop, Lord Elgin Hotel, Ottawa, ON, Canada, February 22-23, 2011.

Peach, D.A.H., Abram, P.K., Haye, T., Mason, P.G., Cappuccino, N., Boivin, G., and Kuhlmann, U. (2011). "Is more really merrier? Superparasitism of swede midge (*Contarinia nasturtii*) by *Synopeas myles*.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011.

Mason, P.G., Haye, T., Gillespie, D.R., Dodsall, L.M., Kuhlmann, U., Broadbent, A.B., and Gibson, G.A.P. (2011). "Parasitoid communities of cabbage seedpod weevil: are native species enough?", Joint Annual Meeting of the Entomological Society of Canada and Acadian Entomological Society, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011. (Presentation)

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## Research Publications:

2016

Massé, D.I. and others (2016). "Feasibility and performance of high rate psychrophilic dry anaerobic digestion of high solids content dairy manure.", *International Journal of Recycling of Organic Waste in Agriculture*. doi : 10.1007/s40093-016-0115-9

Saady, N.M.C. and Massé, D.I. (2016). "Starting-up Low Temperature Dry Anaerobic Digestion of Cow Feces and Wheat Straw.", *Renewable Energy*, 88, pp. 439-444. doi : 10.1016/j.renene.2015.11.066

Massé, D.I., Narjoux, A., Granger, F., Pagé, T., and Coumoyer, M. (2016). "Odour.", in Clearwater, R.L., Martin, T. and Hoppe, T. (eds.) - *Environmental sustainability of Canadian agriculture: Agri-environmental indicator report series Report #4*, Agriculture and Agri-Food Canada.

2015

Massé, D.I. and Saady, N.M.C. (2015). "High rate psychrophilic anaerobic digestion of undiluted dairy cow feces.", *Bioresource Technology*, 187, pp. 128-135. doi : 10.1016/j.biortech.2015.03.110

Saady, N.M.C. and Massé, D.I. (2015). "Impact of Organic Loading Rate on Psychrophilic Anaerobic Digestion of Solid Dairy Manure.", *Energies*, 8(3), pp. 1990-2007. doi : 10.3390/en8031990

Saady, N.M.C. and Massé, D.I. (2015). "High rate psychrophilic anaerobic digestion of high solids (35%) dairy manure in sequence batch reactor.", *Bioresource Technology*, 186, pp. 74-80. doi : 10.1016/j.biortech.2015.03.038

Massé, D.I., Saady, N.M.C., Gilbert, Y., and others (2015). "Psychrophilic Dry Anaerobic Digestion of Cow Feces and Wheat Straw: Feasibility Studies.", *Biomass and Bioenergy*, 77, pp. 1-8. doi : 10.1016/j.biombioe.2015.03.017

Xia, Y., Wang, D., Kong, Y., Ungerfeld, E.M., Seviour, R., and Massé, D.I. (2015). "Anaerobic digestibility of beef hooves with swine manure or slaughterhouse sludge.", *Waste Management*, 38(1), pp. 443-448. doi : 10.1016/j.wasman.2014.12.017

Saady, N.M.C. and Massé, D.I. (2015). "Impact of organic loading rate on the performance of psychrophilic dry anaerobic digestion of dairy manure and wheat straw: Long-term operation.", *Bioresource Technology*, 182, pp. 50-57. doi : 10.1016/j.biortech.2015.01.065

Saady, N.M.C. and Massé, D.I. (2015). "On-farm applications of cattle manure fibre hydrolysis biotechnologies: a review.", *International Journal of Environmental and Waste Management*, 15(4), pp. 327-346.

Massé, D.I. and Saady, N.M.C. (2015). "Psychrophilic dry anaerobic digestion of dairy cow feces: Long-term operation.", *Waste Management*, 36, pp. 86-92. doi : 10.1016/j.wasman.2014.10.032

Massé, D.I. and Saady, N.M.C. (2015). "Dry anaerobic digestion of high solids content dairy manure at high organic loading rates in psychrophilic sequence batch reactor.", *Applied Microbiology and Biotechnology*, 99(10), pp. 4521-4529. doi : 10.1007/s00253-015-6516-2

Saady, N.M.C. and Massé, D.I. (2015). "A start-up of psychrophilic anaerobic sequence batch reactor digesting a 35% total solids feed of dairy manure and wheat straw.", *BioMed Research International*, 5(1: Article number 55), pp. 1-10. doi : 10.1186/s13568-015-0144-1

2014

Benchaar, C., Hassanat, F., Gervais, R., Chouinard, P.Y., Petit, H.V., and Massé, D.I. (2014). "Methane production, digestion, ruminal fermentation, N balance, and milk production of cows fed corn silage or barley silage based diets.", *Journal of Dairy Science (JDS)*, 97(2), pp. 961-974. doi : 10.3168/jds.2013-7122

Massé, D.I., Jarret, G., Benchaar, C., and Hassanat, F. (2014). "Effects of Adding Corn Dried Distiller Grains with Solubles (DDGS) to the Dairy Cow Diet and Effects of Bedding in Dairy Cow Slurry on Fugitive Methane Emissions.", *Animals*, 4(4), pp. 767-778. doi : 10.3390/ani4040767

Rajagopal, R., Massé, D.I., and Saady, N.M.C. (2014). "Low-Temperature Anaerobic Co-Digestion of Swine Carcass and Swine Manure: Impact of High Swine Carcass Loading Rate.", *Transactions of the ASABE*, 57(6), pp. 1811-1816. doi : 10.13031/trans.57.10728

Massé, D.I., Jarret, G., Benchaar, C., and Saady, N.M.C. (2014). "Effect of Corn Dried Distiller Grains with Soluble (DDGS) in Dairy Cow Diet on Manure Bioenergy Production Potential.", *Animals*, 4(1), pp. 82-92. doi: 10.3390/ani4010082

Hassanat, F., Gervais, R., Massé, D.I., Petit, H.V., and Benchaar, C. (2014). "Methane production, nutrient digestion, ruminal fermentation, N balance, and milk production of cows fed timothy silage- or alfalfa silage-based diets.", *Journal of Dairy Science (JDS)*, 97(10), pp. 6463-6474. doi: 10.3168/jds.2014-8069

Massé, D.I., Rajagopal, R., and Singh, G.M.S. (2014). "Technical and operational feasibility of psychrophilic anaerobic digestion biotechnology for processing ammonia-rich waste.", *Applied Energy*, 120, pp. 49-55. doi: 10.1016/j.apenergy.2014.01.034

Sollicic, D.M., Massé, D.I., and Sauvé, S. (2014). "Analysis of trimethoprim, lincomycin, sulfadoxin and tylosin using Laser Diode Thermal Desorption Atmospheric Pressure Chemical Ionization Tandem Mass Spectrometry.", *Talanta*, 128, pp. 23-30. doi: 10.1016/j.talanta.2014.04.023

Massé, D.I., Cata Saady, N.M., Saady, N.M.C., and Gilbert, Y. (2014). "Potential of Biological Processes to Eliminate Antibiotics in Livestock Manure: An Overview.", *Animals*, 4(2), pp. 146-163. doi: 10.3390/ani4020146

Massé, D.I., Saady, N.M.C., and Rajagopal, R. (2014). "Psychrophilic Dry Anaerobic Digestion of High Solids Content Dairy Manure: Long-Term Operation.", *Biological Engineering (ASABE)*, 7(3), pp. 99-112. doi: 10.13031/bet.7.10704

Tremblay, F., Massé, D.I., and Bluteau, C.V. (2014). "Accuracy assessment of methane emissions measurement system tailored to mechanically ventilated livestock buildings.", *Canadian Biosystems Engineering*, 56(1), pp. 7.1-7.10. doi: 10.7451/CBE.2014.56.6.1

## 2013

Pariseau, É., Massé, D.I., Masse, L., Topp, E., Burrus, V., and Malouin, F. (2013). "Coagulation-flocculation pre-treatment of surface water used on dairy farms and evaluation of bacterial viability and gene transfer in treatment sludge.", *Water Quality Research Journal of Canada*, 48(2), pp. 111-120. doi: 10.2166/wqjrc.2013.140

Benchaar, C., Hassanat, F., Gervais, R., Chouinard, P.Y., Julien, C., Petit, H.V., and Massé, D.I. (2013). "Effects of increasing amounts of corn dried distillers grains with solubles in dairy cow diets on methane production, ruminal fermentation, digestion, N balance, and milk production.", *Journal of Dairy Science (JDS)*, 96(4), pp. 2413-2427. doi: 10.3168/jds.2012-6037

Massé, D.I., Gilbert, Y., Cata Saady, N.M., and Liu, C. (2013). "Low-temperature anaerobic digestion of swine manure in a plug-flow reactor.", *Environmental Technology*. doi: 10.1080/09593330.2013.781229

Hassanat, F., Gervais, R., Julien, C., Massé, D.I., Chouinard, P.Y., Petit, H.V., and Benchaar, C. (2013). "Replacing alfalfa silage with corn silage in dairy cow diets: Effects on enteric methane production, ruminal fermentation, digestion, N balance, and milk production.", *Journal of Dairy Science (JDS)*, 96(7), pp. 4553-4567. doi: 10.3168/jds.2012-6480

Cata Saady, N.M., Saady, N.M.C., and Massé, D.I. (2013). "Psychrophilic anaerobic digestion of lignocellulosic biomass: A characterization study.", *Bioresource Technology*, 142, pp. 663-671. doi: 10.1016/j.biortech.2013.05.089

Barret, M., Gagnon, N., Topp, E., Masse, L., Massé, D.I., and Talbot, G. (2013). "Physico-chemical characteristics and methanogen communities in swine and dairy manure storage tanks: Spatio-temporal variations and impact on methanogenic activity.", *Water Research*, 47(2), pp. 737-746. doi: 10.1016/j.watres.2012.10.047

Rajagopal, R., Massé, D.I., and Singh, G.M.S. (2013). "A critical review on inhibition of anaerobic digestion process by excess ammonia.", *Bioresource Technology*, 143, pp. 632-641. doi: 10.1016/j.biortech.2013.06.030

Massé, D.I., Narjoux, A., Cournoyer, M., and Pagé, T. (2013). "Development of a scientifically sound agri-environmental indicator tool to address the odour issue.", *Air Quality, Atmosphere and Health*, 6(1), pp. 225-237. doi: 10.1007/s11869-011-0164-1

Bittman, S., Massé, D.I., and Pattey, E. (2013). "Effect of Agriculture on Air Quality in Canada.", in Taylor, E and McMillan, A. (eds.) - *Air quality management. Canadian perspectives on a global issue.*, Springer, Chapter 11. Part III Management of Emission., pp. 237-261.

## 2012

Gagnon, B., Ziadi, N., Chantigny, M.H., Bélanger, G., and Massé, D.I. (2012). "Biosolids from treatment of swine manure and papermill residues affect fertilizer value in corn.", *Agronomy Journal*, 104(2), pp. 483-492. doi: 10.2134/agronj2011.0327

Gasser, M.-O., Chantigny, M.H., Angers, D.A., Bittman, S., Buckley, K.E., Rochette, P., and Massé, D.I. (2012). "Plant-available and water-soluble phosphorus in soils amended with separated manure solids.", *Journal of Environmental Quality*, 41(4), pp. 1290-1300. doi: 10.2134/jeq2011.0290

Barret, M., Gagnon, N., Morissette, B., Topp, E., Kalmokoff, M.L., Brooks, S.P.J., Matias, F., Massé, D.I., Masse, L., and Talbot, G. (2012). "Methanoculleus spp. as a biomarker of methanogenic activity in swine manure storage tanks.", *FEMS Microbiology Ecology*, 80(2), pp. 427-440. doi: 10.1111/j.1574-6941.2012.01308.x

Xia, Y., Massé, D.I., McAllister, T.A., Kong, Y., Seviour, R., and Beaulieu, C. (2012). "Identity and diversity of archaeal communities during anaerobic co-digestion of chicken feathers and other animal wastes.", *Bioresource Technology*, 110, pp. 111-119. doi: 10.1016/j.biortech.2012.01.107

Bélanger, G., Savoie, P., Parent, G., Claessens, A., Bertrand, A., Tremblay, G.F., Massé, D.I., Gilbert, Y., and Babineau, D. (2012). "Switchgrass silage for methane production as affected by date of harvest.", *Canadian Journal of Plant Science*, 92(6), pp. 1187-1197. doi: 10.4141/CJPS2011-202

Chantigny, M.H., Pelster, D.E., Perron, M.-H., Rochette, P., Angers, D.A., Parent, L.-É., Massé, D.I., and Ziadi, N. (2012). "Nitrous Oxide Emissions from Clayey Soils Amended with Paper Sludges and Biosolids of Separated Pig Slurry.", *Journal of Environmental Quality*, 42(1), pp. 30-39. doi: 10.2134/jeq2012.0196

## 2011

Massé, D.I., Gilbert, Y., and Topp, E. (2011). "Pathogen removal in farm-scale psychrophilic anaerobic digesters processing swine manure.", *Bioresource Technology*, 102(2), pp. 641-646. doi: 10.1016/j.biortech.2010.08.020

Xia, Y., Massé, D.I., McAllister, T.A., Beaulieu, C., Talbot, G., Kong, Y., and Seviour, R. (2011). "In situ identification of keratin-hydrolyzing organisms in swine manure inoculated anaerobic digesters.", *FEMS Microbiology Ecology*, 78(3), pp. 451-462. doi: 10.1111/j.1574-6941.2011.01188.x

Massé, D.I., Talbot, G., and Gilbert, Y. (2011). "On farm biogas production: A method to reduce GHG emissions and develop more sustainable livestock operations.", *Animal Feed Science and Technology*, 166-167, pp. 436-445. doi: 10.1016/j.anifeedsci.2011.04.075

Xia, Y., Massé, D.I., McAllister, T.A., Beaulieu, C., and Ungerfeld, E.M. (2011). "Anaerobic digestion of chicken feather with swine manure or slaughterhouse sludge for biogas production.", *Waste Management*, 32(3), pp. 404-409. doi: 10.1016/j.wasman.2011.10.024

Massé, D.I., Masse, L., Topp, E., Séguin, G., Ortega, L.M., Scott, A., and Pariseau, É. (2011). "Maintenance strategies for on-site water disinfection by ultraviolet lamp on dairy farms.", *Water Quality Research Journal of Canada*, 46(1), pp. 2-12. doi: 10.2166/wqrj.2011.014

Massé, D.I., Gilbert, Y., Savoie, P., Bélanger, G., Parent, G., and Babineau, D. (2011). "Methane yield from switchgrass and reed canarygrass grown in Eastern Canada.", *Bioresource Technology*, 102(22), pp. 10286-10292. doi: 10.1016/j.biortech.2011.08.087

Gagnon, N., Barret, M., Topp, E., Kalmokoff, M.L., Massé, D.I., Masse, L., and Talbot, G. (2011). "A novel fingerprinting technology to assess the diversity of methanogens.", *FEMS Microbiology Letters*, 325(2), pp. 115-122. doi: 10.1111/j.1574-6968.2011.02418.x

## Other Science Related Publications:

### 2015

Chantigny, M.H., Royer, I., Rochette, P., Angers, D.A., Massé, D.I., Benchaar, C., and others (2015). "Influence des stratégies alimentaires et d'entreposage des effluents d'élevage sur la disponibilité de l'azote et les émissions de protoxyde d'azote des sols de fermes laitières.", *Journée d'information scientifique – Bovins laitiers et plantes fourragères*, Centre de référence en agriculture et agroalimentaire du Québec, Drummondville, QC, Canada, 25 février 2015.

Chantigny, M.H., Rochette, P., Royer, I., Massé, D.I., and Benchaar, C. (2015). "Gaz à effet de serre, stratégies alimentation et entreposage des déjections.", *Le Producteur de Lait Québécois*, Avril 2015, pp. 13-18.

Massé, D.I. (2015). "Chapter on the agri-environmental indicator on odour.", -NAHARP Agri-Environmental Indicator report, Agriculture and Agri-Food Canada.

### 2014

Massé, D.I. and Rajagopal, R. (2014). Final research report. Operating strategies for the AAFC low temperature dry-anaerobic bioreactors (LTDAB) processing high solids content organic substrates. 20 pp. (Report)

Massé, D.I. and Saady, N. (2014). Final report: Operating strategies for the AAFC low temperature dry-anaerobic bioreactors (LTDAB) processing high solids content organic substrates. 78 pp. (Report)

Hassanat, F., Massé, D.I., and Benchaar, C. (2014). "Methane and carbon dioxide emissions from manure of dairy cows fed red clover- or corn silage-based diets supplemented with linseed oil.", *Journal of Dairy Science (JDS)*, 97(E-Suppl. 1), pp. 740. (Abstract)

Barret, M., Auffret, M., Gagnon, N., Topp, E., Masse, L., Massé, D.I., and Talbot, G. (2014). "Influence of seasonal temperature variation on methanogen communities and methanogenesis in manure storage tanks.", XVIth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada. (Poster)

Royer, I., Chantigny, M.H., Angers, D.A., Rochette, P., Massé, D.I., Bittman, S., and Benchaar, C. (2014). "La stratégie d'alimentation et de stockage du fumier de bovin laitier influence-t-elle le contenu en éléments traces métalliques des sols?", Congrès annuel de l'AQSSS à Victoriaville, Québec, Canada, du 26 au 29 mai 2014.

Royer, I., Chantigny, M.H., Angers, D.A., Rochette, P., Massé, D.I., Bittman, S., and Benchaar, C. (2014). "Trace metals content of soils and plants from different dairy manure types based on feeding and manure storage strategies", Annual meeting of the Canadian Soil Science Society, Banff, Alberta, Canada, May 4-7, 2014.

Hassanat, F., Gervais, C., Julien, C., Massé, D.I., Lettat, A., Chouinard, P.Y., Petit, H.V., and Benchaar, C. (2014). "Erratum to "Replacing alfalfa silage with corn silage in dairy cow diets: Effects on enteric methane production, ruminal fermentation, digestion, N balance, and milk production" (J. Dairy Sci. 96:4553-4567).", Journal of Dairy Science (JDS), 97, pp. 1169.

## 2013

Benchaar, C., Hassanat, F., Gervais, R., Chouinard, P.Y., and Massé, D.I. (2013). "Effect of increasing amounts of corn dried distillers' grains with solubles in dairy cow diets on enteric methane emissions, digestibility, and milk production.", 31st Western Canadian Dairy Seminar (WCDS), Capri Centre, Red Deer, AB, Canada, March 5-8, 2013.

Massé, D.I., Jarret, G., and Benchaar, C. (2013). "Influence of dried distillers' grains with solubles (DDGS) in dairy cow diet on fugitive manure methane emission and on manure bioenergy production potential.", 15th Research Network on Recycling of Agricultural and Industrial Residues in Agriculture (RAMIRAN) International Conference, Versailles, France, June 3-5, 2013, S3.09.

Claessens, A., Bélanger, G., Savoie, P., Parent, G., Bertrand, A., Tremblay, G.F., Massé, D.I., Gilbert, Y., and Babineau, D. (2013). "Species, harvest date, and nitrogen fertilization affect characteristics of biomass grown for methane production in eastern Canada.", SWITCHGRASS II conference, Madison, Wisconsin, USA, September 9-13, 2013, Invited for an oral presentation.

Claessens, A., Bélanger, G., Savoie, P., Parent, G., Bertrand, A., Tremblay, G.F., Massé, D.I., Gilbert, Y., and Babineau, D. (2013). "Effect of harvest date and nitrogen fertilization on reed canarygrass and switchgrass yield, composition and specific methane production in eastern Canada.", SWITCHGRASS II conference, Madison, Wisconsin, USA, September 10-12, 2013., [www.dfrc.wisc.edu/switchgrass/](http://www.dfrc.wisc.edu/switchgrass/).

Hassanat, F., Benchaar, C., Gervais, R., Chouinard, P.Y., and Massé, D.I. (2013). "Effects of replacing timothy silage with alfalfa silage in dairy cow diets on enteric methane production.", ADSA-ASAS 2013 Joint Annual Meeting, Indianapolis, IN, USA, July 8-12, 2013.

Hassanat, F., Gervais, R., Chouinard, P.Y., Petit, H.V., Massé, D.I., and Benchaar, C. (2013). "Effect of replacing timothy silage with alfalfa silage in dairy cow diets on enteric methane production.", ADSA-ASAS 2013 Joint Annual Meeting, Indianapolis, IN, USA, July 8-12, 2013, Published in: Journal of Dairy Science, 96:28 (#T76).

Benchaar, C., Hassanat, F., Gervais, R., Chouinard, P.Y., Petit, H.V., and Massé, D.I. (2013). "Enteric methane emissions from dairy cows fed corn silage or barley silage based diets.", ADSA-ASAS 2013 Joint Annual Meeting, Indianapolis, IN, USA, July 8-12, 2013, Published in: Journal of Dairy Science, 96:512 (#TH111).

## 2012

Chantigny, M.H., Royer, I., Rochette, P., Angers, D.A., Massé, D.I., and Benchaar, C. (2012). "Manure storage strategies altered nutrient availability and greenhouse gas emissions following application to soils.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012.

Benchaar, C., Hassanat, F., Gervais, R., Chouinard, P.Y., Julien, C., and Massé, D.I. (2012). "Effects of increasing amounts of corn dried distillers' grains with solubles in dairy cow diets on enteric methane emissions, digestibility, and milk production.", Journal of Dairy Science (JDS), 95(Suppl. 2), pp. 597. (Abstract)

Hassanat, F., Gervais, R., Chouinard, P.Y., Julien, C., Massé, D.I., and Benchaar, C. (2012). "Effect of replacing legume silage with corn silage in dairy cow diets on enteric methane production.", Journal of Dairy Science (JDS), 95(Suppl. 2), pp. 371. (Abstract)

Benchaar, C., Hassanat, F., Gervais, R., Chouinard, P.Y., Julien, C., Massé, D.I., and Petit, H.V. (2012). "Effect of increasing amounts of corn dried distillers' grains with solubles in dairy cow diets on enteric methane emissions, digestibility, and milk production.", Journal of Dairy Science (JDS), 95(Suppl. 2), pp. 597 (#W277). (Abstract)

Gagnon, B., Ziadi, N., Chantigny, M.H., Bélanger, G., Tremblay, G.F., and Massé, D.I. (2012). "Valorisation des sous-produits du traitement des lisiers de porc et des eaux usées de papeterie en production de maïs-fourragère.", Demi-journée d'information scientifique sur les fourrages 2012, Victoriaville, QC, Canada, February 21, 2012, pp. 34-37.

Massé, D.I. and Boivin, S. (2012). "Biological oxidation of hydrogen sulphide in a psychrophilic anaerobic digestion bioreactor subjected to microaerobic conditions.", published in US no 13/292,732, US Patent Application No: 2012/0190,101, Publication date July 25, 2012, WO2012061933. (Patent)

Solliet, D.M., Massé, D.I., Lapen, D.R., and Sauvé, S. (2012). "Analysis of trimethoprim, lincomycin and sulfadoxin using Laser Diode Thermal Desorption Atmospheric Pressure Chemical Ionization Tandem Mass Spectrometry in manure.", 60th Annual Conference of the American Society for Mass Spectrometry (ASMS), Vancouver, BC, Canada, May 19-24, 2012.

Benchaar, C., Hassanat, F., Gervais, R., Chouinard, P.Y., Julien, C., Massé, D.I., and Petit, H.V. (2012). "Effect of increasing amounts of corn dried distillers' grains with solubles in dairy cow diets on enteric methane emissions, digestibility, and milk production.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012.

Hassanat, F., Gervais, R., Chouinard, P.Y., Julien, C., Massé, D.I., and Benchaar, C. (2012). "Effect of replacing legume/grass silage with corn silage in dairy cow diets on enteric methane production.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, Published in: Journal of Dairy Science (JDS), 95(Suppl. 2), pp. 371 (#M346).

Solliet, D.M., Massé, D.I., Lapen, D.R., and Sauvé, J.P. (2012). "Analysis of trimethoprim, lincomycin and sulfadoxin using Laser Diode Thermal Desorption Atmospheric Pressure Chemical Ionization Tandem Mass Spectrometry in manure.", 16e colloque annuel du Chapitre Saint-Laurent, Hôtel Château Laurier, Québec City, QC, Canada, June 7-8, 2012.

Solliet, D.M., Massé, D.I., Lapen, D.R., and Sauvé, J.P. (2012). "Analysis of trimethoprim, lincomycin and sulfadoxin using Laser Diode Thermal Desorption Atmospheric Pressure Chemical Ionization Tandem Mass Spectrometry in manure.", Montreal Post-ASMS Symposium, Montréal, QC, Canada, September 20, 2012.

## 2011

Massé, D.I. (2011). "Agriculture Canada's R&D on the development of a low temperature AD process for prion degradation.", UK Trade & Investment and Science and Innovation Group of the Consulat général du Royaume-Uni à Montréal, Montréal, QC, Canada, August 2011.

Barret, M., Gagnon, N., Morissette, B., Topp, E., Massé, D.I., Masse, L., and Talbot, G. (2011). "Methanogenesis in Swine Manure Storage Tanks: Towards the Identification of the Active Microorganisms.", 111th General Meeting of American Society for Microbiology (ASM2011), New Orleans, LA, USA, May 21-24, 2011.

Massé, D.I. (2011). "A whole farm approach in R&D to establish and reduce the carbon footprint of Canadian dairy products.", Dairy Research Cluster: Communications and Consultation Workshop - Shaping a dairy research agenda for 2013 - 2018, Queen Elizabeth Hotel, Montréal, QC, Canada, November 16-17, 2011.

Massé, D.I., Jarret, G., and Benchaar, C. (2011). "Manure management, valorisation and manure bioenergy.", Dairy Research Cluster: Communications and Consultation Workshop - Shaping a dairy research agenda for 2013 - 2018, Queen Elizabeth Hotel, Montréal, QC, Canada, November 16-17, 2011.

Massé, D.I. (2011). Manure management and manure bio-energy. AAFC Research Branch – Dairy Cluster Research Project 2011-Annual Report. (Report)

Massé, D.I. (2011). GHG abatement via air treatment (biofiltration). AAFC Research Branch – Dairy Cluster Research Project 2011-Annual Report. (Report)

Massé, D.I. (2011). "A whole farm approach in R&D to establish and reduce the carbon footprint of Canadian dairy products.", Dairy Research Cluster: Communications and Consultation Workshop - Shaping a dairy research agenda for 2013 - 2018, Queen Elizabeth Hotel, Montréal, QC, Canada, November 16-17, 2011.

Talbot, G., Barret, M., Massé, D.I., Masse, L., Kalmokoff, M.L., and Topp, E. (2011). "Methanogenesis in dairy and swine production.", 1er Symposium du Centre de recherche et de développement sur le bovin laitier et le porc: Parlons science au CRDBLP / 1st Symposium of the Dairy and Swine Research and Development Centre: Let's Talk Science at the DSRDC!, Sherbrooke, QC, Canada, June 7, 2011.



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## Research Publications:

2015

Masse, L., Mondor, M., and Dubreuil, J. (2015). "Effect of pH level and acid type on total ammoniacal nitrogen (TAN) retention and fouling of reverse osmosis membranes processing swine wastewater.", *Water Quality Research Journal of Canada*, 50(4), pp. 297-304. doi: 10.2166/wqjrc.2015.143

Masse, L., Puig-Bargues, J., Mondor, M., Deschênes, L., and Talbot, G. (2015). "Efficiency of EDTA, SDS and NaOH solutions to clean RO membranes processing swine wastewater.", *Separation Science and Technology*, 50(16), pp. 2509-2517. doi: 10.1080/01496395.2015.1062395

2014

Masse, L., Mondor, M., Puig-Bargues, J., Deschênes, L., and Talbot, G. (2014). "The efficiency of various chemical solutions to clean reverse osmosis membranes processing swine wastewater.", *Water Quality Research Journal of Canada*, 49(4), pp. 295-306. doi: 10.2166/wqjrc.2014.008

Masse, L., Mondor, M., Talbot, G., Deschênes, L., Drolet, H., Gagnon, N., St-Germain, F., and Puig-Bargues, J. (2014). "Fouling of reverse osmosis membranes processing swine wastewater pretreated by mechanical separation and aerobic biofiltration.", *Separation Science and Technology*, 49(9), pp. 1298-1308. doi: 10.1080/01496395.2014.881880

Pedersen, C.Ø., Masse, L., and Hjorth, M. (2014). "The effect of residual cationic polymers in swine wastewater on the fouling of reverse osmosis membranes.", *Environmental Technology*, 35(11), pp. 1338-1344. doi: 10.1080/09593330.2013.868038

2013

Barret, M., Gagnon, N., Topp, E., Masse, L., Massé, D.I., and Talbot, G. (2013). "Physico-chemical characteristics and methanogen communities in swine and dairy manure storage tanks: Spatio-temporal variations and impact on methanogenic activity.", *Water Research*, 47(2), pp. 737-746. doi: 10.1016/j.watres.2012.10.047

Pariseau, É., Massé, D.I., Masse, L., Topp, E., Burrus, V., and Malouin, F. (2013). "Coagulation-flocculation pre-treatment of surface water used on dairy farms and evaluation of bacterial viability and gene transfer in treatment sludge.", *Water Quality Research Journal of Canada*, 48(2), pp. 111-120. doi: 10.2166/wqjrc.2013.140

Masse, L., Mondor, M., and Dubreuil, J. (2013). "Membrane filtration of the liquid fraction from a solid-liquid separator for swine manure using a cationic polymer as flocculating agent.", *Environmental Technology*, 34(5), pp. 671-677. doi: 10.1080/09593330.2012.710409

Masse, L., Mondor, M., and Dubreuil, J. (2013). "Aging of RO membranes processing pretreated liquid manure.", *Transactions of the ASABE*, 56(4), pp. 1571-1578. doi: 10.13031/trans.56.10021

2012

Masse, L., Bellemare, G., and Dubreuil, J. (2012). "RO membrane filtration of pretreated swine manure with high levels of suspended solids.", *Transactions of the ASABE*, 55(5), pp. 1815-1820.

Barret, M., Gagnon, N., Morissette, B., Topp, E., Kalmokoff, M.L., Brooks, S.P.J., Matias, F., Massé, D.I., Masse, L., and Talbot, G. (2012). "Methanoculleus spp. as a biomarker of methanogenic activity in swine manure storage tanks.", *FEMS Microbiology Ecology*, 80(2), pp. 427-440. doi: 10.1111/j.1574-6941.2012.01308.x

Ippersiel, D., Mondor, M., Lamarche, F., Tremblay, F., Dubreuil, J., and Masse, L. (2012). "Nitrogen potential recovery and concentration of ammonia from swine manure using electrodialysis coupled with air stripping.", *Journal of Environmental Management*, 95(Suppl.), pp. S165-S169. doi: 10.1016/j.jenvman.2011.05.026

2011

Gagnon, N., Barret, M., Topp, E., Kalmokoff, M.L., Massé, D.I., Masse, L., and Talbot, G. (2011). "A novel fingerprinting technology to assess the diversity of methanogens.", *FEMS Microbiology Letters*, 325(2), pp. 115-122. doi: 10.1111/j.1574-6968.2011.02418.x

Massé, D.I., Masse, L., Topp, E., Séguin, G., Ortega, L.M., Scott, A., and Pariseau, É. (2011). "Maintenance strategies for on-site water disinfection by ultraviolet lamps on dairy farms.", *Water Quality Research Journal of Canada*, 46(1), pp. 2-12. doi : 10.2166/wqrj.2011.014

## Other Science Related Publications :

2014

Camilleri-Rumbau, M.S., Masse, L., Dubreuil, J., Norddahl, B., Christensen, K.V., and Mondor, M. (2014). "Cleaning strategies for reverse osmosis membranes processing swine wastewater.", 15th Aachener Membran Kolloquium, November 12-13, 2014, Oral presentation and the article published in Proceedings. 1 ed. Aachen: Druckerei & Verlagshaus Mainz, Vol. 1, Ch. S 5 Water Treatment I, p. 81-86 p. L 5.3. ISBN (print): 978-3-95886-005-6, pp. 81-86.

Barret, M., Auffret, M., Gagnon, N., Topp, E., Masse, L., Massé, D.I., and Talbot, G. (2014). "Influence of seasonal temperature variation on methanogen communities and methanogenesis in manure storage tanks.", XVIth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada. (Poster)

2013

Masse, L., Puig-Bargues, J., Mondor, M., Deschênes, L., and Talbot, G. (2013). "The efficiency of EDTA+SDS solutions to clean RO membranes processing swine wastewater.", 7th IWA Specialised Membrane Technology Conference and Exhibition for Water and Wastewater Treatment and Reuse, Westin Harbour Castle, Toronto, Toronto, Canada, August 25-29, Session 08C Abstract #401.

Pedersen, C.Ø., Masse, L., and Hjorth, M. (2013). "Membrane fouling during the filtration of swine manure pretreated by flocculation using cationic polymer.", 15th Research Network on Recycling of Agricultural and Industrial Residues in Agriculture (RAMIRAN) International Conference, Versailles, France, June 3-5, 2013, S8.12.

2011

Talbot, G., Barret, M., Massé, D.I., Masse, L., Kalmokoff, M.L., and Topp, E. (2011). "Methanogenesis in dairy and swine production.", 1er Symposium du Centre de recherche et de développement sur le bovin laitier et le porc: Parlons science au CRDBLP! / 1st Symposium of the Dairy and Swine Research and Development Centre: Let's Talk Science at the DSRDC!, Sherbrooke, QC, Canada, June 7, 2011.

Barret, M., Gagnon, N., Morissette, B., Topp, E., Massé, D.I., Masse, L., and Talbot, G. (2011). "Methanogenesis in Swine Manure Storage Tanks: Towards the Identification of the Active Microorganisms.", 111th General Meeting of American Society for Microbiology (ASM 2011), New Orleans, LA, USA, May 21-24, 2011.

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## Research Publications:

2015

Bissonnette, N., Jiang, X-R., Matte, J.J., Talbot, G., Guay, F., Gong, J., Wang, Q., Bontempo, V., and Lessard, M. (2015). "Effect of a post-weaning diet supplemented with gut health-enhancing feed additives on ileum transcriptome activity and serum cytokines in piglets challenged with lipopolysaccharides (LPS).", *Journal of Dairy Science (JDS)*, 98(Suppl. 2), pp. 659. (Abstract)

Matte, J.J., Girard, C.L., and Guay, F. (2015). "Postprandial net fluxes of Zn and Cu in portal drained viscera (PDV) of pigs fed organic or inorganic sources of these trace elements.", *13th Digestive Physiology of Pigs (DPP) Symposium*, Kluczkow, Poland, May 19-21, 2015, pp. 15. (Abstract)

Côté-Robitaille, M.-E., Girard, C.L., Guay, F., and Matte, J.J. (2015). "Oral supplementations of betaine, choline, creatine and vitamin B6 and their influence on the development of homocysteinaemia in neonatal piglets.", *Journal of Nutritional Science*, 4(e 31), pp. 1-7. doi: 10.1017/jns.2015.19

Bueno-Dalto, D., Roy, M., Audet, I., Palin, M.-F., Guay, F., Lapointe, J., and Matte, J.J. (2015). "Interaction between vitamin B6 and source of selenium on the response of the selenium-dependent glutathione peroxidase system to oxidative stress induced by oestrus in pubertal pig.", *Journal of Trace Elements in Medicine and Biology*, 32, pp. 21-29. doi: 10.1016/j.jtemb.2015.05.002

Audet, I., Girard, C.L., Lessard, M., Lo Verso, L., Beaudoin, F., and Matte, J.J. (2015). "Homocysteine metabolism, growth performance, and immune responses in suckling and weanling piglets.", *Journal of Animal Science*, 93(1), pp. 147-157. doi: 10.2527/jas.2014-7872

Dalto, B.D., Tsoi, S., Audet, I., Dyck, M.K., Foxcroft, G.R., and Matte, J.J. (2015). "Gene expression of porcine blastocysts from gilts fed organic or inorganic selenium and pyridoxine.", *Reproduction*, 149(1), pp. 31-42. doi: 10.1530/REP-14-0408

2014

Matte, J.J., Britten, M., and Girard, C.L. (2014). "The importance of milk as a source of vitamin B12 for human nutrition.", *Animal Frontiers*, 4(2), pp. 32-37. doi: 10.2527/af.2014-0012

Castellano, C.-A., Plourde, M., Briand, S.I., Angers, P., Giguère, A., and Matte, J.J. (2014). "Safety of dietary conjugated  $\alpha$ -linolenic acid (CLNA) in a neonatal pig model.", *Food and Chemical Toxicology*, 64, pp. 119-125. doi: 10.1016/j.fct.2013.11.025

Lebel, A., Matte, J.J., and Guay, F. (2014). "Effect of mineral source and mannan oligosaccharide supplements on zinc and copper digestibility in growing pigs.", *Archives of Animal Nutrition*, 68(5), pp. 370-384. doi: 10.1080/1745039X.2014.954357

2013

Matte, J.J. and Lauridsen, C. (2013). "Vitamins and Vitamin Utilization in Swine", in Chiba, L.L. (ed.) - *Sustainable Swine Nutrition*, John Wiley & Sons, Ltd, Chapter 6.

Castellano, C.-A., Baillargeon, J.-P., Plourde, M., Briand, S.I., Angers, P., Giguère, A., and Matte, J.J. (2013). "Dietary conjugated  $\alpha$ -linolenic acid did not improve glucose tolerance in a neonatal pig model.", *European Journal of Nutrition*, 53(3), pp. 761-768. doi: 10.1007/s00394-013-0580-0

2012

Fortier, M.-È., Audet, I., Giguère, A., LaForest, J.-P., Bilodeau, J.-F., Quesnel, H., and Matte, J.J. (2012). "Effect of dietary organic and inorganic selenium on antioxidant status, embryo development and reproductive performance in hyperovulatory first-parity gilts.", *Journal of Animal Science*, 90(1), pp. 231-240. doi: 10.2527/jas.2010-3340

Le Floch, N., Gondret, F., Matte, J.J., and Quesnel, H. (2012). "Towards amino acid recommendations for specific physiological and patho-physiological states in pigs.", *Proceedings of the Nutrition Society*, 71(3), pp. 425-432. doi: 10.1017/S0029665112000560

Matte, J.J., Guay, F., and Girard, C.L. (2012). "The contribution of portal drained viscera to circadian homocysteinemia in pigs.", *Journal of Animal Science*, 90(Suppl. 4), pp. 68-70. doi: 10.2527/jas.49978

Le Floch, N., Primot, Y., Corrent, E., and Matte, J.J. (2012). "Influence du croisement génétique sur le métabolisme postprandial du tryptophane chez le porc.", *Journées Rech Porcine en France*, 44:203-204.

2011

Matte, J.J., Guay, F., and Girard, C.L. (2011). "Bioavailability of vitamin B<sub>12</sub> in cows' milk", *British Journal of Nutrition*, 107(1), pp. 61-66. doi : 10.1017/S0007114511002364

Castellano, C.-A., Audet, I., LaForest, J.-P., Matte, J.J., and Suh, M. (2011). "Fish oil diets alter the phospholipid balance, fatty acid composition, and steroid hormone concentrations in testes of adult pigs.", *Theriogenology*, 76(6), pp. 1134-1145. doi : 10.1016/j.theriogenology.2011.05.022

Matte, J.J., Le Floch, N., Primot, Y., and Lessard, M. (2011). "Interaction between dietary tryptophan and pyridoxine on tryptophan metabolism, immune responses and growth performance in post-weaning pigs.", *Animal Feed Science and Technology*, 170(3-4), pp. 256-264. doi : 10.1016/j.anifeedsci.2011.09.013

Regmi, P.R., van Kempen, T.A.T.G., Matte, J.J., and Zijlstra, R.T. (2011). "Starch with High Amylose and Low in Vitro Digestibility Increases Short-Chain Fatty Acid Absorption, Reduces Peak Insulin Secretion, and Modulates Incretin Secretion in Pigs.", *Journal of Nutrition*, 141, pp. 398-405. doi : 10.3945/jn.110.132449

## Other Science Related Publications:

2015

Matte, J.J. (2015). "New concepts on micronutrient requirements for sows: beyond reproductive performance.", 19th European Society of Veterinary and Comparative Nutrition (ESVCN) 2015, Toulouse, France, September 17-19, 2015, pp. 3-6.

Matte, J.J. (2015). "Micronutrient requirements for sows: to be revisited for an adequate transfer to piglets?", 36th Western Nutrition Conference, Animal Nutrition Association of Canada (WNC - ANAC). Driving Innovation in Animal Nutrition, Winnipeg, Manitoba, September 28-30, 2015, pp. 17-21.

Bissonnette, N., Jiang, X.-R., Matte, J.J., Talbot, G., Guay, F., Gong, J., Wang, Q., Bontempo, V., and Lessard, M. (2015). "Effect of a post-weaning diet supplemented with gut health-enhancing feed additives on ileum transcriptome activity and serum cytokines in piglets challenged with lipopolysaccharides (LPS)", ADSA-ASAS JAM (Joint Annual Meeting) 2015, Orlando, Florida, USA, July 12-16, 2015, 2-15, Poster Session.

2014

Lessard, M., Bergeron, N., Deschêne, K., Matte, J.J., Guay, F., Bissonnette, N., Talbot, B.G., Gong, J., Wang, Q., Quessy, S., and Letellier, A. (2014). "Intestinal gene expression involved in innate and acquired immune responses of pigs is affected by Salmonella infection and diets supplemented with gut health-enhancing feed additives.", 23rd International Pig Veterinary Society Congress, Cancun, México, June 8-11, 2014, Abstract A1387. (Poster)

Dalto, D.B., Tsoi, S., Audet, I., Dyck, M.K., and Matte, J.J. (2014). "Dietary supplementation with organic or inorganic selenium and pyridoxine in gilts on gene expression in the porcine expanded blastocysts in vivo.", *Journal of Animal Science*, 92(E-Suppl. 2), pp. 941. (Abstract)

Audet, I., Girard, C.L., Lessard, M., Lo Verso, L., and Matte, J.J. (2014). "Homocysteinemia, growth performance, and immune responses in suckling and weaning piglets.", *Journal of Animal Science*, 92(E-Suppl.2), pp. 219. (Abstract)

Matte, J.J. (2014). "Water-soluble vitamins and reproduction in sows: beyond prolificacy.", 65th Annual Meeting of the European Federation of Animal Science, Book of Abstracts of the No. 20. Pp. 108. Wageningen Academic Publishers, The Netherlands, ISSN 1382-607, pp. 108. (Abstract)

Morissette, B., Lessard, M., Yergeau, E., Lapointe, J., Guay, F., Bissonnette, N., Matte, J.J., Letellier, A., Quessy, S., Bergeron, N., Beaulieu, C., and Talbot, G. (2014). "Influence of Feed Additives as an Alternative to Antibiotics on Gut Microbiota of Weaned Piglets Infected with Salmonella Typhimurium.", 114th General Meeting of the American Society for Microbiology, Boston, Massachusetts, USA, May 17-20, 2014.

Morissette, B., Lessard, M., Yergeau, E., Lapointe, J., Guay, F., Bissonnette, N., Matte, J.J., Letellier, A., Quessy, S., Bergeron, N., and Talbot, B.G. (2014). "Influence of Feed Additives as an Alternative to Antibiotics on Gut Microbiota of Weaned Piglets Infected with Salmonella Typhimurium.", 7ième Symposium du CRIPA, Hyacinthe, Québec, Canada, 3-4 juin 2014. (Poster)

Lessard, M., Bergeron, N., Deschêne, K., Matte, J.J., Guay, F., Bissonnette, N., Talbot, B.G., Quessy, S., and Letellier, A. (2014). "Influence of Salmonella infection and diets supplemented with gut health-enhancing feed additives on expression of intestinal genes involved in immune response of pigs.", 7ième Symposium du CRIPA, Hyacinthe, Québec, Canada, 3-4 juin 2014. (Poster)

Matte, J.J., Audet, I., Audet, I., and Girard, C.L. (2014). "Le transfert périnatal des vitamines et minéraux mineurs de la truie à ses porcelets: au-delà d'une seule insuffisance en fer?", published in *Journées Rech. Porcine en France*. 46:71-76.

Matte, J.J., Audet, I., Audet, I., and Girard, C.L. (2014). "The perinatal transfer of vitamins and trace elements from sows to piglets.", *Journal of Animal Science*, 92(Suppl. 2), pp. 153. (Abstract)

Morissette, B., Lessard, M.-H., Yergeau, E., Lapointe, J., Guay, F., Bissonnette, N., Matte, J.J., Letellier, A., Quessy, S., Bergeron, N., Beaulieu, C., and Talbot, G. (2014). "Influence of Feed Additives as an Alternative to Antibiotics on Gut Microbiota of Weaned Piglets Infected with *Salmonella Typhimurium*.", 114th General Meeting of the American Society for Microbiology, Boston, Massachusetts, USA, May 17-20, 2014. (Abstract)

Lessard, M.-H., Bergeron, N., Deschêne, K., Matte, J.J., Guay, F., Bissonnette, N., Talbot, G., Quessy, S., and Letellier, A. (2014). "Influence of *Salmonella* infection and diets supplemented with gut health-enhancing feed additives on expression of intestinal genes involved in immune response of pigs.", 7ième Symposium du CRIPA, Hyacinthe, Québec, Canada, 3-4 juin 2014. (Abstract)

## 2013

Matte, J.J. (2013). "Importance of selenium in the nutrition of breeding sows – a new approach.", *Reproduction*, 1(3), pp. 1-3.

Morissette, B., Lessard, M., Guay, F., Matte, J.J., Gong, J., Wang, Q., Beaulieu, C., and Talbot, G. (2013). "Prebiotics, probiotic, nutraceuticals and functional food as feed additives that modulate the gut microbiota of weanling piglets challenged with *E. coli* lipopolysaccharides.", 63rd Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013, Abstract AE56. (Abstract)

Morissette, B., Lessard, M., Guay, F., Matte, J.J., Gong, J., Wang, Q., Beaulieu, C., and Talbot, G. (2013). "Prebiotics, probiotic, nutraceuticals and functional food as feed additives that modulate gut microbiota of weanling piglets.", 6th Symposium of Swine and Poultry Infectious Diseases Research Center. Congrès de l'ACFAS Colloque 227 – Le microbiote animal : une question d'équilibre., Université Laval, Québec, QC, Canada, May 8-9, 2013, pp. 46. (Poster)

Audet, I., Girard, C.L., Lessard, M., and Matte, J.J. (2013). "Métabolisme de l'homocystéine et performances de croissance chez le porcelet pendant l'allaitement et après le sevrage.", *Journées d'Information scientifique en productions animales*, Québec, Canada, pp. 28-29.

## 2012

Lapointe, J., Roy, M., Audet, I., Beaudry, D., Palin, M.-F., Quesnel, H., Guay, F., and Matte, J.J. (2012). "Organic selenium and vitamin B6 synergize to up-regulate glutathione peroxidases (GPx) expression in dietary supplemented gilts.", *Society for the Study of Reproduction 45th Annual Meeting and 18th Ovarian Workshop*, Pennsylvania State University, State College, PA, USA, August 12-15, 2012, Abs. 469. (Abstract)

## 2011

Le Floch, N., Gondret, F., Matte, J.J., and Quesnel, H. (2011). "Towards amino acid recommendations for specific physiological and patho-physiological states in pigs.", *Oskar Kellner Symposium 2011*, Hotel Neptun, Warnemünde, Germany, September 9-11, 2011.

Roy, M., Audet, I., Palin, M.-F., Quesneville, H., Guay, F., and Matte, J.J. (2011). "Dietary sources of selenium in nulliparous sows: The importance of vitamin B6 status for some aspects of antioxidant status and ovulation during the peri-estrus period.", *Journal of Animal Science*, 89(E-Suppl. 1), pp. 508 (#W202). (Abstract)

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## Research Publications:

2015

Lupwayi, N.Z., Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Hall, L.M., Willenborg, C.J., Gan, Y.T., Lafond, G.P., May, W.E., and Grant, C.A. (2015). "Relating soil microbial properties to yields of no-till canola on the Canadian prairies.", *European Journal of Agronomy*, 62, pp. 110-119. doi: 10.1016/j.eja.2014.10.004

St. Luce, M., Grant, C.A., Zebarth, B.J., Ziadi, N., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Khakbazan, M., and Smith, E.G. (2015). "Legumes can reduce economic optimum nitrogen rates and increase yields in a wheat-canola cropping sequence in western Canada.", *Field Crops Research*, 179, pp. 12-25. doi: 10.1016/j.fcr.2015.04.003

Turkington, T.K., O'Donovan, J.T., Harker, K.N., Xi, K., Blackshaw, R.E., Johnson, E.N., Peng, G., Kutcher, H.R., May, W.E., Lafond, G.P., Mohr, R.M., Irvine, R.B., and Stevenson, C. (2015). "The impact of fungicide and herbicide timing on foliar disease severity, and barley productivity and quality.", *Canadian Journal of Plant Science*, 95(3), pp. 525-537. doi: 10.4141/CJPS-2014-364

O'Donovan, J.T., Anbessa, Y., Grant, C.A., MacLeod, A., Edney, M.J., Izydorczyk, M.S., Turkington, T.K., Juskiw, P.E., Lafond, G.P., May, W.E., Harker, K.N., Johnson, E.N., Beres, B.L., McAllister, T.A., Smith, E.G., and Chapman, W. (2015). "Relative responses of new malting barley cultivars to increasing nitrogen rates in western Canada.", *Canadian Journal of Plant Science*, 95(5), pp. 831-839. doi: 10.4141/cjps-2014-415

May, W.E. (2015). "Niger Tolerance to Flucarbazone.", *Weed Technology*, 29(3), pp. 529-535. doi: 10.1614/WT-D-14-00147.1

2014

Yang, C., Gan, Y.T., Harker, K.N., Kutcher, H.R., Gulden, R.H., Irvine, R.B., May, W.E., and O'Donovan, J.T. (2014). "Up to 32 % yield increase with uniform canola stands in western Canada.", *Agronomy for Sustainable Development*, 34(4), pp. 793-801. doi: 10.1007/s13593-014-0218-5

May, W.E., Fernandez, M.R., Selles, F., and Lafond, G.P. (2014). "Agronomic practices to reduce leaf spotting and Fusarium kernel infections in durum wheat on the Canadian prairies.", *Canadian Journal of Plant Science*, 94(1), pp. 141-152. doi: 10.4141/CJPS2012-304

Fernandez, M.R., May, W.E., Chalmers, S., Savard, M.E., and Singh, A.K. (2014). "Are early foliar fungicide applications on durum wheat grown in southeast Saskatchewan beneficial in increasing grain productivity?", *Canadian Journal of Plant Science*, 94(5), pp. 891-903. doi: 10.4141/CJPS2013-325

May, W.E., Ames, N.P., Irvine, R.B., Kutcher, H.R., Lafond, G.P., and Shirliffe, S.J. (2014). "Are fungicide applications to control crown rust of oat beneficial?", *Canadian Journal of Plant Science*, 94(5), pp. 911-922. doi: 10.4141/CJPS2013-333

Khakbazan, M., Grant, C.A., Huang, J., Smith, E.G., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Lafond, G.P., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., and Lupwayi, N.Z. (2014). "Economic effects of preceding crops and nitrogen application on canola and subsequent barley.", *Agronomy Journal*, 106(6), pp. 2055-2066. doi: 10.2134/agnonj14.0253

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Turkington, T.K., Lupwayi, N.Z., Stevenson, F.C., McLaren, D.L., Khakbazan, M., and Smith, E.G. (2014). "Rotational effects of legumes and non-legumes on hybrid canola and malting barley.", *Agronomy Journal*, 106(6), pp. 1921-1932. doi: 10.2134/agnonj14.0236

Malhi, S.S., Johnson, E.N., Hall, L.M., May, W.E., Phelps, S.M., and Nybo, B.X. (2014). "Effect of nitrogen fertilizer application on seed yield, N uptake, and seed quality of *Camelina sativa*.", *Canadian Journal of Soil Science*, 94(1), pp. 35-47. doi: 10.4141/CJSS2012-086

2013

Irvine, R.B., Lafond, G.P., May, W.E., Kutcher, H.R., Clayton, G.W., Harker, K.N., Turkington, T.K., and Beres, B.L. (2013). "Stubble options for winter wheat in the Blacksoil zone of western Canada.", *Canadian Journal of Plant Science*, 93(2), pp. 261-270. doi: 10.4141/CJPS2012-198

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Hall, L.M., Willenborg, C.J., Kutcher, H.R., Gan, Y.T., Lafond, G.P., May, W.E., Grant, C.A., Barthet, V., McDonald, T., Wispinski, D., and Hartman, M. (2013). "Effect of agronomic inputs and crop rotation on biodiesel quality and fatty acid profiles of direct-seeded canola.", *Canadian Journal of Plant Science*, 93(4), pp. 577-588. doi : 10.4141/cjps2012-277

May, W.E., Holzapfel, C.B., Lafond, G.P., and Schoenau, J.J. (2013). "Does the presence of the gene for glabrous hull in annual canarygrass affect the response to chloride fertilizer?", *Canadian Journal of Plant Science*, 93(1), pp. 109-118. doi : 10.4141/cjps2012-068

Lafond, G.P., May, W.E., and Holzapfel, C.B. (2013). "Row spacing and nitrogen fertilizer effect on no-till oat production.", *Agronomy Journal*, 105(1), pp. 1-10. doi : 10.2134/agronj2012.0221

## 2012

May, W.E., Malhi, S.S., Holzapfel, C.B., Nybo, B.X., Schoenau, J.J., and Lafond, G.P. (2012). "The Effects of Chloride and Potassium Nutrition on Seed Yield of Annual Canarygrass.", *Agronomy Journal*. doi : 10.2134/agronj/2011.0414

Smith, E.G., O'Donovan, J.T., Henderson, W.J., Turkington, T.K., McKenzie, R.H., Harker, K.N., Clayton, G.W., Juskiw, P.E., Lafond, G.P., Brandt, S.A., Edney, M.J., Johnson, E.N., and May, W.E. (2012). "Net return risk for malting barley production in Western Canada as influenced by production strategies.", *Agronomy Journal*, 104(5), pp. 1374-1382. doi : 10.2134/agronj2011.0416

Lafond, G.P., Campbell, C.A., Lemke, R.L., May, W.E., and Holzapfel, C.B. (2012). "Indian Head Long Term Crop Rotations: Indian Head Saskatchewan.", *Prairie Soils and Crops*, 5, pp. 42-50.

Lupwayi, N.Z., Lafond, G.P., May, W.E., Holzapfel, C.B., and Lemke, R.L. (2012). "Intensification of field pea production: Impact on soil microbiology.", *Agronomy Journal*, 104(5), pp. 1189-1196. doi : 10.2134/agronj2012.0046

O'Donovan, J.T., Turkington, T.K., Edney, M.J., Juskiw, P.E., McKenzie, R.H., Harker, K.N., Clayton, G.W., Lafond, G.P., Grant, C.A., Brandt, S.A., Johnson, E.N., May, W.E., and Smith, E.G. (2012). "Effect of seeding date and seeding rate on malting barley production in western Canada.", *Canadian Journal of Plant Science*, 92(2), pp. 321-330. doi : 10.4141/cjps2011-130

May, W.E., Lafond, G.P., Gan, Y.T., Hucl, P.J., Holzapfel, C.B., Johnston, A.M., and Stevenson, C. (2012). "Yield variability in *Phalaris canariensis* L. due to seeding date, seeding rate and nitrogen fertilizer.", *Canadian Journal of Plant Science*, 92(4), pp. 651-669. doi : 10.4141/CJPS2011-126

Edney, M.J., O'Donovan, J.T., Turkington, T.K., Clayton, G.W., McKenzie, R.H., Juskiw, P.E., Lafond, G.P., Brandt, S.A., Grant, C.A., Harker, K.N., Johnson, E.N., and May, W.E. (2012). "Effects of seeding rate, nitrogen rate and cultivar on barley malt quality.", *Journal of the Science of Food and Agriculture*, 92(13), pp. 2672-2678. doi : 10.1002/jsfa.5687

Turkington, T.K., O'Donovan, J.T., Edney, M.J., Juskiw, P.E., McKenzie, R.H., Harker, K.N., Clayton, G.W., Xi, K., Lafond, G.P., Irvine, R.B., Brandt, S.A., Johnson, E.N., May, W.E., and Smith, E.G. (2012). "Effect of crop residue, nitrogen rate and fungicide application on malting barley productivity, quality, and foliar disease severity.", *Canadian Journal of Plant Science*, 92(3), pp. 577-588. doi : 10.4141/CJPS2011-216

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Klein-Gebbinck, H.W., Dossall, L.M., Hall, L.M., Willenborg, C.J., Kutcher, H.R., Malhi, S.S., Vera, C.L., Gan, Y.T., Lafond, G.P., May, W.E., Grant, C.A., and McLaren, D.L. (2012). "High-yield no-till canola production on the Canadian prairies.", *Canadian Journal of Plant Science*, 92(2), pp. 221-233. doi : 10.4141/CJPS2011-125

Gan, Y.T., Liang, C., May, W.E., Malhi, S.S., Niu, J., and Wang, X. (2012). "Carbon footprint of spring barley in relation to preceding oilseeds and N fertilization.", *International Journal of Life Cycle Assessment*, 17(5), pp. 635-645. doi : 10.1007/s11367-012-0383-1

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Johnson, E.N., Lafond, G.P., and May, W.E. (2012). "Seeding depth and seeding speed effects on no-till canola emergence, maturity, yield and seed quality.", *Canadian Journal of Plant Science*, 92(4), pp. 795-802. doi : 10.4141/CJPS2011-189

## 2011

Campbell, C.A., Lafond, G.P., VandenBygaart, A.J., Zentner, R.P., Lemke, R.L., May, W.E., and Holzapfel, C.B. (2011). "Effect of crop rotation, fertilizer and tillage management on spring wheat grain yield and N and P content in a thin Black Chernozem: A long-term study.", *Canadian Journal of Plant Science*, 91(3), pp. 467-483. doi : 10.4141/cjps10032

Blackshaw, R.E., Johnson, E.N., Gan, Y.T., May, W.E., McAndrew, D.W., Barthet, V., McDonald, T., and Wispinski, D. (2011). "Alternative oilseed crops for biodiesel feedstock on the Canadian prairies.", *Canadian Journal of Plant Science*, 91(5), pp. 889-896. doi : 10.4141/cjps2011-002

Lafond, G.P., May, W.E., Holzapfel, C.B., Lemke, R.L., and Lupwayi, N.Z. (2011). "Intensification of field pea production: Impact on grain production, grain protein and water use efficiency.", *Agronomy Journal*, 103(2), pp. 396-403. doi : 10.2134/agronj2010.0309

Lafond, G.P., Walley, F.L., May, W.E., and Holzapfel, C.B. (2011). "Long term impact of no-till on soil properties and crop productivity on the Canadian prairies.", *Soil & Tillage Research*, 117, pp. 110-123. doi: 10.1016/j.still.2011.09.006

Turmel, M.S., Entz, M.H., Tenuta, M., May, W.E., and Lafond, G.P. (2011). "The influence of a long-term black medic (*Medicago lupulina* cv. George) cover crop on arbuscular mycorrhizal fungal colonization and nutrient uptake in flax (*Linum usitatissimum*) under zero-tillage management.", *Canadian Journal of Plant Science*, 91(6), pp. 1071-1076. doi: 10.4141/cjps10115

Lamb, E.G., Shirliffe, S.J., and May, W.E. (2011). "Structural equation modeling in the plant sciences: An example using yield components in oat.", *Canadian Journal of Plant Science*, 91(4), pp. 603-619. doi: 10.4141/CJPS2010-035

Fernandez, M.R., May, W.E., and Lafond, G.P. (2011). "Effect of fungicide seed treatments on root pathogens of cereal crops under field conditions.", *Canadian Journal of Plant Science*, 90(6), pp. 905-917. doi: 10.4141/CJPS09172

O'Donovan, J.T., Turkington, T.K., Edney, M.J., Clayton, G.W., McKenzie, R.H., Juskiw, P.E., Lafond, G.P., Grant, C.A., Brandt, S.A., Harker, K.N., Johnson, E.N., and May, W.E. (2011). "Seeding Rate, Nitrogen Rate, and Cultivar Effects on Malting Barley Production.", *Agronomy Journal*, 103(3), pp. 709-716. doi: 10.2134/agronj2010.0490

## Other Science Related Publications:

### 2015

Turkington, T.K., Xi, K., O'Donovan, J.T., Harker, K.N., Peng, G., Martin, R.C., Beres, B.L., May, W.E., and Mohr, R.M. (2015). "The impact of seed treatment, foliar fungicide timing, and plant growth regulator on leaf-disease severity and productivity of barley.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015, ID: P IPM 42. (Poster)

O'Donovan, J.T., Turkington, T.K., Harker, K.N., Oatway, L., Grant, C.A., Beres, B.L., Johnson, E.N., May, W.E., Izydorczyk, M.S., MacLeod, A., Anbessa, Y., and Vera, C.L. (2015). "Malting barley cultivar responses to increasing nitrogen rates in western Canada.", ASA-CSSA-SSSA International Annual Meeting: Synergy in Science. Partnering for Solutions, Minneapolis, MN, USA, November 15-18, 2015. (Poster)

Turkington, T.K., Xi, K., Peng, G., Martin, R.A., Harker, K.N., O'Donovan, J.T., Beres, B.L., May, W.E., and Mohr, R.M. (2015). "The impact of seed treatment, foliar fungicide timing, and plant growth regulator on barley leaf disease severity and productivity.", *Canadian Journal of Plant Pathology*. (Abstract)

Turkington, T.K., O'Donovan, J.T., Harker, K.N., Xi, K., Blackshaw, R.E., Johnson, E.N., Peng, G., Kutcher, H.R., May, W.E., Lafond, G.P., Mohr, R.M., and Irvine, R.B. (2015). "The impact of fungicide and herbicide timing on foliar disease severity, and barley productivity and quality.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015, ID: P HERBI 7. (Poster)

Gan, Y.T., Harker, K.N., Kutcher, H.R., Gulden, R.H., Irvine, R.B., May, W.E., O'Donovan, J.T., and Yang, C. (2015). "Uniform plant stands enhance the synergy of pod formation and seed yield in canola.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. (Poster)

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2015). "Legumes in rotation affect hybrid canola and malting barley.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015, Keynote Theme D oral presentation.

MacLean, D., May, W.E., Peng, G., Coles, K., Turkington, T.K., Harding, M.W., and Kutcher, H.R. (2015). "Fungicide application at anthesis provides effective leaf spot control in spring wheat.", *Canadian Journal of Plant Pathology*. (Abstract)

### 2014

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Lafond, G.P., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2014). "Rotational Effects of Legumes and Non-Legumes on Hybrid Canola, and Malting Barley.", American Society of Agronomy Annual Meeting 2014, Long Beach, CA, USA, November 3-5, 2014.

O'Donovan, J.T., Edney, M.J., MacLeod, A., Turkington, T.K., Grant, C.A., Harker, K.N., Johnson, E.N., Lafond, G.P., May, W.E., Beres, B.L., Kabeta, Y., and Juskiw, P.E. (2014). "Response of new malting barley cultivars to increasing nitrogen rates in western Canada.", 13th Congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014, pp. 141-142. (Poster)

O'Donovan, J.T., Blackshaw, R.E., Grant, C.A., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., and Turkington, T.K. (2014). "Legume crops grown in rotation enhance canola and barley productivity in western Canada.", 13th Congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014, pp. 357-358.



2013

O'Donovan, J.T., Turkington, T.K., Edney, M., Smith, E.G., Harker, K.N., Beres, B.L., Clayton, G.W., Brandt, S.A., Johnson, E.N., Lafond, G.P., May, W.E., Grant, C.A., McKenzie, R., Juskiw, P.E., Kadeta, Y., Stonehouse, K., and Chapman, B. (2013). "Varietal and agronomic impacts on malting barley yield and quality.", FarmTech 2013, Westin Hotel, Edmonton, AB, Canada, January 29-31, 2013.

O'Donovan, J.T., Turkington, T.K., Edney, M., Juskiw, P.E., May, W.E., Grant, C.A., Smith, E.G., Harker, K.N., Johnson, E.N., Beres, B.L., Kadeta, Y., and Chapman, B. (2013). "Relative responses of malting barley varieties to increasing nitrogen rates.", 16th Australian Barley Technical Symposium, Melbourne, Australia, September 8-11, 2013, pp. 58.

Bassendowski, K.A., Lafond, G.P., May, W.E., Holzapfel, C.B., and Gossen, B.D. (2013). "Frequent cropping to field pea increases the severity of root and foliar diseases.", Canadian Journal of Plant Pathology, 35, pp. 518. (Abstract)

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Turkington, T.K., Johnson, E.N., Lafond, G.P., May, W.E., Gan, Y.T., Edney, M., and Juskiw, P.E. (2013). "Effect of legume crops grown two years prior to barley on malting barley yield and quality.", ASA/CSSA/SSSA International annual meeting: Water, Food, Energy and Innovation for a Sustainable World, Tampa, Florida, USA, November 3-6, 2013.

2011

O'Donovan, J.T., Blackshaw, R.E., Grant, C.A., Harker, K.N., Lafond, G.P., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., and Lupwayi, N.Z. (2011). "Legume Crops to Improve Soil Fertility for Enhanced Canola Production.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Poster)

Fernandez, M.R., May, W.E., Chalmers, S., Savard, M.E., and Singh, A.K. (2011). "Effectiveness of fungicide applications at various growth stages on head/kernel diseases, and productivity of durum wheat in southern Saskatchewan.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 87.

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## Research Publications:

2015

Wang, J., Niu, Y.D., Chen, J., Anany, H., Ackermann, H.-W., Johnson, R.P., Ateba, C.N., Stanford, K.I.M., and McAllister, T.A. (2015). "Feces of feedlot cattle contain a diversity of bacteriophages that lyse non-O157 shiga toxin-producing *Escherichia coli*.", *Canadian Journal of Microbiology*, 61(7), pp. 467-475. doi: 10.1139/cjm-2015-0163

Rasmussen, J.P., Gilroyed, B.H., Reuter, T.R., Badea, A., Eudes, F., Graf, R.J., Laroche, A., Kav, N.N.V., and McAllister, T.A. (2015). "Protein can be taken up by damaged wheat roots and transported to the stem.", *Journal of Plant Biology*, 58(1), pp. 1-7. doi: 10.1007/s12374-014-0258-z

Huang, Q.Q., Jin, L., Xu, Z.J., Barbieri, L.R., Acharya, S.N., Hu, T.M., McAllister, T.A., Stanford, K.I.M., and Wang, Y. (2015). "Effects of purple prairie clover (*Dalea purpurea* Vent.) on feed intake, nutrient digestibility and faecal shedding of *Escherichia coli* O157:H7 in lambs.", *Animal Feed Science and Technology*, 207, pp. 51-61. doi: 10.1016/j.anifeedsci.2015.06.009

Ribeiro Jr, G.O., Gonçalves, L., Pereira, L.G.R., Chaves, A.V., Wang, Y., Beauchemin, K.A., and McAllister, T.A. (2015). "Effect of fibrolytic enzymes added to a *Andropogon gayanus* grass silage-concentrate diet on rumen fermentation in batch cultures and the artificial rumen (Rusitec).", *Animal*, 9(7), pp. 1153-1162. doi: 10.1017/S1751731115000221

Beukers, A.G., Zaheer, R., Cook, S.R., Stanford, K., Chaves, A.V., Ward, M.P., and McAllister, T.A. (2015). "Effect of in-feed administration and withdrawal of tylosin phosphate on antibiotic resistance in enterococci isolated from feedlot steers.", *Frontiers in Microbiology*, 6(May: Article number 483). doi: 10.3389/fmicb.2015.00483

Holman, D.B., McAllister, T.A., Topp, E., Wright, A.-D.G., and Alexander, T.W. (2015). "The nasopharyngeal microbiota of feedlot cattle that develop bovine respiratory disease.", *Veterinary Microbiology*, 180(1-2), pp. 90-95. doi: 10.1016/j.vetmic.2015.07.031

Niu, Y.D., Cook, S.R., Wang, J., Klima, C.L., Hsu, Y.-H., Kropinski, A.M., Turner, D., and McAllister, T.A. (2015). "Comparative analysis of multiple inducible phages from *Mannheimia haemolytica*.", *BMC Microbiology*, 15(1: Article number 175). doi: 10.1186/s12866-015-0494-5

Reuter, T.R., Gilroyed, B.H., Xu, W., McAllister, T.A., and Stanford, K. (2015). "Compost biodegradation of recalcitrant hoof keratin by bacteria and fungi.", *Journal of Applied Microbiology*, 119(2), pp. 425-434. doi: 10.1111/jam.12849

Sheppard, S.C., Bittman, S., Donohoe, G., Flaten, D.N., Wittenberg, K.M., Small, J.A., Berthiaume, R.R., McAllister, T.A., Beauchemin, K.A., McKinnon, J.J., Amiro, B.D., MacDonald, D., Mattos, F., and Ominski, K.H. (2015). "Beef cattle husbandry practices across ecoregions of Canada in 2011.", *Canadian Journal of Animal Science*, 95(2), pp. 305-321. doi: 10.4141/CJAS-2014-158

Badhan, A., Wang, Y., Gruninger, R.J., Patton, D., Powlowski, J., Tsang, A., and McAllister, T.A. (2015). "Improvement in saccharification yield of mixed rumen enzymes by identification of recalcitrant cell wall constituents using enzyme fingerprinting.", *BioMed Research International*, 2015(Article number 562952). doi: 10.1155/2015/562952

Vahmani, P., Mapiye, C., Prieto, N., Rolland, D.C., McAllister, T.A., Aalhus, J.L., and Dugan, M.E.R. (2015). "The scope for manipulating the polyunsaturated fatty acid content of beef: A review.", *Journal of Animal Science and Biotechnology*, 6(1: Article number 29), pp. 1-13. doi: 10.1186/s40104-015-0026-z

Jin, L., Wang, Y., Iwaasa, A.D., Li, Y., Xu, Z.J., Schellenberg, M.P., Liu, X.-L., McAllister, T.A., and Stanford, K.I.M. (2015). "Purple prairie clover (*Dalea purpurea* Vent) reduces fecal shedding of *Escherichia coli* in pastured cattle.", *Journal of Food Protection*, 78(8), pp. 1434-1441. doi: 10.4315/0362-028X.JFP-14-426

Lambie, S.C., Kelly, W., Leahy, S.C., Li, D., Reilly, K., McAllister, T.A., Valle, E.R., Attwood, G.T., and Altermann, E. (2015). "The complete genome sequence of the rumen methanogen *Methanosarcina barkeri* CM1.", *Standards in Genomic Sciences*, 10(AUGUST: Article Number 57), pp. 1-8. doi: 10.1186/s40793-015-0038-5

Gilroyed, B.H., Braithwaite, S.L., Price, L.M., Reuter, T.R., Czub, S., Graham, C., Balachandran, A., McAllister, T.A., Belosevic, M., and Neumann, N.F. (2015). "Application of protein misfolding cyclic amplification to detection of prions in anaerobic digestate.", *Journal of Microbiological Methods*, 118, pp. 1-6. doi: 10.1016/j.mimet.2015.08.004

- MacDonald, J., Doshi, K., Dussault, M., Hall, J.C., Holbrook, L., Jones, G., Kaldis, A., Klima, C.L., MacDonald, P., McAllister, T.A., McLean, M.D., Potter, A., Richman, A.S., Shearer, H., Yarosh, O., Yoo, H.S., Topp, E., and Menassa, R. (2015). "Bringing plant-based veterinary vaccines to market: Managing regulatory and commercial hurdles.", *Biotechnology Advances*. doi : 10.1016/j.biotechadv.2015.07.007
- Jin, L., Duniere, L., Lynch, J.P., McAllister, T.A., Baah, J., and Wang, Y. (2015). "Impact of ferulic acid esterase producing lactobacilli and fibrolytic enzymes on conservation characteristics, aerobic stability and fiber degradability of barley silage.", *Animal Feed Science and Technology*, 207, pp. 62-74. doi : 10.1016/j.anifeedsci.2015.06.011
- Tymensen, L.D., Pyrdok, F., Coles, D., Koning, W., McAllister, T.A., Jokinen, C.C., Dowd, S.E., and Neumann, N.F. (2015). "Comparative accessory gene fingerprinting of surface water *Escherichia coli* reveals genetically diverse naturalized population.", *Journal of Applied Microbiology*, 119(1), pp. 263-277. doi : 10.1111/jam.12814
- Ding, S., Oba, M., Swift, M.-L., O'Donovan, J.T., Edney, M.J., McAllister, T.A., and Yang, W.-Z. (2015). "Short communication: In vitro gas production and dry matter digestibility of malting barley grain sown with different seeding and nitrogen fertilization rates in Canada.", *Animal Feed Science and Technology*, 199, pp. 146-151. doi : 10.1016/j.anifeedsci.2014.11.014
- Zhao, Y.L., Yan, S.M., He, Z.X., Anele, U.Y., Swift, M.-L., McAllister, T.A., and Yang, W.-Z. (2015). "Effects of volume weight, processing method and processing index of barley grain on in situ digestibility of dry matter and starch in beef heifers.", *Animal Feed Science and Technology*, 199, pp. 93-103. doi : 10.1016/j.anifeedsci.2014.11.005
- Moya, D., He, M.L., Jin, L., Wang, Y., Penner, G.B., Schwartzkopf-Genswein, K.S.G., and McAllister, T.A. (2015). "Effect of grain type and processing index on growth performance, carcass quality, feeding behavior, and stress response of feedlot steers.", *Journal of Animal Science*, 93(6), pp. 3091-3100. doi : 10.2527/jas.2014-8680
- He, M.L., Long, J., Wang, Y., Penner, G.B., and McAllister, T.A. (2015). "Effect of replacing barley with wheat grain in finishing feedlot diets on nutrient digestibility, rumen fermentation, bacterial communities and plasma metabolites in beef steers.", *Livestock Science*, 176, pp. 104-110. doi : 10.1016/j.livsci.2015.03.024
- Gilroyed, B.H., Li, C.L., Reuter, T.R., Beauchemin, K.A., Hao, X., and McAllister, T.A. (2015). "Influence of distiller's grains and condensed tannins in the diet of feedlot cattle on biohydrogen production from cattle manure.", *International Journal of Hydrogen Energy*, 40(18), pp. 6050-6058. doi : 10.1016/j.ijhydene.2013.07.014
- Turner, T.D., Aalhus, J.L., Mapiye, C., Rolland, D.C., Larsen, I.L., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R. (2015). "Effects of diets supplemented with sunflower or flax seeds on quality and fatty acid profile of hamburgers made with perirenal or subcutaneous fat.", *Meat Science*, 99, pp. 123-131. doi : 10.1016/j.meatsci.2014.08.006
- He, Z.X., He, M.L., Zhao, Y.L., Xu, L., Walker, N.D., Beauchemin, K.A., McAllister, T.A., and Yang, W.-Z. (2015). "Effect of wheat dried distillers grains and enzyme supplementation on growth rates, feed conversion ratio and beef fatty acid profile in feedlot steers.", *Animal*, 9(10), pp. 1740-1746. doi : 10.1017/S1751731115000944
- Wang, Y., McAllister, T.A., and Acharya, S.N. (2015). "Condensed Tannins in Sainfoin: Composition, Concentration, and Effects on Nutritive and Feeding Value of Sainfoin Forage.", *Crop Science*, 55(1), pp. 13-22. doi : 10.2135/cropsci2014.07.0489
- Kouazounde, J.B., Gbenou, J.D., Babatounde, S., Srivastava, N., Eggleston, S.H., Antwi, C., Baah, J., and McAllister, T.A. (2015). "Development of methane emission factors for enteric fermentation in cattle from Benin using IPCC Tier 2 methodology.", *Animal*, 9(3), pp. 526-533. doi : 10.1017/S1751731114002626
- Valle, E.R., Henderson, G., Janssen, P.H., Cox, F., Alexander, T.W., and McAllister, T.A. (2015). "Considerations in the use of fluorescence in situ hybridization (FISH) and confocal laser scanning microscopy to characterize rumen methanogens and define their spatial distributions.", *Canadian Journal of Microbiology*, 61(6), pp. 417-428. doi : 10.1139/cjm-2014-0873
- Liu, H., Niu, Y.D., Meng, R., Wang, J., Li, J.-Q., Johnson, R.P., McAllister, T.A., and Stanford, K.I.M. (2015). "Control of *Escherichia coli* O157 on beef at 37, 22 and 4°C by T5-, T1-, T4- and O1-like bacteriophages.", *Food Microbiology*, 51, pp. 69-73. doi : 10.1016/j.fm.2015.05.001
- O'Donovan, J.T., Anbessa, Y., Grant, C.A., MacLeod, A., Edney, M.J., Izydorczyk, M.S., Turkington, T.K., Juskiw, P.E., Lafond, G.P., May, W.E., Harker, K.N., Johnson, E.N., Beres, B.L., McAllister, T.A., Smith, E.G., and Chapman, W. (2015). "Relative responses of new malting barley cultivars to increasing nitrogen rates in western Canada.", *Canadian Journal of Plant Science*, 95(5), pp. 831-839. doi : 10.4141/cjps-2014-415
- Alazeh, A.Y., Smith, A.H., Beauchemin, K.A., Meale, S.J., and McAllister, T.A. (2015). "Supplementing *Propionibacterium acidipropionici* P169 does not affect methane production or volatile fatty acid profiles of different diets in in vitro rumen cultures from heifers.", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 64(3), pp. 170-177. doi : 10.1080/09064702.2014.988746
- Ding, S., Oba, M., Swift, M.-L., Edney, M., O'Donovan, J.T., McAllister, T.A., and Yang, W.-Z. (2015). "Short communication: The effect of seed hardness and malting characteristics on in situ dry matter digestibility of barley grain in beef heifers.", *Canadian Journal of Animal Science*, 95(2), pp. 299-303. doi : 10.4141/CJAS-2014-081

- Anele, U.Y., Refat, B., Swift, M.-L., Zhao, Y.L., Doublier, C., McAllister, T.A., and Yang, W.-Z. (2015). "Short communication: In vitro ruminal fermentation of ground and dry-rolled barley grain differing in starch content.", *Animal Feed Science and Technology*, 203, pp. 88-94. doi : 10.1016/j.anifeedsci.2015.02.006
- Nkemka, V.N., Gilroyed, B.H., Yanke, L.J., Gruninger, R.J., Vedres, D.D., McAllister, T.A., and Hao, X. (2015). "Bioaugmentation with an anaerobic fungus in a two-stage process for biohydrogen and biogas production using corn silage and cattail.", *Bioresource Technology*, 185, pp. 79-88. doi : 10.1016/j.biortech.2015.02.100
- Kouazounde, J.B., Jin, L., Assogba, F.M., Ayedoun, M.A., Wang, Y., Beauchemin, K.A., McAllister, T.A., and Gbenou, J.D. (2015). "Effects of essential oils from medicinal plants acclimated to Benin on in vitro ruminal fermentation of *Andropogon gayanus* grass.", *Journal of the Science of Food and Agriculture*, 95(5), pp. 1031-1038. doi : 10.1002/jsfa.6785
- Moya, D., Silasi, R., McAllister, T.A., Genswein, B.M.A., Crowe, T.G., Marti, S., and Schwartzkopf-Genswein, K.S.G. (2015). "Use of pattern recognition techniques for early detection of morbidity in receiving feedlot cattle.", *Journal of Animal Science*, 93(7), pp. 3623-3638. doi : 10.2527/jas.2015-8907
- Meale, S.J., Chaves, A.V., He, M.L., Guan, L.L., and McAllister, T.A. (2015). "Effects of various dietary lipid additives on lamb performance, carcass characteristics, adipose tissue fatty acid composition, and wool characteristics.", *Journal of Animal Science*, 93(6), pp. 3110-3120. doi : 10.2527/jas.2014-8437
- Vyas, D., Alazzeah, A.Y., McGinn, S.M., McAllister, T.A., Harstad, O.M., Holo, H., and Beauchemin, K.A. (2015). "Enteric methane emissions in response to ruminal inoculation of *Propionibacterium* strains in beef cattle fed a mixed diet.", *Animal Production Science*, 118, pp. 989-997. doi : 10.1071/AN14801
- Ribeiro Jr, G.O., Teixeira, A., Velasco, F., Faria Jr., W.G., Jayme, D.G., Maurício, R.M., Gonçalves, L., and McAllister, T.A. (2015). "Methane production and energy partitioning in sheep fed *Andropogon gayanus* grass ensiled at three regrowth ages.", *Canadian Journal of Animal Science*, 95(1), pp. 103-110. doi : 10.4141/cjas-2014-074
- Munns, K., Selinger, L.B., Stanford, K.I.M., Guan, L.L., Callaway, T.R., and McAllister, T.A. (2015). "Perspectives on Super-Shedding of *Escherichia coli* O157:H7 by Cattle.", *Foodborne Pathogens and Disease*, 12(2), pp. 89-103. doi : 10.1089/fpd.2014.1829
- Kouazounde, J.B., Gbenou, J.D., He, M.L., Jardim, T., Jin, L., Wang, Y., Beauchemin, K.A., and McAllister, T.A. (2015). "Effects of essential oils from african basil on fermentation of *andropogon gayanus* grass in the artificial rumen (RUSITEC).", *Canadian Journal of Animal Science*, 95(3), pp. 425-431. doi : 10.4141/CJAS-2014-189
- Stanford, K.I.M., Reuter, T.R., Gilroyed, B.H., and McAllister, T.A. (2015). "Impacts of sporulation temperature, exposure to compost matrix and temperature on survival of *Bacillus cereus* spores during livestock mortality composting.", *Journal of Applied Microbiology*, 118(4), pp. 989-997. doi : 10.1111/jam.12749
- McAllister, T.A., Meale, S.J., Valle, E.R., Guan, L.L., Zhou, M., Kelly, W., Henderson, G., Attwood, G.T., and Janssen, P.H. (2015). "RUMINANT NUTRITION SYMPOSIUM: Use of genomics and transcriptomics to identify strategies to lower ruminal methanogenesis.", *Journal of Animal Science*, 93(4), pp. 1431-1449. doi : 10.2527/jas.2014-8329
- López O., J.C., Hernandez-Calva, L.M., Qi, M., and McAllister, T.A. (2015). "Evaluación de una estera de ácido ferúlico (Fae1A) aislada del hongo del rumen *Anaeromyces mucronatus* sobre la degradación de la pared celular del heno de alfalfa y paj de trigo: Ensayo In vitro.", *Inicio*, 7(14), pp. 45-56.
- Addah, W., Baah, J., Okine, E.K., and McAllister, T.A. (2015). "Effect of barley silage chop length and inoculation on growth performance, feeding behavior, and ruminal acidosis in finishing feedlot steers.", *Journal of Animal Science*, 93(5), pp. 2309-2321. doi : 10.2527/jas.2014-8247
- Hünerberg, M., Beauchemin, K.A., McGinn, S.M., Entz, T., Okine, E.K., McAllister, T.A., and Harstad, O.M. (2015). "Impact of ruminal pH on enteric methane emissions.", *Journal of Animal Science*, 93(4), pp. 1760-1766. doi : 10.2527/jas.2014-8469
- Dunier, L., Jin, L., Smiley, B., Qi, M., Rutherford, W., Wang, Y., and McAllister, T.A. (2015). "Impact of adding *Saccharomyces* strains on fermentation, aerobic stability, nutritive value and select lactobacilli populations in corn silage.", *Journal of Animal Science*, 93(5), pp. 2322-2335. doi : 10.2527/jas.2014-8287
- Noyes, N.R., Benedict, K., Gow, S.P., Booker, C.W., Hannon, S., McAllister, T.A., and Morley, P.S. (2015). "Mannheimia haemolytica in feedlot cattle: associations with antimicrobial use, resistance and health outcomes.", *Journal of Veterinary Internal Medicine*, 29(2), pp. 705-713. doi : 10.1111/jvim.12547
- Liu, H., Meng, R., Wang, J., Niu, Y.D., Li, J.-Q., Stanford, K.I.M., and McAllister, T.A. (2015). "Inactivation of *Escherichia coli* O157 bacteriophages by using a mixture of ferrous sulfate and tea extract.", *Journal of Food Protection*, 78(12), pp. 2220-2226. doi : 10.4315/0362-028X.JFP-15-239
- Storlien, T.M., Prestløkken, E., Beauchemin, K.A., McAllister, T.A., Iwaasa, A.D., and Harstad, O.M. (2015). "Supplementation with crushed rapeseed causes reduction of methane emissions from lactating dairy cows on pasture.", *Animal Production Science*. doi : 10.1071/AN15287
- Henderson, G., Cox, F., Dugan, M.E.R., McAllister, T.A., and others (2015). "Rumen microbial community composition varies with diet and host, but a core microbiome is found across a wide geographical range.", *Scientific Reports*, 5(Article number 14567). doi : 10.1038/srep14567

He, Z.X., Walker, N.D., McAllister, T.A., and Yang, W.-Z. (2015). "Effect of wheat dried distillers grains with solubles and fibrolytic enzymes on ruminal fermentation, digestibility, growth performance, and feeding behavior of beef cattle.", *Journal of Animal Science*, 93, pp. 1218-1228. doi: 10.2527/jas.2014-8412

Mapiye, C., Vahmani, P., Aalhus, J.L., Rolland, D.C., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R. (2015). "Fatty acid composition of beef steers as affected by diet and fat depot.", *South African Journal of Animal Sciences*, 45(4), pp. 386-394.

Noyes, N.R., Benedict, K.M., Gow, S.P., Waldner, C.L., Reid-Smith, R., Booker, C.W., McAllister, T.A., and Morley, P.S. (2015). "Modeling considerations in the analysis of associations between antimicrobial use and resistance in beef feedlot cattle.", *Epidemiology and Infection*, pp. 1-17.

Xia, Y., Kong, Y., Seviour, R., Yang, H.E., Forster, R.J., Vasanthan, T., and McAllister, T.A. (2015). "In situ identification and quantification of starch-hydrolyzing bacteria attached to barley and corn grain in the rumen of cows fed barley-based diets.", *FEMS Microbiology Ecology*, 91(8:fiv077), pp. 1-11. doi: 10.1093/femsec/fiv077

Zaheer, R., Klima, C.L., and McAllister, T.A. (2015). "Expedient screening of candidate proteins for microbial vaccines.", *Journal of Microbiological Methods*, 116, pp. 53-59. doi: 10.1016/j.mimet.2015.06.018

Wang, J., Niu, Y.D., Chen, J., McAllister, T.A., and Stanford, K.I.M. (2015). "Complete genome sequence of *Escherichia coli* O145:NM bacteriophage vB\_EcoM\_AYO145A, a new member of O1-like phages.", *Genome Announcements*, 3(3: e00539-15), pp. 1-2. doi: 10.1128/genomeA.00539-15

Sura, S., Degenhardt, D., Cessna, A.J., Lamey, F.J., Olson, A.F., and McAllister, T.A. (2015). "Transport of three veterinary antimicrobials from feedlot pens via simulated rainfall runoff.", *Science of the Total Environment*, 521-522, pp. 191-199. doi: 10.1016/j.scitotenv.2015.03.080

Stanford, K., Gibb, D.J., Schwartzkopf-Genswein, K.S.G., Van Herk, F.H., and McAllister, T.A. (2015). "Feeding subtherapeutic antimicrobials to low-risk cattle does not confer consistent performance benefits.", *Canadian Journal of Animal Science*, 95(4), pp. 589-597. doi: 10.4141/CJAS-2015-008

Xu, S., Sura, S., Zaheer, R., Wang, G., Smith, A., Cook, S.R., Olson, A.F., Cessna, A.J., Lamey, F.J., and McAllister, T.A. (2015). "Dissipation of Antimicrobial Resistance Determinants in Composted and Stockpiled Beef Cattle Manure.", *Journal of Environmental Quality*. doi: 10.2134/jeq2015.03.0146

## 2014

Xia, Y., Kong, Y., Seviour, R., Förster, R.J., Kisidayova, S., and McAllister, T.A. (2014). "Fluorescence in situ hybridization probing of protozoal *Entodinium* spp. and their methanogenic colonizers in the rumen of cattle fed alfalfa hay or triticale straw.", *Journal of Applied Microbiology*, 116(1), pp. 14-22. doi: 10.1111/jam.12356

Stanford, K.I.M., Bach, S.J., Baah, J., and McAllister, T.A. (2014). "A mixture of *Lactobacillus casei*, *Lactobacillus lactis* and *Paenibacillus polymyxa* reduces *Escherichia coli* O157:H7 in finishing feedlot cattle.", *Journal of Food Protection*, 77(5), pp. 738-744. doi: 10.4315/0362-028X.JFP-13-433

Rasmussen, J.B., Gilroyed, B.H., Reuter, T.R., Badea, A., Eudes, F., Graf, R.J., Laroche, A., Kav, N.N.V., and McAllister, T.A. (2014). "Efficiency of protein as a nitrogen source for wheat and morphological changes in roots exposed to high protein concentrations.", *Canadian Journal of Plant Science*, 94(4), pp. 603-613. doi: 10.4141/cjps2013-187

Mapiye, C., Aalhus, J.L., Vahmani, P., Rolland, D.C., McAllister, T.A., Block, H.C., Uttaro, B., Proctor, S.D., and Dugan, M.E.R. (2014). "Improving beef hamburger quality and fatty acid profiles through dietary manipulation and exploitation of fat depot heterogeneity.", *Journal of Animal Science and Biotechnology*, 5(54). doi: 10.1186/2049-1891-5-54

Yang, W.-Z., Oba, M., Swift, M.-L., and McAllister, T.A. (2014). "Variation in response to processing, in vitro gas production and fermentation of western Canadian feed barley.", *Canadian Journal of Animal Science*, 94(4), pp. 725-729. doi: 10.4141/CJAS-2014-053

Klima, C.L., Zaheer, R., Cook, S.R., Booker, C.W., Hendrick, S., Alexander, T.W., and McAllister, T.A. (2014). "Pathogens of bovine respiratory disease in North American feedlots conferring multidrug resistance via integrative conjugative elements.", *Journal of Clinical Microbiology*, 52(2), pp. 438-448. doi: 10.1128/JCM.02485-13

Niu, Y.D., McAllister, T.A., Nash, J.H.E., Kropinski, A.M., and Stanford, K.I.M. (2014). "Four *Escherichia coli* O157:H7 phages: A new bacteriophage genus and taxonomic classification of T1-like phages.", *PLoS ONE*, 9(6: Article e100426), pp. 1-11. doi: 10.1371/journal.pone.0100426

Xu, L., He, M.L., Liang, R.F., McAllister, T.A., and Yang, W.-Z. (2014). "Effects of grain source and monensin level on growth performance, carcass traits and fatty acid profile in feedlot beef steers.", *Animal Feed Science and Technology*, 198, pp. 141-150. doi: 10.1016/j.anifeedsci.2014.10.015

Rasmussen, J.B., Gilroyed, B.H., Reuter, T.R., Dudas, S., Neumann, N.F., Balachandran, A., Kav, N.N.V., Graham, C., Czub, S., and McAllister, T.A. (2014). "Can plants serve as a vector for prions causing Chronic Wasting Disease?", *Prion*, 7(52), pp. 136-142. doi: 10.4161/prion.27963

Meale, S.J., Ding, S., He, M.L., Dugan, M.E.R, Ribeiro Jr, G.O., Alazzez, A.Y., Holo, H., Harstad, O.M., McAllister, T.A., and Chaves, A.V. (2014). "Effect of *Propionibacterium freudenreichii* on ruminal fermentation patterns, methane production and lipid biohydrogenation of beef finishing diets containing flaxseed oil in a rumen simulation technique.", *Canadian Journal of Animal Science*, 94(4), pp. 685-695. doi : 10.4141/CJAS-2014-051

Vyas, D., McGeough, E.J., McGinn, S.M., McAllister, T.A., and Beauchemin, K.A. (2014). "Effects of *Propionibacterium* strains on ruminal fermentation, nutrient digestibility and methane emissions in beef cattle fed a corn grain finishing diet.", *Animal*, 8(11), pp. 1807-1815. doi : 10.1017/S1751731114001657

Romao, J.M., Jin, W., He, M.L., McAllister, T.A., and Guan, L.L. (2014). "MicroRNAs in bovine adipogenesis: genomic context, expression and function.", *BMC Genomics*, 15(1: Article 137). doi : 10.1186/1471-2164-15-137

Kolotilin, I., Topp, E., Cox, E., Devriendt, B., Conrad, U., Joensuu, J.J., Stöger, E., Warzecha, H., McAllister, T.A., Potter, A., McLean, M.D, Hall, J.C., and Menassa, R. (2014). "Plant-based solutions for veterinary immunotherapeutics and prophylactics.", *Veterinary Research*, 45(1: Article number 117), pp. 1-12. doi : 10.1186/s13567-014-0117-4

Ribeiro Jr, G.O., Teixeira, A., Velasco, F., Faria Jr., W.G., Pereira, L.G.R., Chaves, A.V., McAllister, T.A., and Gonçalves, L. (2014). "Production, nutritional quality and in vitro methane production of *Andropogon gayanus* grass and silage at different maturities.", *Asian-Australasian Journal of Animal Science*, 27(3), pp. 330-341. doi : 10.5713/ajas.2013.13161

He, M.L., McAllister, T.A., Hernandez-Calva, L.M., Aalhus, J.L., Dugan, M.E.R, and McKinnon, J.J. (2014). "Effect of dietary inclusion of tritacale dried distillers' grain and oilseeds on quality and fatty acid profile of meat from feedlot steers.", *Meat Science*, 97(1), pp. 76-82. doi : 10.1016/j.meatsci.2014.01.008

Teixeira, A., Ribeiro Jr, G.O., Velasco, F., Gonçalves de Faria Júnior, W., Rodriguez, N., Rodrigues J., S., McAllister, T.A., and Gonçalves, L. (2014). "Intake and digestibility of sorghum (*Sorghum bicolor*, L. Moench) silages with different tannin contents in sheep.", *Revista Brasileira de Zootecnia*, 43(1), pp. 14-19. doi : 10.1590/S1516-35982014000100003

Meale, S.J., Chaves, A.V., He, M.L., and McAllister, T.A. (2014). "Dose-response of supplementing marine algae (*Schizochytrium* sp.) on production performance, fatty acid profiles and wool parameters of growing lambs.", *Journal of Animal Science*, 92, pp. 2202-2213. doi : 10.2527/jas.2013-7024

Badhan, A., Wang, Y., Gruninger, R.J., Patton, D., Powlowski, J., Tsang, A., and McAllister, T.A. (2014). "Formulation of enzyme blends to maximize the hydrolysis of alkaline peroxide pretreated alfalfa hay and barley straw by rumen enzymes and commercial cellulases.", *BMC Biochemistry*, 14(31). doi : 10.1186/1472-6750-14-31

Damiran, D., Preston, N., McKinnon, J.J., Jonker, A., Christensen, D.A., McAllister, T.A., and Yu, P. (2014). "Effects of barley-based diets with 3 different rumen-degradable protein balances on performance and carcass characteristics of feedlot steers.", *Professional Animal Scientist*, 30, pp. 432-433. doi : 10.15232/pas.2014-01309

Munns, K., Selinger, L., Stanford, K.I.M., Selinger, L.B., and McAllister, T.A. (2014). "Are Super-Shedder Feedlot Cattle Really Super?", *Foodborne Pathogens and Disease*, 11(4), pp. 329-331. doi : 10.1089/fpd.2013.1621

Liu, H., Niu, Y.D., Li, J.-Q., Stanford, K.I.M., and McAllister, T.A. (2014). "Rapid and accurate detection of bacteriophage activity against *Escherichia coli* O157:H7 by propidium monoazide real-time PCR.", *BioMed Research International*, 2014(Article ID 319351), pp. 1-9. doi : 10.1155/2014/319351

Li, Y.L., Beauchemin, K.A., McAllister, T.A., and Yang, W.-Z. (2014). "Intakes and excretion route of nitrogen, phosphorus and sulfur by finishing beef heifers fed increasing levels of wheat dried distillers grains with soluble to substitute for barley grain and barley silage.", *Livestock Science*, 170, pp. 43-52. doi : 10.1016/j.livsci.2014.09.020

Hallewell, J., Niu, Y.D., Munns, K., McAllister, T.A., Johnson, R.P., Ackermann, H.-W., Thomas, J.E., and Stanford, K.I.M. (2014). "Differing populations of endemic bacteriophages in cattle shedding high and low numbers of *Escherichia coli* O157:H7 bacteria in feces.", *Applied and Environmental Microbiology*, 80(13), pp. 3819-3825. doi : 10.1128/AEM.00708-14

Tkachuk, V.L., Krause, D.O., Knox, N., Hamm, A., Zvomuya, F., Ominski, K.H., and McAllister, T.A. (2014). "Targeted 16S rRNA high-throughput sequencing to characterize microbial communities during composting of livestock mortalities.", *Journal of Applied Microbiology*, 116(5), pp. 1181-1194. doi : 10.1111/jam.12449

Hünerberg, M., Little, S.M., Beauchemin, K.A., McGinn, S.M., O'Connor, D., Okine, E.K., Harstad, O.M., Kröbel, R., and McAllister, T.A. (2014). "Feeding high concentrations of corn dried distillers' grains decreases methane, but increases nitrous oxide emissions from beef cattle production.", *Agricultural Systems*, 127, pp. 19-27. doi : 10.1016/j.agsy.2014.01.005

Klima, C.L., Alexander, T.W., Hendrick, S., and McAllister, T.A. (2014). "Characterization of *Mannheimia haemolytica* isolates collected from the nasopharynx of morbid and healthy feedlot cattle in western Canada.", *Canadian Journal of Veterinary Research*.

Benedict, K., Gow, S.P., Reid-Smith, R., Booker, C.W., McAllister, T.A., and Morley, P.S. (2014). "Latent class comparison of test accuracy when evaluating antimicrobial susceptibility using disk diffusion and broth microdilution to test *Escherichia coli* and *Mannheimia haemolytica* isolates recovered from beef feedlot cattle.", *Epidemiology and Infection*, 142(11), pp. 2314-2325. doi : 10.1017/S0950268813003300

- Avila-Stagno, J., Chaves, A.V., Ribeiro Jr, G.O., and McAllister, T.A. (2014). "Inclusion of glycerol in forage diets increases methane production in a rumen simulation technique system.", *British Journal of Nutrition*, 111, pp. 829-835. doi : 10.1017/S0007114513003206
- Xu, S., Reuter, T.R., Gilroyed, B.H., Mitchell, G., Price, L.M., Dudas, S., Braithwaite, S.L., Graham, C., Czub, S., Leonard, J.J., Balachandran, A., Neumann, N.F., Belosevic, M., and McAllister, T.A. (2014). "Biodegradation of Prions in Compost.", *Environmental Science & Technology*, 48(12), pp. 6909-6918. doi : 10.1021/es500916v
- Mapiye, C., Aalhus, J.L., Turner, T.D., Vahmani, P., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R (2014). "Inclusion of sunflower seed and wheat dried distillers' grains with solubles in a red clover silage-based diet enhances steers performance, meat quality and fatty acid profiles.", *Animal*, 8(12), pp. 1999-2010. doi : 10.1017/S1751731114001955
- Romao, J.M., He, M.L., McAllister, T.A., and Guan, L.L. (2014). "Effect of age on bovine subcutaneous fat proteome: Molecular mechanisms of physiological variations during beef cattle growth.", *Journal of Animal Science*, 92(8), pp. 3316-3327. doi : 10.2527/jas.2013-7423
- Meale, S.J., Romao, J.M., He, M.L., Chaves, A.V., McAllister, T.A., and Guan, L.L. (2014). "Effect of diet on microRNA expression in ovine subcutaneous and visceral adipose tissues.", *Journal of Animal Science*, 92(8), pp. 3328-3337. doi : 10.2527/jas.2014-7710
- Meale, S.J., Beauchemin, K.A., Hristov, A.N., Chaves, A.V., and McAllister, T.A. (2014). "Opportunities and challenges in using exogenous enzymes to improve ruminant production (Board-invited review).", *Journal of Animal Science*, 92(2), pp. 427-442. doi : 10.2527/jas.2013-6869
- Moya, D., Holtshausen, L., Marti, S., Gibb, D.J., McAllister, T.A., Beauchemin, K.A., and Schwartzkopf-Genswein, K.S.G. (2014). "Feeding behavior and ruminal pH of corn silage, barley grain, and corn dried distillers' grain offered in a total mixed ration or in a free-choice diet to beef cattle.", *Journal of Animal Science*, 92(8), pp. 3526-3536. doi : 10.2527/jas.2013-7224
- Petri, R.M., Mapiye, C., Dugan, M.E.R, and McAllister, T.A. (2014). "Subcutaneous adipose fatty acid profiles and related rumen bacterial populations of steers fed red clover or grass hay diets containing flax or sunflower seed.", *PLoS ONE*, 9(8): e104167. doi : 10.1371/journal.pone.0104167
- Addah, W., Baah, J., Okine, E.K., Owens, F.N., and McAllister, T.A. (2014). "Effects of chop length and a ferulic acid esterase-producing inoculant on fermentation and aerobic stability of barley silage, and growth performance of finishing feedlot steers.", *Animal Feed Science and Technology*, 197, pp. 34-36. doi : 10.1016/j.anifeeds.2014.07.012
- Meale, S.J., Chaves, A.V., McAllister, T.A., Iwaasa, A.D., Yang, W.-Z., and Benchaar, C. (2014). "Including essential oils in lactating dairy cow diets: effects on methane emissions.", *Animal Production Science*, 54(9), pp. 1215-1218. doi : 10.1071/AN14152
- Narvaez, N., Alazeh, A.Y., Wang, Y., and McAllister, T.A. (2014). "Effect of *Propionibacterium acidipropionici* P169 on growth performance and rumen metabolism of beef cattle fed a corn- and corn dried distillers' grains with solubles-based finishing diet.", *Canadian Journal of Animal Science*, 94(2), pp. 363-369. doi : 10.4141/CJAS2013-130
- Neves, A.L.A., Santos, R.D., Pereira, L.G.R., Oliveira, G.F., Scherer, C.B., Verneque, R.S., and McAllister, T.A. (2014). "Agronomic characteristics, silage quality, intake and digestibility of five new Brazilian sorghum cultivars.", *Journal of Agricultural Science*, pp. 1-10. doi : 10.1017/S002185961400063X
- Anele, U.Y., Refat, B., Swift, M.-L., He, Z.X., Zhao, Y.L., McAllister, T.A., and Yang, W.-Z. (2014). "Effects of bulk density, precision processing and processing index on in vitro ruminal fermentation of dry-rolled barley grain.", *Animal Feed Science and Technology*, 195, pp. 28-37. doi : 10.1016/j.anifeeds.2014.06.015
- Friedt, A.D., McAllister, T.A., He, M.L., Penner, G.A., and McKinnon, J.J. (2014). "Effects of Replacing Barley Grain with Graded Levels of Wheat Bran on Rumen Fermentation, Voluntary Intake and Nutrient Digestion in Beef Cattle.", *Canadian Journal of Animal Science*, 94(1), pp. 129-137. doi : 10.4141/CJAS2013-139
- Castillo-Lopez, E., Wiese, B.I., Hendrick, S., McKinnon, J.J., McAllister, T.A., Beauchemin, K.A., and Penner, G.B. (2014). "Incidence, prevalence, severity, and risk factors for ruminal acidosis in feedlot steers during backgrounding, diet transition, and finishing.", *Journal of Animal Science*, 92(7), pp. 3053-3063. doi : 10.2527/jas.2014-7599
- Amarakoon, I.D., Zvomuya, F., Cessna, A.J., Degenhardt, D., Lamey, F.J., and McAllister, T.A. (2014). "Runoff Losses of Excreted Chlorotetracycline, Sulfamethazine, and Tylosin from Surface-Applied and Soil-Incorporated Beef Cattle Feedlot Manure.", *Journal of Environmental Quality*, 43, pp. 549-557. doi : 10.2134/jeq2013.02.0039
- Storlien, T.M., Volden, H., Almøy, T., Beauchemin, K.A., McAllister, T.A., and Harstad, O.M. (2014). "Prediction of enteric methane production from dairy cows.", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 64(2), pp. 98-109. doi : 10.1080/09064702.2014.959553
- Gruninger, R.J., Puniya, A.K., Callaghan, T.M., Edwards, J.E., Youssef, N., Dagar, S.S., Fliegerova, K., Griffith, G.W., Forster, R.J., Tsang, A., McAllister, T.A., and Elshahed, M.S. (2014). "Anaerobic fungi (phylum Neocallimastigomycota): Advances in understanding their taxonomy, life cycle, ecology, role and biotechnological potential.", *FEMS Microbiology Ecology*, 90(1), pp. 1-17. doi : 10.1111/1574-6941.12383

- Grüniger, R.J., Sensen, C.W., Forster, R.J., and McAllister, T.A. (2014). "Diversity of rumen bacteria in Canadian Cervids.", *PLoS ONE*, 9(2): Article e89682. doi : 10.1371/journal.pone.0089682
- Ekine-Dzivenu, C., Chen, L., Vinsky, M.D., Aldai, N., Dugan, M.E.R, McAllister, T.A., Wang, Z., Okine, E.K., and Li, C. (2014). "Estimates of genetic parameters for fatty acids in brisket adipose tissue of Canadian commercial crossbred beef steers.", *Meat Science*, 96(4), pp. 1517-1526. doi: 10.1016/j.meatsci.2013.10.011
- Badhan, A., Jin, L., Wang, Y., Han, S., Kowalczyk, K., Brown, D.C.W., Ayala, C.J., Latoszek-Green, M., Miki, B.L.A., Tsang, A., and McAllister, T.A. (2014). "Expression of a fungal ferulic acid esterase (FaeB) in alfalfa modifies cell wall digestibility.", *Biotechnology for Biofuels*, 7(1: Article number 39). doi : 10.1186/1754-6834-7-39
- He, M.L., Xu, L., Yang, W.-Z., Gibb, D.J., and McAllister, T.A. (2014). "Effect of low oil corn dried distillers' grains with solubles on growth performance, carcass traits and beef fatty acid profile of feedlot cattle.", *Canadian Journal of Animal Science*, 94(2), pp. 343-347. doi : 10.4141/CJAS2013-196
- Benchaar, C., McAllister, T.A., Petit, H.V., and Chouinard, P.Y. (2014). "Whole flax seed and flax oil supplementation of dairy cows fed high-forage or high-concentrate diets: Effects on digestion, ruminal fermentation characteristics, protozoal populations and milk fatty acid profile.", *Animal Feed Science and Technology*, 198, pp. 117-129. doi : 10.1016/j.anifeedsci.2014.10.003
- Sura, S., Degenhardt, D., Cessna, A.J., Lamey, F.J., Olson, A.F., and McAllister, T.A. (2014). "Dissipation of three veterinary antimicrobials in beef cattle feedlot manure stockpiled over winter.", *Journal of Environmental Quality*, 43(3), pp. 1061-1070. doi : 10.2134/jeq2013.11.0455
- Hao, X., Hill, B.R., Caffyn, P.R., Travis, G.R., Olson, A.F., Lamey, F.J., McAllister, T.A., and Alexander, T.W. (2014). "Co-composting of beef cattle feedlot manure with construction and demolition waste.", *Journal of Environmental Quality*, 43(5), pp. 1799-1808. doi : 10.2134/jeq2014.02.0087
- Yang, W.-Z., Xu, L., Zhao, Y.L., Chen, L.Y., and McAllister, T.A. (2014). "Impact of hard vs. soft wheat and monensin level on rumen acidosis in feedlot heifers.", *Journal of Animal Science*, 92(11), pp. 5088-5098. doi : 10.2527/jas.2014-8092
- Vyas, D., McGeough, E.J., McGinn, S.M., McAllister, T.A., and Beauchemin, K.A. (2014). "Effect of *Propionibacterium* spp. on ruminal fermentation, nutrient digestibility, and methane emissions in beef heifers fed a high-forage diet.", *Journal of Animal Science*, 92(5), pp. 2192-2201. doi : 10.2527/jas.2013-7492
- Mapiye, C., Aalhus, J.L., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, G.S., Proctor, S.D., and Dugan, M.E.R (2014). "Types of oilseed and adipose tissue influence the composition and relationships of polyunsaturated fatty acid biohydrogenation products in steers fed a grass hay diet.", *Lipids*, 49(3), pp. 275-286. doi : 10.1007/s11745-013-3876-1
- Sottie, E.T., Acharya, S.N., McAllister, T.A., Thomas, J.E., Wang, Y., and Iwaasa, A.D. (2014). "Alfalfa pasture bloat can be eliminated by intermixing with newly-developed sainfoin population.", *Agronomy Journal*, 106(4), pp. 1470-1478. doi : 10.2134/agronj13.0378
- Mohammed, R., Hünnerberg, M., McAllister, T.A., and Beauchemin, K.A. (2014). "Characterization of ruminal temperature and its relationship with ruminal pH in beef heifers fed growing and finishing diets.", *Journal of Animal Science*, 92(10), pp. 4650-4660. doi : 10.2527/jas.2014-7859
- He, Z.X., He, M.L., Walker, N.D., McAllister, T.A., and Yang, W.-Z. (2014). "Using a fibrolytic enzyme in barley-based diets containing wheat dried distillers grains with solubles: Ruminal fermentation, digestibility, and growth performance of feedlot steers.", *Journal of Animal Science*, 92(9), pp. 3978-3987. doi : 10.2527/jas.2014-7707
- Conrad, C.C., Stanford, K.I.M., McAllister, T.A., Thomas, J.E., and Reuter, T.R. (2014). "Further development of sample preparation and detection methods for O157 and the top 6 non-O157 STEC serogroups in cattle feces.", *Journal of Microbiological Methods*, 105, pp. 22-30. doi : 10.1016/j.mimet.2014.06.020
- Xu, Y., Dugat-Bony, E., Zaheer, R., Selinger, L., Barbieri, L.R., Munns, K., McAllister, T.A., and Selinger, L.B. (2014). "Escherichia coli O157:H7 super-shedder and non-shedder feedlot steers harbour distinct fecal bacterial communities.", *PLoS ONE*, 9(5: Article e98115). doi : 10.1371/journal.pone.0098115

2013

- Chung, Y.-H., McGeough, E.J., Acharya, S.N., McAllister, T.A., McGinn, S.M., Harstad, O.M., and Beauchemin, K.A. (2013). "Enteric methane emission, diet digestibility and nitrogen excretion from beef heifers fed sainfoin or alfalfa.", *Journal of Animal Science*, 91(10), pp. 4861-4874. doi : 10.2527/jas.2013-6498
- Mapiye, C., Dugan, M.E.R, Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Aalhus, J.L. (2013). "Erythrocytes assayed early ante mortem can predict adipose tissue and muscle trans-18:1 isomeric profiles of steers fed red clover silage supplemented with flaxseed.", *Canadian Journal of Animal Science*, 93(1), pp. 149-153. doi : 10.4141/CJAS2012-054
- Zaheer, R., Cook, S.R., Klima, C.L., Stanford, K.I.M., Topp, E., Read, R.R., and McAllister, T.A. (2013). "Effects of subtherapeutic vs therapeutic administration of macrolides on antimicrobial resistance in Mannheimia haemolytica and Enterococci isolated from beef cattle.", *BMC Biochemistry*, 4(article 133). doi : 10.3389/fmicb.2013.00133



Mapiye, C., Aalhus, J.L., Turner, T.D., Rolland, D.C., Basarab, J.A., McAllister, T.A., Block, H.C., Uttaro, B., López-Campos, Ó., Proctor, S.D., and Dugan, M.E.R (2013). "Effects of feeding flaxseed or sunflower seed in high-forage diets on beef production, quality and fatty acid composition.", *Meat Science*, 95(1), pp. 98-109. doi : 10.1016/j.meatsci.2013.03.033

Alexander, T.W., Jin, X., Li, Q., Cook, S.R., and McAllister, T.A. (2013). "Characterization of tetracycline resistance genes in *Escherichia coli* isolated from feedlot cattle administered therapeutic or subtherapeutic levels of tetracycline.", *Canadian Journal of Microbiology*, 59(4), pp. 287-290. doi : 10.1139/cjm-2012-0660

Schlau, N., Duineveld, L., Yang, W.-Z., McAllister, T.A., and Oba, M. (2013). "Precision processing barley grain did not affect productivity of lactating dairy cows.", *Canadian Journal of Animal Science*. doi : 10.4141/cjas2012-133

Hsu, Y.-H., Cook, S.R., Alexander, T.W., Klima, C.L., Niu, Y.D., Selinger, L.B., and McAllister, T.A. (2013). "Investigation of *Mannheimia haemolytica* bacteriophages relative to host diversity.", *Journal of Applied Microbiology*, 114(6), pp. 1592-1603. doi : 10.1111/jam.12185

Hünerberg, M., McGinn, S.M., Beauchemin, K.A., Okine, E.K., Harstad, O.M., and McAllister, T.A. (2013). "Effect of dried distillers' grains plus solubles on enteric methane emissions and nitrogen excretion from growing beef cattle.", *Journal of Animal Science*, 91(6), pp. 2846-2857. doi : 10.2527/jas.2012-5564

Narvaez, N., Wang, Y., and McAllister, T.A. (2013). "Effects of extracts of *Humulus lupulus* (hops) and *Yucca schidigera* applied alone or in combination with monensin on rumen fermentation and microbial populations in vitro.", *Journal of the Science of Food and Agriculture*. doi : 10.1002/jsfa.6068

Xu, S., Reuter, T.R., Gilroyed, B.H., Tymensen, L.D., Hao, Y.-X., Hao, X., Belosevic, M., Leonard, J.J., and McAllister, T.A. (2013). "Microbial communities and greenhouse gas emissions associated with the biodegradation of specified risk material in compost.", *Waste Management*, 33, pp. 1372-1380. doi : 10.1016/j.wasman.2013.01.036

Yang, W.-Z., Oba, M., and McAllister, T.A. (2013). "Quality and precision processing of barley grain affected intake and digestibility of dry matter in feedlot steers.", *Canadian Journal of Animal Science*, 93(2), pp. 251-260. doi : 10.4141/cjas2012-132

Kong, Y., Xia, Y., Seviour, R., Forster, R.J., and McAllister, T.A. (2013). "Biodiversity and composition of methanogenic populations in the rumen of cows fed alfalfa hay or triticale straw.", *FEMS Microbiology Ecology*, 84(2), pp. 302-315. doi : 10.1111/1574-6941.12062

Damiran, D., Jonker, A., Zhang, X., Yari, M., McKinnon, J.J., McAllister, T.A., Abeysekara, S., and Yu, P. (2013). "Evaluation of the Feed Value for Ruminants of Blends of Corn and Wheat Distillers Dried Grains.", *Journal of Agricultural and Food Chemistry*, 61(18), pp. 4387-4395. doi : 10.1021/jf400595n

Kröbel, R., Janzen, H.H., Beauchemin, K.A., Bonesmo, H., Little, S.M., and McAllister, T.A. (2013). "A proposed approach to estimate and reduce the environmental impact from whole farms.", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 62(4), pp. 225-232. doi : 10.1080/09064702.2013.770912

Jin, L., Wang, Y., Iwaasa, A.D., Xu, Z., Schellenberg, M.P., Zhang, Y.G., and McAllister, T.A. (2013). "Effect of condensed tannin on in vitro ruminal fermentation of purple prairie clover (*Dalea purpurea* Vent)-cool season grass mixture.", *Canadian Journal of Animal Science*, 93(1), pp. 155-158. doi : 10.4141/CJAS2012-109

Meale, S.J., Chaves, A.V., Ding, S., Bush, R.D., and McAllister, T.A. (2013). "Effects of crude glycerin supplementation on wool production, feeding behavior and body condition of Merino ewes.", *Journal of Animal Science*, 91(2), pp. 878-885. doi : 10.2527/jas.2012-5791

Mapiye, C., Turner, T.D., Rolland, D., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Adipose tissue and muscle fatty acid profiles of steers fed red clover silage with and without flaxseed.", *Livestock Science*, 151(1), pp. 11-20. doi : 10.1016/j.livsci.2012.10.021

Xu, S., Gilroyed, B.H., Dudas, S., Graham, C., Neumann, N.F., Balachandran, A., Czub, S., Belosevic, M., Leonard, J.J., and McAllister, T.A. (2013). "Biodegradation of specified risk material and fate of scrapie prions in compost.", *Journal of Environmental Science and Health, Part A: Toxic - Hazardous Substances & Environmental Engineering*, 48(1), pp. 26-36. doi : 10.1080/10934529.2012.707599

Han, C., Vinsky, M.D., Aldai, N., Dugan, M.E.R, McAllister, T.A., and Li, C. (2013). "Association analyses of DNA polymorphisms in bovine SREBP-1, LXR $\alpha$ , FADS1 genes with fatty acid composition in Canadian commercial crossbred beef steers.", *Meat Science*, 93(3), pp. 429-436. doi : 10.1016/j.meatsci.2012.10.006

Narvaez, N., Wang, Y., Xu, Z.J., and McAllister, T.A. (2013). "Effects of California chaparral plants on in vitro ruminal fermentation of forage and concentrate diet.", *Journal of Food Biochemistry*, 93(3), pp. 550-559. doi : 10.1002/jsfa.5828

Narvaez, N., Wang, Y., Xu, Z.J., Alexander, T.W., Garden, S., and McAllister, T.A. (2013). "Effects of hop varieties on ruminal fermentation and bacterial community in an artificial rumen (rusitec).", *Journal of the Science of Food and Agriculture*, 93(1), pp. 45-52. doi : 10.1002/jsfa.5725

Gong, X., Gruninger, R.J., Forster, R.J., Teather, R.M., and McAllister, T.A. (2013). "Biochemical analysis of a highly specific, pH stable xylanase gene identified from a bovine rumen-derived metagenomic library.", *Applied Microbiology and Biotechnology*, 97(6), pp. 2423-2431. doi : 10.1007/s00253-012-4088-y

- Liu, X.-L., Hao, Y.-Q., Jin, L., Xu, Z.J., McAllister, T.A., and Wang, Y. (2013). "Anti-Escherichia coli O157:H7 properties of purple prairie clover and sainfoin condensed tannins.", *Molecules*, 18(2), pp. 2183-2199. doi : 10.3390/molecules18022183
- Wang, Y., Jin, L., Ominski, K.H., He, M.L., Xu, Z.J., Krause, D.O., Acharya, S.N., Wittenberg, K.M., Liu, X.-L., and McAllister, T.A. (2013). "Screening of condensed tannins from Canadian Prairie forages for anti-Escherichia coli O157:H7, with an emphasis on purple prairie clover (*Dalea purpurea* Vent)", *Journal of Food Protection*, 76(4), pp. 560-567. doi : 10.4315/0362-028X.JFP-12-259
- Stanich, K., Gibb, D.J., and McAllister, T.A. (2013). "Evaluation of a shelf-stable direct-fed microbial for control of Escherichia coli O157 in commercial feedlot cattle.", *Canadian Journal of Animal Science*, 93(4), pp. 535-542. doi : 10.4141/cjas2013-100
- Romao, J.M., Jin, W., He, M.L., and McAllister, T.A. (2013). "Elucidation of Molecular Mechanisms of Physiological Variations between Bovine Subcutaneous and Visceral Fat Depots under Different Nutritional Regimes.", *PLoS ONE*, 8(12):[No abstract]. doi : 10.1371/journal.pone.0083211
- Petri, R.M., Schwaiger, T., Penner, G.B., Beauchemin, K.A., Forster, R.J., McKinnon, J.J., and McAllister, T.A. (2013). "Characterization of the core rumen microbiome in cattle during transition from forage to concentrate as well as during and after an acidotic challenge.", *PLoS ONE*, 8(12), pp. e83424.
- Xu, L., Jin, Y., He, M.L., Li, C.L., McAllister, T.A., and Yang, W.-Z. (2013). "Effects of increasing levels of corn dried distillers grains with solubles and monensin on intake, digestion, and ruminal fermentation in beef heifers fed high-barley grain diets.", *Journal of Animal Science*, 91(11), pp. 5390-5398. doi : 10.2527/jas.2013-6456
- Acharya, S.N., Sottie, E.T., Coulman, B., Iwaasa, A.D., McAllister, T.A., Wang, Y., and Liu, J.-H. (2013). "New Sainfoin Populations for Bloat-free Alfalfa Pasture Mixtures in Western Canada.", *Crop Science*, 53(5), pp. 2283-2293. doi : 10.2135/cropsci2012.10.0591
- Avila-Stagno, J., Chaves, A.V., He, M.L., and McAllister, T.A. (2013). "Increasing concentrations of wheat dry distillers' grains with solubles in iso-nitrogenous finishing diets reduce lamb performance.", *Small Ruminant Research*, 114(1), pp. 10-19. doi : 10.1016/j.smallrumres.2013.05.003
- Avila-Stagno, J., Chaves, A.V., Graham, A., and McAllister, T.A. (2013). "Effects of replacing barley grain with wheat dry distillers' grains on growth performance, eating behavior, and subcutaneous fatty acid profiles of lambs.", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 63(2), pp. 93-100. doi : 10.1080/09064702.2013.800906
- Zhou, M., Hünnerberg, M., Beauchemin, K.A., McAllister, T.A., Okine, E.K., and Guan, L.L. (2013). "Individuality of ruminal methanogen/protozoa populations in beef cattle fed diets containing dried distillers' grain with solubles.", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 62(4), pp. 273-288. doi : 10.1080/09064702.2013.788206
- Gilroyed, B.H., Reuter, T.R., Kastelic, J.P., and McAllister, T.A. (2013). "Emergency euthanization of cattle challenged with Escherichia coli O157:H7 - A case study for a response to an infectious disease outbreak", *Journal of Veterinary Science*, 14(1), pp. 103-106. doi : 10.4142/jvs.2013.14.1.103
- Alazeh, A.Y., Sultana, H., Beauchemin, K.A., Wang, Y., Holo, H., Harstad, O.M., and McAllister, T.A. (2013). "Using Strains of Propionibacteria to Mitigate Methane Emissions In vitro.", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 62(4), pp. 263-272. doi : 10.1080/09064702.2013.773056
- Benedict, K., Gow, S.P., Checkley, S.L., Booker, C.W., McAllister, T.A., and Morley, P.S. (2013). "Methodological comparisons for antimicrobial resistance surveillance in feedlot cattle.", *BMC Veterinary Research*, 9, pp. 216. doi : 10.1186/1746-6148-9-216
- Storlien, T.M., Harstad, O.M., Narvaez, N., Wang, Y., and McAllister, T.A. (2013). "Effects of different oils and plant extracts on in vitro ruminal methane production.", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 62(4), pp. 300-304. doi : 10.1080/09064702.2013.773058
- Klima, C.L., Cook, S.R., Hahn, K.R., Amoako, K.K., Alexander, T.W., Hendrick, S., and McAllister, T.A. (2013). "Draft genome sequence of a *Mannheimia haemolytica* serotype 6 isolate collected from the nasopharynx of a beef calf with bovine respiratory disease.", *Genome Announcements*, 1(2): e0005113. doi : 10.1128/genomeA.00051-13
- Klima, C.L., Alexander, T.W., Hendrick, S., and McAllister, T.A. (2013). "Characterization of *Mannheimia haemolytica* isolates collected from the nasopharynx of morbid and healthy feedlot cattle in western Canada.", *Canadian Journal of Veterinary Research*, 78(1), pp. 38-45.
- Gruninger, R.J., Gong, X., Forster, R.J., and McAllister, T.A. (2013). "Biochemical and kinetic characterization of the multifunctional  $\beta$ -glucosidase/ $\beta$ -xylosidase/ $\alpha$ -arabinosidase, Bgxa1.", *Applied Microbiology and Biotechnology*, 98(7), pp. 3003-3012. doi : 10.1007/s00253-013-5191-4
- Petri, R.M., Schwaiger, T., Penner, G.B., Beauchemin, K.A., Forster, R.J., McKinnon, J.J., and McAllister, T.A. (2013). "Changes in the Rumen Epimural Bacterial Diversity of Beef Cattle as Affected by Diet and Induced Ruminal Acidosis.", *Applied and Environmental Microbiology*, 79(12), pp. 3744-3755. doi : 10.1128/AEM.03983-12
- Alexander, T.W., Cook, S.R., Klima, C.L., Topp, E., and McAllister, T.A. (2013). "Susceptibility to tulathromycin in *Mannheimia haemolytica* isolated from feedlot cattle over a three-year period.", *Frontiers in Microbiology*, 4(297). doi : 10.3389/fmicb.2013.00297

Tkachuk, V.L., Krause, D.O., McAllister, T.A., Buckley, K.E., Reuter, T.R., Hendrick, S., and Ominski, K.H. (2013). "Assessing the inactivation of *Mycobacterium avium* subspecies paratuberculosis during composting of livestock carcasses.", *Applied and Environmental Microbiology*, 79(10), pp. 3215-3224. doi: 10.1128/AEM.03768-12

Pereira, E.O., Tsang, A., McAllister, T.A., and Menassa, R. (2013). "The production and characterization of a new active lipase from *Acremonium alcalophilum* using a plant bioreactor.", *Biotechnology for Biofuels*, 6(111). doi: 10.1186/1754-6834-6-111

He, M.L., Gibb, D.J., McKinnon, J.J., and McAllister, T.A. (2013). "Effect of high dietary levels of canola meal on growth performance, carcass quality and meat fatty acid profiles of feedlot cattle.", *Canadian Journal of Animal Science*, 93(2), pp. 269-280. doi: 10.4141/cjas2012-090

Meale, S.J., McAllister, T.A., Beauchemin, K.A., Harstad, O.M., and Chaves, A.V. (2013). "Strategies to reduce greenhouse gases from ruminant livestock", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 62(4), pp. 199-121. doi: 10.1080/09064702.2013.770916

Hünerberg, M., McGinn, S.M., Beauchemin, K.A., Okine, E.K., Harstad, O.M., and McAllister, T.A. (2013). "Effect of dried distillers grains with solubles on enteric methane emissions and nitrogen excretion from finishing beef cattle.", *Canadian Journal of Animal Science*, 93(3), pp. 373-385. doi: 10.4141/CJAS2012-151

## 2012

Meale, S.J., Chaves, A.V., Baah, J., and McAllister, T.A. (2012). "Methane Production of Different Forages in *In vitro* Ruminant Fermentation.", *Asian-Australasian Journal of Animal Science*, 25(1), pp. 86-91. doi: 10.5713/ajas.2011.11249

Damiran, D., Jonker, A., Yari, M., McKinnon, J.J., McAllister, T.A., and Yu, P. (2012). "Effect of Wheat-Based Dried Distillers' Grains with Solubles Inclusion on Barley-Based Feed Chemical Profile, Energy Values, Rumen Degradation Kinetics, and Protein Supply.", *Journal of Agricultural and Food Chemistry*, 60(19), pp. 4986-4993. doi: 10.1021/jf205387e

Kalischuk-Tymensen, L.D. and McAllister, T.A. (2012). "Community Structure Analysis of Methanogens Associated with Rumen Protozoa Reveals Bias in Universal Archaeal Primers.", *Applied and Environmental Microbiology*, 78(11), pp. 4051-4056. doi: 10.1128/AEM.07994-11

Holtshausen, L., Liestøl, S.H.-O., Nes, S.K., Beauchemin, K.A., Harstad, O.M., and McAllister, T.A. (2012). "Effect of maturity at harvest on *in vitro* methane production from ensiled grass.", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 62(1), pp. 40-45. doi: 10.1080/09064702.2012.671846

Zaheer, R., Yanke, L.J., Church, D., Topp, E., Read, R.R., and McAllister, T.A. (2012). "High-throughput species identification of enterococci using pyrosequencing.", *Journal of Microbiological Methods*, 89(3), pp. 174-178. doi: 10.1016/j.mimet.2012.03.012

Stanford, K.I.M., Agopowicz, C.A., and McAllister, T.A. (2012). "Genetic diversity and antimicrobial resistance among isolates of *Escherichia coli* O157:H7 from feces and hides of super-shedders and low-shedding pen-mates in two commercial beef feedlots", *BMC Microbiology*, 8(178). doi: 10.1186/1746-6148-8-178

Kropinski, A.M., Lingohr, E.J., Moyles, D.M., Ojha, S., Mazzocco, A., She, Y.-M., Bach, S.J., Rozema, E.A., Stanford, K.I.M., McAllister, T.A., and Johnson, R.P. (2012). "Endemic bacteriophages: a cautionary tale for evaluation of bacteriophage therapy and other interventions for infection control in animals.", *Virology Journal*, 9(1), pp. 207.

Niu, Y.D., Stanford, K.I.M., Kropinski, A.M., Ackermann, H.-W., Johnson, R.P., She, Y.-M., Ahmed, R., Villegas, A., and McAllister, T.A. (2012). "Genomic, Proteomic and Physiological Characterization of a T5-like Bacteriophage for Control of Shiga Toxin-Producing *Escherichia coli* O157:H7.", *PLoS ONE*, 7(4, Article No. e34585). doi: 10.1371/journal.pone.0034585

Chaves, A.V., Baah, J., Wang, Y., McAllister, T.A., and Benchaar, C. (2012). "Effects of cinnamon leaf, oregano and sweet orange essential oils on fermentation and aerobic stability of barley silage.", *Journal of the Science of Food and Agriculture*, 92(4), pp. 906-915. doi: 10.1002/jsfa.4669

Wang, Y., Ramirez-Bribiesca, J.E., Yanke, L.J., Tsang, A., and McAllister, T.A. (2012). "Effect of Exogenous Fibrolytic Enzyme Application on the Microbial Attachment and Digestion of Barley Straw *In vitro*.", *Asian-Australasian Journal of Animal Science*, 25(1), pp. 66-74. doi: 10.5713/ajas.2011.11158

He, M.L., Yang, W.-Z., Dugan, M.E.R., Beauchemin, K.A., McKinnon, J.J., and McAllister, T.A. (2012). "Substitution of wheat dried distillers grains with solubles for barley silage and barley grain in a finishing diet increases polyunsaturated fatty acids including linoleic and alpha-linolenic acids in beef.", *Animal Feed Science and Technology*, 175(3-4), pp. 114-120. doi: 10.1016/j.anifeedsci.2012.05.009

Chung, Y.-H., Zhou, M., Holtshausen, L., Alexander, T.W., McAllister, T.A., Guan, L.L., Oba, M., and Beauchemin, K.A. (2012). "A fibrolytic enzyme additive for lactating Holstein cow diets: Ruminant fermentation, rumen microbial populations, and enteric methane emissions.", *Journal of Dairy Science (JDS)*, 95(3), pp. 1419-1427. doi: 10.3168/jds.2011-4552

Xia, Y., Massé, D.I., McAllister, T.A., Kong, Y., Seviour, R., and Beaulieu, C. (2012). "Identity and diversity of archaeal communities during anaerobic co-digestion of chicken feathers and other animal wastes.", *Bioresource Technology*, 110, pp. 111-119. doi : 10.1016/j.biortech.2012.01.107

Wang, Y., Majak, W., and McAllister, T.A. (2012). "Frothy bloat in ruminants: Cause, occurrence, and mitigation strategies.", *Animal Feed Science and Technology*, 172(1-2), pp. 103-114. doi : 10.1016/j.anifeedsci.2011.12.012

Mir, P.S., He, M.L., Travis, G.R., Entz, T., McAllister, T.A., Marchand, S., Schaefer, A.L., Meadus, W.J., Lepage, P., Okine, E.K., and Dodson, M.V. (2012). "Periodic 48h feed withdrawal improves glucose tolerance in growing pigs by enhancing adipogenesis and lipogenesis.", *Nutrition & Metabolism*, 9, pp. 10-22. doi : 10.1186/1743-7075-9-10

Juárez, M., Dugan, M.E.R., Aldai, N., Basarab, J.A., Baron, V.S., McAllister, T.A., and Aalhus, J.L. (2012). "Beef quality attributes as affected by increasing the intramuscular levels of vitamin E and omega-3 fatty acids.", *Meat Science*, 90(3), pp. 764-769. doi : 10.1016/j.meatsci.2011.11.010

Kalischuk-Tymensen, L.D., Barkley, C., and McAllister, T.A. (2012). "Relative diversity and community structure analysis of rumen protozoa according to T-RFLP and microscopic methods.", *Journal of Microbiological Methods*, 88(1), pp. 1-6. doi : 10.1016/j.mimet.2011.09.005

Petri, R.M., Förster, R.J., Yang, W.-Z., McKinnon, J.J., and McAllister, T.A. (2012). "Characterization of rumen bacterial diversity and fermentation parameters in concentrate fed cattle with and without forage.", *Journal of Applied Microbiology*, 112(6), pp. 1152-1162. doi : 10.1111/j.1365-2672.2012.05295.x

Gong, X., Gruninger, R.J., Qi, M., Paterson, L.J., Forster, R.J., Teather, R.M., and McAllister, T.A. (2012). "Cloning and identification of novel hydrolase genes from a dairy cow rumen metagenomic library and characterization of a cellulase gene.", *BMC Research Notes*, 5:566. doi : 10.1186/1756-0500-5-566

McAllister, T.A. and Topp, E. (2012). "Role of livestock in microbiological contamination of water: Commonly the blame, but not always the source.", *Animal Frontiers*, 2(2), pp. 17-27. doi : 10.2527/af.2012-0039

Bach, S.J., Cook, S.R., Wang, Y., Stanford, K.I.M., Johnson, R.P., and McAllister, T.A. (2012). "Escherichia coli O157 bacteriophages: Lytic activity and effects on fermentation in ruminal batch culture.", *Canadian Journal of Animal Science*, 92(4), pp. 545-550. doi : 10.4141/cjas2012-084

Niu, Y.D., Stanford, K., McAllister, T.A., and Callaway, T.R. (2012). "Role of phages in the control of bacterial pathogens in food.", in Paul, H. and Abedon, S.T. (eds.) - *Bacteriophages in Health and Disease*, CABI Publishing, pp. 240-255.

Avila-Stagno, J., Chaves, A.V., He, M.L., Harstad, O.M., Beauchemin, K.A., McGinn, S.M., and McAllister, T.A. (2012). "Effects of increasing concentrations of glycerol in concentrate diets on nutrient digestibility, methane emissions, growth, fatty acid profiles and carcass traits of lambs.", *Journal of Animal Science*, 91(2), pp. 829-837. doi : 10.2527/jas.2012-5215

He, M.L., Sultana, H., Oba, M., Kastelic, J.P., Dugan, M.E.R., McKinnon, J.J., and McAllister, T.A. (2012). "Triticale Dried Distillers' Grain Increases Alpha-Linolenic Acid in Subcutaneous Fat of Beef Cattle Fed Oilseeds.", *Lipids*, 47(12), pp. 1209-1220. doi : 10.1007/s11745-012-3720-z

Amat, S., Hendrick, S., McAllister, T.A., Block, H.C., and McKinnon, J.J. (2012). "Effects of distillers' dried grains with solubles from corn, wheat or a 50:50 corn:wheat blend on performance, carcass characteristics and serum sulphate levels of feedlot steers.", *Canadian Journal of Animal Science*, 92(3), pp. 343-351. doi : 10.4141/cjas2011-127

Hallewell, J., Barbieri, L.R., Thomas, J.E., Stanford, K.I.M., and McAllister, T.A. (2012). "Fecal shedding in cattle inoculated with Escherichia coli O157:H7 and fed corn or wheat distillers' dried grain with solubles.", *Journal of Food Protection*, 76(1), pp. 114-118. doi : 10.4315/0362-028x.jfp-12-104

Hallewell, J., McAllister, T.A., Thomas, J.E., Booker, C.W., Hannon, S., Jim, G.K., Burciaga-Robles, L.O., May, M.L., Peterson, R.E., Flaig, C., Hussey, E.M., and Stanford, K.I.M. (2012). "Effects of wheat or corn distillers' dried grains with solubles on feedlot performance, fecal shedding and persistence of Escherichia coli O157:H7.", *Journal of Animal Science*, 90(8), pp. 2802-2810. doi : 10.2527/jas.2011-4856

Hünerberg, M., Beauchemin, K.A., Okine, E.K., Holtshausen, L., McGinn, S.M., Harstad, O.M., and McAllister, T.A. (2012). "In vitro production of methane with increasing levels of corn or wheat based dried distillers' grains with solubles in a barley silage based diet.", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 62(4), pp. 289-294. doi : 10.1080/09064702.2013.773057

Niu, Y.D., Stanford, K.I.M., Ackermann, H.-W., and McAllister, T.A. (Eds.) (2012). "Characterization of 4 T1-like lytic bacteriophages that lyse Shiga-toxin Escherichia coli O157:H7.", *Canadian Journal of Microbiology*, 58(7), pp. 923-927. doi : 10.1139/W2012-063

McGeough, E.J., Little, S.M., Janzen, H.H., McAllister, T.A., McGinn, S.M., and Beauchemin, K.A. (2012). "Life-cycle assessment of greenhouse gas emissions from dairy production in eastern Canada: A case study.", *Journal of Dairy Science (JDS)*, 95(9), pp. 5164-5175. doi : 10.3168/jds.2011-5229

Aldai, N., Klieve, A.V., Dugan, M.E.R., Kramer, J.K.G., Ouwerkerk, D., Aalhus, J.L., McKinnon, J.J., and McAllister, T.A. (2012). "Evaluation of rumen fatty acid hydrogenation intermediates and differences in bacterial communities after feeding wheat- or corn-based dried distillers grains to feedlot cattle.", *Journal of Animal Science*, 90(8), pp. 2699-2709. doi : 10.2527/jas.2010-3671

Romao, J.M., Jin, W., He, M.L., McAllister, T.A., and Guan, L.L. (2012). "Altered MicroRNA Expression in Bovine Subcutaneous and Visceral Adipose Tissues from Cattle under Different Diet.", *PLoS ONE*, 7(7, Article No. e40605). doi : 10.1371/journal.pone.0040605

Conrad, C.C., Gilroyed, B.H., McAllister, T.A., and Reuter, T.R. (2012). "Synthesis of O-serogroup specific positive controls and real-time PCR standards for nine clinically relevant non-O157 STECs.", *Journal of Microbiological Methods*, 91(1), pp. 52-56. doi : 10.1016/j.mimet.2012.07.007

Jin, L., Wang, Y., Iwaasa, A.D., Xu, Z.J., Schellenberg, M.P., Zhang, Y.G., Liu, X.-L., and McAllister, T.A. (2012). "Effect of condensed tannins on ruminal degradability of purple prairie clover (*Dalea purpurea* Vent.) harvested at two growth stages.", *Animal Feed Science and Technology*, 176(1-4), pp. 17-25. doi : 10.1016/j.anifeedsci.2012.07.003

Li, C.L., Hao, X., Willms, W.D., and McAllister, T.A. (2012). "Responses of herbage and cattle tail switch hair  $\delta^{15}\text{N}$  value to long-term stocking rates on a rough fescue grassland.", *Soil Science and Plant Nutrition*, 58(3), pp. 326-333. doi : 10.1080/00380768.2012.682283

Tymensen, L.D., Beauchemin, K.A., and McAllister, T.A. (2012). "Structures of free-living and protozoa-associated methanogen communities in the bovine rumen differ according to comparative analysis of 16S rRNA and *mcrA* genes.", *Microbiology*, 158(7), pp. 1808-1817. doi : 10.1099/mic.0.057984-0

He, M.L., McAllister, T.A., Kastelic, J.P., Mir, P.S., Aalhus, J.L., Dugan, M.E.R., Aldai, N., and McKinnon, J.J. (2012). "Feeding flaxseed in grass hay and barley silage diets to beef cows increases alpha-linolenic acid and its biohydrogenation intermediates in subcutaneous fat.", *Journal of Animal Science*, 90(2), pp. 592-604. doi : 10.2527/jas.2011-4281

Addah, W., Baah, J., Okine, E.K., and McAllister, T.A. (2012). "Use of thermal imaging and the in situ technique to assess the impact of an inoculant with feruloyl esterase activity on the aerobic stability and digestibility of barley silage.", *Canadian Journal of Animal Science*, 92(3), pp. 381-394. doi : 10.4141/CJAS2012-016

Prieto, N., Dugan, M.E.R., López-Campos, Ó., McAllister, T.A., Aalhus, J.L., and Uttaro, B. (2012). "Near infrared reflectance spectroscopy predicts the content of polyunsaturated fatty acids and biohydrogenation products in the subcutaneous fat of beef cows fed flaxseed.", *Meat Science*, 90(1), pp. 43-51. doi : 10.1016/j.meatsci.2011.05.025

Kong, Y., Xia, Y., Seviour, R., He, M.L., McAllister, T.A., Förster, R.J. (2012). "In situ identification of carboxymethyl cellulose-digesting bacteria in the rumen of cattle fed alfalfa or triticale.", *FEMS Microbiology Ecology*, 80(1), pp. 159-167. doi : 10.1111/j.1574-6941.2011.01295.x

Li, C., Aldai, N., Vinsky, M.D., Dugan, M.E.R., and McAllister, T.A. (2012). "Association analyses of single nucleotide polymorphisms in bovine stearoyl-CoA desaturase and fatty acid synthase genes with fatty acid composition in commercial crossbred beef steers.", *Animal Genetics*, 43(1), pp. 93-97. doi : 10.1111/j.1365-2052.2011.02217.x

2011

Alexander, T.W., Yanke, L.J., Reuter, T.R., Topp, E., Read, R.R., Selinger, L.B., and McAllister, T.A. (2011). "Longitudinal characterization of antimicrobial resistance genes in feces shed from cattle fed different subtherapeutic antibiotics.", *BMC Microbiology*, 11:19. doi : 10.1186/1471-2180-11-19

Narvaez, N., Wang, Y., Xu, Z.J., and McAllister, T.A. (2011). "Effects of hops on in vitro ruminal fermentation of diets varying in forage content", *Livestock Science*, 138(1-3), pp. 193-201. doi : 10.1016/j.livsci.2010.12.028

Schwartzkopf-Genswein, K.S.G., Hickman, D.D., Shah, M.A., Krehbiel, C.R., Genswein, B.M.A., Silasi, R., Gibb, D.J., Crews, Jr., D.H., and McAllister, T.A. (2011). "Relationship between feeding behavior and performance of feedlot steers fed barley-based diets.", *Journal of Animal Science*, 89(4), pp. 1180-1192. doi : 10.2527/jas.2010-3007

Avila, J.S., Chaves, A.V., Hernandez-Calva, L.M., Beauchemin, K.A., McGinn, S.M., Wang, Y., Harstad, O.M., and McAllister, T.A. (2011). "Effects of replacing barley grain in feedlot diets with increasing levels of glycerol on in vitro fermentation and methane production.", *Animal Feed Science and Technology*, 166-167, pp. 265-268. doi : 10.1016/j.anifeedsci.2011.04.016

Gibb, D.J., Van Herk, F.H., Mir, P.S., Loerch, S., and McAllister, T.A. (2011). "Removal of supplemental vitamin A from barley-based diets improves marbling in feedlot heifers.", *Canadian Journal of Animal Science*, 91(4), pp. 669-674. doi : 10.4141/CJAS2011-038

Qi, M., Wang, P., Selinger, L.B., Yanke, L.J., Förster, R.J., and McAllister, T.A. (2011). "Isolation and characterization of a ferulic acid esterase (Fae1A) from the rumen fungus *Anaeromyces mucronatus*.", *Journal of Applied Microbiology*, 110(5), pp. 1341-1350. doi : 10.1111/j.1365-2672.2011.04990.x

- Xu, S., Inglis, G.D., Reuter, T.R., Clark, G.O., Belosevic, M., Leonard, J.J., and McAllister, T.A. (2011). "Biodegradation of specified risk material and characterization of actinobacterial communities in laboratory-scale composters.", *Biodegradation*, 22(5), pp. 1029-1043. doi: 10.1007/s10532-011-9461-5
- Holtshausen, L., Beauchemin, K.A., Schwartzkopf-Genswein, K.S.G., González, L.A., McAllister, T.A., and Gibb, D.J. (2011). "Performance, feeding behaviour and rumen pH profile of beef cattle fed corn silage in combination with barley grain, corn or wheat distillers' grain or wheat middlings.", *Canadian Journal of Animal Science*, 91(4), pp. 703-710. doi : 10.4141/CJAS2011-037
- Shama, R., Ryan, K., Hao, X., Lamey, F.J., McAllister, T.A., and Topp, E. (2011). "Real-time quantification of mcrA, pmoA for methanogen, methanotroph estimations during composting.", *Journal of Environmental Quality*, 40(1), pp. 199-205. doi : 10.2134/jeq2010.0088
- Hao, X., Benke, M.B., Li, C.L., Lamey, F.J., Beauchemin, K.A., and McAllister, T.A. (2011). "Nitrogen transformations and greenhouse gas emissions during composting of manure from cattle fed diets containing corn dried distillers grains with soluble and condensed tannins.", *Animal Feed Science and Technology*, 166-167, pp. 539-549. doi : 10.1016/j.anifeedsci.2011.04.038
- Hristov, A.N., Hanigan, M.D., Cole, A., Todd, R., McAllister, T.A., Ndegwa, P.M., and Rotz, A. (2011). "Ammonia emissions from dairy farms and beef feedlots (Review).", *Canadian Journal of Animal Science*, 91(1), pp. 1-35. doi : 10.4141/CJAS10034
- Addah, W., Baah, J., Groenewegen, P., Okine, E.K., and McAllister, T.A. (2011). "Comparison of the fermentation characteristics, aerobic stability and nutritive value of barley and corn silages ensiled with or without a mixed bacterial inoculant.", *Canadian Journal of Animal Science*, 91(1), pp. 133-146. doi: 10.4141/cjas10071
- McAllister, T.A. and Sultana, H. (2011). "Effects of micronization on the in situ and in vitro digestion of cereal grains.", *Asian-Australasian Journal of Animal Science*, 24(7), pp. 929-939. doi : 10.5713/ajas.2011.10387
- He, M.L., Chung, Y.-H., McAllister, T.A., Beauchemin, K.A., Mir, P.S., Aalhus, J.L., and Dugan, M.E.R. (2011). "Inclusion of Flaxseed in Hay- and Barley Silage Diets Increases Alpha-Linolenic Acid in Cow Plasma Independent of Forage Type.", *Lipids*, 46(7), pp. 577-585. doi: 10.1007/s11745-011-3534-4
- Li, Y.L., McAllister, T.A., Beauchemin, K.A., He, M.L., McKinnon, J.J., and Yang, W.-Z. (2011). "Substitution of wheat dried distillers' grains with solubles for barley grain or barley silage in feedlot cattle diets: intake, digestibility and ruminal fermentation.", *Journal of Animal Science*, 89(8), pp. 2491-2501. doi: 10.2527/jas.2010-3418
- Xu, W., Reuter, T.R., Xu, Y., Hsu, Y.-H., Stanford, K.I.M., and McAllister, T.A. (2011). "Field scale evaluation of bovine-specific DNA as an indicator of tissue degradation during cattle mortality composting.", *Bioresource Technology*, 102(7), pp. 4800-4806. doi: 10.1016/j.biortech.2011.01.037
- Reuter, T.R., Alexander, T.W., and McAllister, T.A. (2011). "Viability of *Bacillus licheniformis* and *Bacillus thuringiensis* spores as a model for predicting the fate of *Bacillus anthracis* spores during composting of livestock mortalities.", *Applied and Environmental Microbiology*, 77(5), pp. 1588-1592. doi: 10.1128/AEM.01889-10
- Mirzaagha, P., Louie, M., Sharma, R., Yanke, L.J., Topp, E., and McAllister, T.A. (2011). "Distribution and characterization of ampicillin and tetracycline-resistant *Escherichia coli* from feedlot cattle fed subtherapeutic antimicrobials.", *BMC Microbiology*, 11:78. doi: 10.1186/1471-2180-11-78
- Klima, C.L., Alexander, T.W., Read, R.R., Gow, S.P., Booker, C.W., Hannon, S., Sheedy, C., McAllister, T.A., and Selinger, L.B. (2011). "Genetic characterization and antimicrobial susceptibility of *Mannheimia haemolytica* isolated from the nasopharynx of feedlot cattle.", *Veterinary Microbiology*, 149(3-4), pp. 390-398. doi: 10.1016/j.vetmic.2010.11.018
- You, J., Xu, Y., He, M.L., McAllister, T.A., Thacker, P.A., Li, X., Wang, T., and Jin, L. (2011). "Protection of mice against enterotoxigenic *Escherichia coli* by immunization with a polyvalent enterotoxin comprising a combination of LTb, STa, and STb.", *Applied Microbiology and Biotechnology*, 89(6), pp. 1885-1893. doi: 10.1007/s00253-010-2991-7
- Naghmouchi, K., Paterson, L.J., Förster, R.J., McAllister, T.A., Ohene-Adjei, S., Drider, D., Teather, R.M., and Baah, J. (2011). "*Paenibacillus polymyxa* JB05-01-1 and its perspectives for food conservation and medical applications.", *Archives of Microbiology*, 193(3), pp. 169-177. doi: 10.1007/s00203-010-0654-9
- Romero-Pérez, G.A., Ominski, K.H., McAllister, T.A., and Krause, D.O. (2011). "Effect of environmental factors and influence of rumen and hindgut bio-geography on bacterial communities in steers.", *Applied and Environmental Microbiology*, 77(1), pp. 258-268. doi: 10.1128/AEM.01289-09
- Moya, D., Mazzenga, A., Holtshausen, L., Cozzi, G., González, L.A., Calsamiglia, S., Gibb, D.J., McAllister, T.A., Beauchemin, K.A., and Schwartzkopf-Genswein, K.S.G. (2011). "Feeding behavior and ruminal acidosis in beef cattle offered a total mixed ration or dietary components separately.", *Journal of Animal Science*, 89(2), pp. 520-530. doi: 10.2527/jas.2010-3045
- Stanford, K.I.M., Stephens, T.P., and McAllister, T.A. (2011). "Use of model super-shedders to define the role of pen floor and hide contamination in the transmission of *Escherichia coli* O157:H7.", *Journal of Animal Science*, 89(1), pp. 237-244. doi: 10.2527/jas.2010-3088

- Hao, X., Xu, S., Lamey, F.J., Stanford, K.I.M., Cessna, A.J., and McAllister, T.A. (2011). "Inclusion of antibiotics in feed alters greenhouse gas emissions from feedlot manure during composting.", *Nutrient Cycling in Agroecosystems*, 89(2), pp. 257-267. doi : 10.1007/s10705-010-9391-3
- Hao, X., Benke, M.B., Lamey, F.J., and McAllister, T.A. (2011). "Greenhouse gas emissions when composting manure from cattle fed wheat dried distillers' grains with solubles.", *Nutrient Cycling in Agroecosystems*, 89(1), pp. 105-114. doi : 10.1007/s10705-010-9380-6
- Cessna, A.J., Lamey, F.J., Kuchta, S.L., Hao, X., Entz, T., Topp, E., and McAllister, T.A. (2011). "Veterinary antimicrobials in feedlot manure: dissipation during composting, effects on composting processes and extent in ground water.", *Journal of Environmental Quality*, 40(1), pp. 188-198. doi : 10.2134/jeq2010.0079
- Juárez, M., Dugan, M.E.R., Aalhus, J.L., Aldai, N., Basarab, J.A., Baron, V.S., and McAllister, T.A. (2011). "Effects of vitamin E and flaxseed on rumen-derived fatty acid intermediates in beef intramuscular fat.", *Meat Science*, 88(3), pp. 434-440. doi : 10.1016/j.meatsci.2011.01.023
- Addah, W., Baah, J., Okine, E.K., and McAllister, T.A. (2011). "A third-generation esterase inoculant alters fermentation pattern and improves aerobic stability of barley silage and the efficiency of weight gain of growing feedlot cattle.", *Journal of Animal Science*, 90(5), pp. 1541-1552. doi : 10.2527/jas.2011-4085
- Hernandez-Calva, L.M., He, M.L., Juárez, M., Aalhus, J.L., Dugan, M.E.R., and McAllister, T.A. (2011). "Effect of flaxseed and forage type on carcass and meat quality of finishing cull cows.", *Canadian Journal of Animal Science*, 91(4), pp. 613-622. doi : 10.4141/CJAS2011-030
- Godlinski, F., Aust, M.-O., Travis, G.R., Hao, X., Thiele-Bruhn, S., McAllister, T.A., and Leinweber, P. (2011). "Phosphorus and trace metal distribution under confined cattle feeding operations in Southern Alberta. (Verteilung von Phosphor und Schwermetallen in Böden unterhalb intensiver Rinderhaltung im südlichen Alberta, Kanada.)", *Agriculture and Forestry Research*, 61(3), pp. 249-260.
- Walter, L.J., McAllister, T.A., Yang, W.-Z., Beauchemin, K.A., He, M.L., and McKinnon, J.J. (2011). "Comparison of wheat or corn dried distillers grains with solubles on rumen fermentation and nutrient digestibility by feedlot heifers.", *Journal of Animal Science*, 90(4), pp. 1291-1300. doi : 10.2527/jas.2011-3844
- Gilroyed, B.H., Hao, X., Lamey, F.J., and McAllister, T.A. (2011). "Greenhouse Gas Emissions from Cattle Feedlot Manure Composting and Anaerobic Digestion as a Potential Mitigation Strategy.", in Lei Guo, L., Gunasekara, A.S. and McConnell, L.L. (eds.) - *Emissions from Agricultural Management*. ACS Symposium Series. Vol. 1072, American Chemical Society (ACS), Chapter 22, pp. 419-441.
- Zhou, M., Chung, Y.-H., Beauchemin, K.A., Holtshausen, L., Oba, M., McAllister, T.A., and Guan, L.L. (2011). "Relationship between rumen methanogens and methane production in dairy cow fed diets supplemented with a feed enzyme additive.", *Journal of Applied Microbiology*, 111(5), pp. 1148-1158. doi : 10.1111/j.1365-2672.2011.05126.x
- Berard, N.C., Wang, Y., Wittenberg, K.M., Krause, D.O., Coulman, B.E., McAllister, T.A., and Ominski, K.H. (2011). "Condensed tannin concentrations found in vegetative and mature forage legumes grown in western Canada.", *Canadian Journal of Plant Science*, 91(4), pp. 669-675. doi : 10.4141/cjps10153
- Qi, M., Wang, P., O'Toole, N., Barboza, P.S., Ungerfeld, E.M., Leigh, M.B., Selinger, L.B., Butler, G., Tsang, A., McAllister, T.A., and Forster, R.J. (2011). "Snapshot of the eukaryotic gene expression in muskoxen rumen - A metatranscriptomic approach.", *PLoS ONE*, 6(5, Article No. e20521). doi : 10.1371/journal.pone.0020521
- Xia, Y., Massé, D.I., McAllister, T.A., Beaulieu, C., Talbot, G., Kong, Y., and Seviour, R. (2011). "In situ identification of keratin-hydrolyzing organisms in swine manure inoculated anaerobic digesters.", *FEMS Microbiology Ecology*, 78(3), pp. 451-462. doi : 10.1111/j.1574-6941.2011.01188.x
- Xia, Y., Massé, D.I., McAllister, T.A., Beaulieu, C., and Ungerfeld, E.M. (2011). "Anaerobic digestion of chicken feather with swine manure or slaughterhouse sludge for biogas production.", *Waste Management*, 32(3), pp. 404-409. doi : 10.1016/j.wasman.2011.10.024
- Yang, W.-Z., Li, Y.L., McAllister, T.A., McKinnon, J.J., and Beauchemin, K.A. (2011). "Wheat distillers grains in feedlot cattle diets: feeding behavior, growth performance, carcass characteristics, and blood metabolites.", *Journal of Animal Science*, 90(4), pp. 1301-1310. doi : 10.2527/jas.2011-4372
- Wu, R.-B., Alexander, T.W., Li, J.-Q., Munns, K., Sharma, R., and McAllister, T.A. (2011). "Prevalence and diversity of class 1 integrons and resistance genes in antimicrobial-resistant *Escherichia coli* originating from beef cattle administered subtherapeutic antimicrobials.", *Journal of Applied Microbiology*, 111(2), pp. 511-523. doi : 10.1111/j.1365-2672.2011.05066.x
- McAllister, T.A., Beauchemin, K.A., Alazeh, A.Y., Baah, J., Teather, R.M., and Stanford, K.I.M. (2011). "The use of direct fed microbials to mitigate pathogens and enhance production in cattle."
- Cleary, L.J., Van Herk, F.H., Gibb, D.J., McAllister, T.A., and Chaves, A.V. (2011). "Dry matter digestion kinetics of two varieties of barley grain sown with different seeding and nitrogen fertilization rates in four different sites across Canada.", *Asian-Australasian Journal of Animal Science*, 24(7), pp. 965-973. doi : 10.5713/ajas.2011.10427

Nassu, R.T., Dugan, M.E.R., He, M.L., McAllister, T.A., Aalhus, J.L., Aldai, N., and Kramer, J.K.G. (2011). "The effects of feeding flaxseed to beef cows given forage based diets on fatty acids of longissimus thoracis muscle and backfat.", *Meat Science*, 89(4), pp. 469-477. doi : 10.1016/j.meatsci.2011.05.016

Zhou, M., McAllister, T.A., and Guan, L.L. (2011). "Molecular identification of rumen methanogens: Technologies, advances and prospects.", *Animal Feed Science and Technology*, 166-167, pp. 76-86. doi : 10.1016/j.anifeedsci.2011.04.005

McAllister, T.A., Beauchemin, K.A., McGinn, S.M., Hao, X., and Robinson, P.H. (2011). "Greenhouse gases in animal agriculture-Finding a balance between food production and emissions.", *Animal Feed Science and Technology*, 166-167, pp. 1-6. doi : 10.1016/j.anifeedsci.2011.04.057

Wang, P., Qi, M., Barboza, P.S., Leigh, M.B., Ungerfeld, E.M., Selinger, L.B., McAllister, T.A., and Forster, R.J. (2011). "Isolation of high-quality total RNA from rumen anaerobic bacteria and fungi, and subsequent detection of glycoside hydrolases.", *Canadian Journal of Microbiology*, 57(7), pp. 590-598. doi : 10.1139/w11-048

Beauchemin, K.A., Janzen, H.H., McAllister, T.A., and McGinn, S.M. (2011). "Mitigation of greenhouse gas emissions from beef production in western Canada - Evaluation using farm-based life cycle assessment.", *Animal Feed Science and Technology*, 166-167, pp. 663-677. doi : 10.1016/j.anifeedsci.2011.04.047

Chung, Y.-H., He, M.L., McGinn, S.M., McAllister, T.A., and Beauchemin, K.A. (2011). "Linseed suppresses enteric methane emissions from cattle fed barley silage, but not from those fed grass hay.", *Animal Feed Science and Technology*, 166-167, pp. 321-329. doi : 10.1016/j.anifeedsci.2011.04.022

Canam, T., Town, J.R., Tsang, A., McAllister, T.A., and Dumonceaux, T.J. (2011). "Biological pretreatment with a cellobiose dehydrogenase-deficient strain of *Trametes versicolor* enhances the biofuel potential of canola straw.", *Bioresource Technology*, 102(21), pp. 10020-10027. doi : 10.1016/j.biortech.2011.08.045

Ramirez-Bribiesca, J.E., Wang, Y., Jin, L., Canam, T., Town, J.R., Tsang, A., Dumonceaux, T.J., and McAllister, T.A. (2011). "Chemical characterization and in vitro fermentation of *Brassica* straw treated with the aerobic fungus, *Trametes versicolor*.", *Canadian Journal of Animal Science*, 91(4), pp. 695-702. doi : 10.4141/CJAS2011-067

Herrero, M., Gerber, P., Vellinga, T., Garnett, T., Leip, A., Opio, C., Westhoek, H.J., Thornton, P.K., Olesen, J., Hutchings, N., Montgomery, H., Soussana, J.-F., Steinfeld, H., and McAllister, T.A. (2011). "Livestock and greenhouse gas emissions: The importance of getting the numbers right.", *Animal Feed Science and Technology*, 166-167, pp. 779-782. doi : 10.1016/j.anifeedsci.2011.04.083

Chaves, A.V., Dugan, M.E.R., Stanford, K.I.M., Gibson, L.L., Bystrom, J.M., McAllister, T.A., Van Herk, F.H., and Benchaar, C. (2011). "A dose-response of cinnamaldehyde supplementation on intake, ruminal fermentation, blood metabolites, growth performance, and carcass characteristics of growing lambs.", *Livestock Science*, 141(2-3), pp. 213-220. doi : 10.1016/j.livsci.2011.06.006

Wu, R.-B., Munns, K., Li, J.-Q., John, S.J., Wierenga, K.T., Sharma, R., and McAllister, T.A. (2011). "Effect of triticale dried distillers grains with solubles on ruminal bacterial populations as revealed by real time polymerase chain reaction.", *Asian-Australasian Journal of Animal Science*, 24(11), pp. 1552-1559. doi : 10.5713/ajas.2011.10388

Wang, Y., Gibb, D.J., Greer, D., and McAllister, T.A. (2011). "Effects of moisture and a saponin-based surfactant during barley processing on growth performance and carcass quality of feedlot steers and on in vitro ruminal fermentation.", *Asian-Australasian Journal of Animal Science*, 24(12), pp. 1690-1698. doi : 10.5713/ajas.2011.10437

O'Hara, A.S., Tanner, A., McAllister, T.A., Gibb, D.J., Van Herk, F.H., and Chaves, A.V. (2011). "Effect of low and high oil corn distillers' grain on rumen fermentation, growth performance and carcass characteristics of lambs.", *Animal Reproduction Science*, 51(8), pp. 708-716. doi : 10.1071/AN11023

## Other Science Related Publications:

2016

Foroutan, A., Dugan, M.E.R., Stothard, P., Grant, J., Paradis, F., Guan, L.L., McAllister, T.A., Basu, U., Li, C., and Fitzsimmons, C.J. (2016). "Gene expression differences associated with fatty-acid deposition in beef cattle fed diets with supplemental flaxseed.", XXIV Plant and Animal Genomics Conference, San Diego, CA, USA, January 2016. (Abstract)

2015

Kolotilin, I., Topp, E., Cox, E., Devriendt, B., Conrad, U., Joensuu, J.J., Stöger, E., Warzecha, H., McAllister, T.A., McLean, M.D., Hall, J.C., and Menassa, R. (2015). "Plant-based solutions for veterinary immunotherapeutics and prophylactics.", *BMC Veterinary Research*, 45(1), pp. 375. (Abstract)

Kröbel, R., Janzen, H.H., Ellert, B.H., Beauchemin, K.A., and McAllister, T.A. (2015). "Agriculture is neither the culprit nor the solution to Climate Change.", "Our Common Future under Climate Change" Conference, Paris, France, July 7-10, 2015. (Poster)



Anele, U.Y., Refat, B., Swift, M.-L., Zhao, Y.L., McAllister, T.A., and Yang, W.-Z. (2015). "Effects of starch content on in vitro ruminal fermentation of ground and dry-rolled barley grain.", *Journal of Dairy Science (JDS)*, 98(Suppl. 2), pp. 434. (Abstract)

McAllister, T.A., Xu, S., Lamey, F.J., Reuter, T.R., and Stanford, K. (2015). "A green goodbye to dead stock: Historical linkages of dead stock composting research in Lethbridge over 20 years.", 3rd Annual Biology Graduate Research Symposium, University of Lethbridge, Lethbridge, AB, Canada, January 30, 2015.

Hao, X., Lamey, F.J., Ellert, B.H., Alexander, T.W., and McAllister, T.A. (2015). "Co-composting cattle feedlot manure with construction and demolition waste.", International Compost Conference, Beijing, China, November 22-25, 2015. (Abstract)

Turkington, T.K., Xi, K., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., McAllister, T.A., and Lupwayi, N.Z. (2015). "The impact of barley variety rotation, mixtures, and intercropping on leaf disease and silage production.", *Canadian Journal of Plant Pathology*. (Abstract)

McAllister, T.A., Sura, S., Lamey, F.J., Cessna, A.J., Amarakoon, I.D., Tymensen, L.D., Charest, J., Olson, A.F., Headley, J.V., and Zvomuya, F. (2015). "The Fate of Antimicrobial Residues in Livestock Manure.", *Manure Management Update 2015*, Lethbridge, AB, Canada, January 19, 2015.

Zhao, Y.L., Yan, S.M., Anele, U.Y., Swift, M.-L., McAllister, T.A., and Yang, W.-Z. (2015). "Effects of starch content and processing method on in situ rumen digestibility of barley grain in beef heifers.", *Journal of Dairy Science (JDS)*, 98(Suppl. 2), pp. 444. (Abstract)

Turkington, T.K., Xi, K., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., McAllister, T.A., and Lupwayi, N.Z. (2015). "The impact of barley variety rotation, mixtures, and intercropping on leaf disease and silage production.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015.

Anele, U.Y., Swift, M.-L., McAllister, T.A., and Yang, W.-Z. (2015). "Evaluation of models for predicting acidosis risk of barley grain in finishing beef cattle.", *Journal of Dairy Science (JDS)*, 98(Suppl. 2), pp. 443. (Abstract)

## 2014

McAllister, T.A. and Yang, W.-Z. (2014). "NIR Workshop Offers Beef Producers Another Way to Improve Feed Efficiency. (Real Agriculture News Team. March 26, 2014. <http://www.realagriculture.com/2014/03/nir-workshop-offers-beef-producers-another-way-improve-feed-efficiency/>)".

McAllister, T.A. and Yang, W.-Z. (2014). "NIR Technology for Feed Analysis.", *Nutrient Management (Winter 2014)*. (Newsletter)

McAllister, T.A. and Glen, B. (2014). "Use of near infrared technology expands.", *The Western Producer (March 28, 2014)*. (Newsletter)

McAllister, T.A., Yang, W.-Z., and Oba, M. (2014). "Introduction to Feed Processing.", *Feed Coalition Research Tour and Meeting, AAFC Lethbridge Research Centre, June 20, 2014, Invited speaker.*

Mapiye, C., Aalhus, J.L., Vahmani, P., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Procor, S.D., and Dugan, M.E.R. (2014). "Subcutaneous biohydrogenation product profiles of steers fed forage-based diets with sunflower-seed and wheat dried distillers' grains with sables.", *ICoMST, Uruguay, August, 2015*. (Abstract)

Sura, S., Degenhardt, D., Peru, K.M., Bailey, J., Cessna, A.J., Lamey, F.J., McAllister, T.A., and Headley, J.V. (2014). "Analysis of veterinary antimicrobials in stockpiled feedlot manure using LC-ESI/MS/MS.", *62nd American Society Mass Spectrometry Conference, Baltimore, MD, USA, June 15-19, 2014, Poster*. (Abstract)

Sura, S., Degenhardt, D., Cessna, A.J., Lamey, F.J., Olson, A.F., and McAllister, T.A. (2014). "Transport of three veterinary antimicrobials in combined surface runoff and leachate from windrows of composting cattle manure.", *SETAC North America 35th Annual Meeting, Society of Environmental Toxicology and Chemistry (SETAC), Vancouver, BC, Canada, November 9-13, 2014*. (Poster)

Sura, S., Degenhardt, D., Cessna, A.J., Lamey, F.J., Olson, A.F., and McAllister, T.A. (2014). "Transport of three veterinary antimicrobials from feedlot pens via simulated rainfall runoff.", *SETAC North America 35th Annual Meeting, Society of Environmental Toxicology and Chemistry (SETAC), Vancouver, BC, Canada, November 9-13, 2014, Oral Presentation*.

Amarakoon, I.D., Sura, S., Zvomuya, F., Lamey, F.J., Cessna, A.J., and McAllister, T.A. (2014). "Dissipation of chlortetracycline, sulfamethazine and tylosin in manure-amended soil following field application of beef cattle manure.", *EmCon 2014: 4th Int. Conf. on Occurrence, Fate, Effects & Analysis of Emerging Contaminants in the Environment, Iowa City, IA, USA, August 19-22, 2014*. (Abstract)

Xu, S., Sura, S., Wang, G.P., Smith, A.M., Zaheer, R., Cook, S.R., Olson, A.F., Cessna, A.J., Lamey, F.J., and McAllister, T.A. (2014). "Degradation of antimicrobial resistance determinants during windrow composting and stockpiling of manure from cattle administered sub-therapeutic antimicrobials.", *XVIth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada, July 27-August 1, 2014*.

- McAllister, T.A., Simmons, G., and Yang, W.-Z. (2014). "Cattle producers benefitting from NIR technology. (<http://lethbridgeherald.com/news/local-news/2014/03/26/cattle-producers-benefit-from-nir-technology>)", Lethbridge Herald (March 26, 2014). (Newsletter)
- McAllister, T.A. (2014). "Unraveling the secrets of super shedders of E. coli O157:H7.", 2014 Eastern Nutrition Conference, Guelph, ON, Canada, May 14-15, 2014.
- Meale, S.J., Chaves, A.V., He, M.L., and McAllister, T.A. (2014). "Effect of concentrate diets contrasting in fatty acid profiles on lamb performance, carcass characteristics, fatty acid composition and wool production.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.
- Vyas, D., Alazeh, A.Y., McGinn, S.M., Harstad, O.M., Holo, H., McAllister, T.A., and Beauchemin, K.A. (2014). "Efficacy of Propionibacterium strains in mitigating methane emissions from beef heifers fed a high forage diet.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.
- Hao, X., Hill, B.D., Caffyn, P.R., Travis, G.R., Olsen, P.A., Lamey, F.J., McAllister, T.A., and Alexander, T.W. (2014). "Co-composting of beef cattle feedlot manure with construction and demolition waste.", 51st Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 12-14, 2014. (Abstract)
- Yang, W.-Z. and McAllister, T.A. (2014). "Effects of grain source and monensin level on site and extent of digestion in feedlot heifers.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.
- Zhao, Y., Yan, S.M., He, Z., Anele, U.Y., Swift, M.-L., McAllister, T.A., and Yang, W.-Z. (2014). "Effects of test weight and processing method on in vitro intestinal digestibility of barley grain.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.
- Hao, X., Hill, B.D., Caffyn, P.R., Travis, G.R., Olson, A.F., Lamey, F.J., McAllister, T.A., and Alexander, T.W. (2014). "Co-composting of beef cattle feedlot manure with housing construction waste for value-added organic fertilizer.", 51st Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 12-14, 2014, pp. 30. (Abstract)
- McAllister, T.A., Meale, S.J., Guan, L.L., Kelly, W., Henderson, G., Attwood, G.T., and Janssen, P.H. (2014). "Use of genomics and transcriptomics to identify strategies to lower ruminal methanogenesis. Ruminant Nutrition Symposium.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.
- McAllister, T.A., Meale, S.J., Guan, L.L., Kelly, W., Henderson, G., Attwood, G.T., and Janssen, P.H. (2014). "Use of genomics and transcriptomics to identify strategies to lower ruminal methanogenesis.", 51st Annual Meeting of the Brazilian Society of Animal Science, Sergipe, Brazil, July 29-Aug 1, 2014.
- McAllister, T.A., Ribeiro Jr, G.O., and Meale, S.J. (2014). "The Science of Maximizing Growth Performance of Yearling on Pasture.", 2014 Western Canadian Grazing Conference, Edmonton, AB, Canada, December 9-11, 2014.
- Wang, Y., Sortie, E., Acharya, S.N., and McAllister, T.A. (2014). "Role of condensed tannin containing forages in pasture productivity, animal and environmental health. Balancing the Trade-Off between Productivity and Environmental Health.", Joint Meeting of the Canadian Society of Agronomy and Canadian Society for Horticultural Science, University of Lethbridge, Lethbridge, AB, Canada, July 10-12, 2014.
- McAllister, T.A., Guan, L.L., Henderson, G., Attwood, G.T., and Janssen, P.H. (2014). "Use of genomics and transcriptomics to identify strategies to lower ruminal methanogenesis.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.
- Foroutan, A., Stothard, P., Grant, J., Paradis, F., Guan, L.L., Dugan, M.E.R., McAllister, T.A., Basu, U., McLean, K.L., and Fitzsimmons, C.J. (2014). "Transcriptional analysis in Longissimus thoracis muscle, subcutaneous and kidney fat of cattle fed diets with supplemental flaxseed.", XXII Plant & Animal Genome Conference, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014.
- Moya, D., He, M.L., Wang, Y., McAllister, T.A., and Schwartzkopf-Genswein, K.S.G. (2014). "Evaluation of hair cortisol as a biomarker of chronic stress in beef cattle.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.
- McAllister, T.A. (2014). "Implications of subtherapeutic use of antibiotics in beef cattle for antibiotic resistance.", 2014 Eastern Nutrition Conference, Guelph, ON, Canada, May 14-15, 2014.
- McAllister, T.A. and Cook, N. (2014). "The impact of the antibiotic resistance and its challenge for the Canadian Meat Industry.", Canadian Meat Council's 94th Annual Conference, Toronto, ON, Canada, May 7-9, 2014, <http://cmsa-ascv.ca/symposium.html>.
- Turkington, T.K., Xi, K., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., McAllister, T.A., and Lupwayi, N.Z. (2014). "The impact of barley variety monoculture, rotation and mixtures, and intercropping on leaf disease and silage production.", 1st International Workshop on Barley Leaf Diseases, Salsomaggiore Terme, Italy, June 3-6, 2014, pp. 73. (Abstract)
- Meale, S.J., McAllister, T.A., He, M.L., and Law, G. (2014). "Development of a Canadian Barley Feed Industry Guide for Livestock Producers in Both Domestic and Export Markets.", Alberta Barley's Annual General Meeting, Calgary, AB, Canada, November 16, 2014.

- Amarakoon, I.D., Zvomuya, F., Sura, S., Lamey, F.J., Cessna, A.J., and McAllister, T.A. (2014). "Persistence of excreted veterinary antimicrobials in soils amended with beef cattle manure.", Manitoba Environmental Industries Association, Winnipeg, Canada.
- Jancewicz, L.J., Penner, G.A., Swift, M.-L., McKinnon, J.J., Beauchemin, K.A., and McAllister, T.A. (2014). "Diurnal variation in the excretion of fecal nutrients and lignin and nutrient digestibility from cattle offered barley based backgrounding and finishing diets, fed once or twice per day.", 51st Annual Meeting of the Brazilian Society of Animal Science, Sergipe, Brazil, July 29-Aug 1, 2014.
- Ding, S., Oba, M., Swift, M.-L., Chen, L.Y., Yang, W.-Z., and McAllister, T.A. (2014). "Assessing relationship between malting quality characteristics and rumen digestion of barley grain in relation to molecular structure using ATR-FTIR and PCA. Better Nutrition, Better Health", 35th Western Nutrition Conference, Edmonton, AB, Canada, September 24-25, 2014.
- Wang, O., McAllister, T.A., Plastow, G., Selinger, B., Gannon, V.P.J., Stanford, K.I.M., and Guan, L.L. (2014). "Transcriptomic Analysis of Rectal-anal Junction Tissue from Super-shedders vs Cattle Negative for E. coli O157:H7 Livestock Gentec: The Genomics of Profitability: Implication for Quality, Feed, Forage and Sustainability.", Livestock Gentec 5th Annual conference, Edmonton, AB, Canada, August 12-14, 2014.
- Jancewicz, L.J., Gibb, D.J., Swift, M.-L., Penner, G.B., and McAllister, T.A. (2014). "Effects of Feeding Pelleted Grain Screenings Differing in Lipid Content on Performance and Nutrient Utilization in Feedlot Cattle.", Feed Coalition Research Tour & Meeting, Agriculture and Agri-Food Canada Research Centre – Lethbridge, Lethbridge, Canada, June 20, 2014.
- Hao, X., Lamey, F.J., Alexander, T.W., and McAllister, T.A. (2014). "Co-composting beef cattle feedlot manure with construction & demolition (C&D) waste.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014, Oral presentation. (Abstract)
- McAllister, T.A. (2014). "Silage Inoculants - Are They Worth The Money?", 32nd Western Canadian Dairy Seminar, Red Deer, Alberta, Canada, March 11-14, 2014. (Presentation)
- Zhao, Y.L., Yan, S.M., He, Z., Anele, U.Y., Swift, M.-L., McAllister, T.A., and Yang, W.-Z. (2014). "Effects of test weight, precision processing and processing index on in situ ruminal digestibility of barley grain in beef heifers.", Journal of Dairy Science (JDS), 97(E-Suppl.1), pp. 870. (Abstract)
- Sheppard, S.C., Bittman, S., Donohoe, G., Flaten, D.N., Wittenberg, K.M., Small, J.A., Berthiaume, R.R., McAllister, T.A., Beauchemin, K.A., McKinnon, J.J., and Ominski, K.H. (2014). "A new farm survey of beef management practices in Canada.", Canadian Society of Soil Science Annual Meetings, Banff, AB, Canada, May 4-7, 2014. (Abstract)
- Li, C., Ekine-Dzivenu, C., Chen, L., Vinsky, M.D., Aldai, N., Dugan, M.E.R., and McAllister, T.A. (2014). "Heritability Estimates of Conjugated Linoleic Acid Isomers in Brisket Adipose Tissue of Canadian Crossbred Beef Steers.", 10th World Congress on Genetics Applied to Livestock Production (WCGALP), Vancouver, Canada, August 17-22, 2014, Paper 588 & Poster.
- Moya, D., He, M.L., Wang, Y., McAllister, T.A., and Schwartzkopf-Genswein, K.S.G. (2014). "Evaluation of hair cortisol as a biomarker of chronic stress in beef cattle.", Journal of Animal Science, 92(E-Suppl.2), pp. 20. (Abstract)
- He, Z.X., He, M.L., Zhao, Y., Walker, N.D., Beauchemin, K.A., McAllister, T.A., and Yang, W.-Z. (2014). "Supplementing beef cattle finishing diets containing wheat distillers grain with feed enzymes to decrease the ratio of n-6/n-3 fatty acids in meat.", Journal of Dairy Science (JDS), 97(E-Suppl.1), pp. 453. (Abstract)
- Zhao, Y., Yan, S., He, Z., Anele, U.Y., Swift, M.-L., McAllister, T.A., and Yang, W.-Z. (2014). "Effects of test weight and processing method on in vitro intestinal digestibility of barley grain.", Journal of Dairy Science (JDS), 97(E-Suppl.1), pp. 768. (Abstract)
- Anele, U.Y., Refat, B., Swift, M.-L., He, Z., McAllister, T.A., and Yang, W.-Z. (2014). "Effects of volume weight, precision processing and processing index on in vitro ruminal fermentation of dry-rolled barley grain.", Journal of Dairy Science (JDS), 97(E-Suppl.1), pp. 775. (Abstract)
- Wang, O., Liang, G., Sun, X., Selinger, B., Stanford, K.I.M., Plastow, G., McAllister, T.A., and Guan, L.L. (2014). "Transcriptomic analysis of rectal-anal junction tissue from super-shedders vs cattle negative for E. coli O157:H7.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.
- Yang, W.-Z., Xu, L., Zhao, Y., and McAllister, T.A. (2014). "Effects of grain source and monensin level on site and extent of digestion in feedlot heifers.", Journal of Dairy Science (JDS), 97(E-Suppl.1), pp. 848. (Abstract)
- Jin, L., Li, C., He, M.L., Wang, Y., Alexander, T.W., and McAllister, T.A. (2014). "Effects of echium and flaxseed oil on ruminal fatty acid metabolism in vitro.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.
- Zhao, Y.L., Chen, L.Y., Swift, M.-L., McAllister, T.A., and Yang, W.-Z. (2014). "Effects of test weight, processing method and processing index on in situ rumen digestion kinetics of barley grain in beef heifers.", 35th Western Nutrition Conference, Edmonton, AB, Canada, September 24-25, 2014, pp. 285. (Abstract)

Ding, S., Swift, M.-L., Oba, M., Chen, L.Y., McAllister, T.A., and Yang, W.-Z. (2014). "Assessing relationship between malting quality characteristics and rumen digestion of barley grain in relation to molecular structure using ATR-FTIR and PCA.", 35th Western Nutrition Conference, Edmonton, AB, Canada, September 24-25, 2014, pp. 287. (Abstract)

Jin, L., Duniere, L., Wang, Y., and McAllister, T.A. (2014). "Effects of lactobacilli and fibrolytic enzymes on chemical composition, fermentation traits, conservation characteristics and in situ digestibility of mixed cereal silage.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.

Anele, U.Y., Refat, B., Swift, M.-L., He, Z., McAllister, T.A., and Yang, W. (2014). "Effects of volume weight, precision processing and processing index on in vitro ruminal fermentation of dry-rolled barley grain.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.

He, Z., He, M.L., Walker, N.D., McAllister, T.A., and Yang, W. (2014). "Using a fibrolytic enzyme to barley-based finishing diets containing wheat dried distillers grains with soubles: Ruminal fermentation, digestibility, and growth performance in feedlot steers.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.

He, Z., He, M.L., Walker, N.D., Beauchemin, K.A., McAllister, T.A., and Yang, W. (2014). "Supplementing beef cattle finishing diets containing wheat distillers grain with feed enzymes to decrease the ratio of n-6/n-3 fatty acids in meat.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.

He, Z., Walker, N.D., McAllister, T.A., and Yang, W. (2014). "Effect of wheat dried distillers grains with soubles inclusion and fibrolytic enzyme supplementation on ruminal fermentation and digestibility in beef heifers fed backgrounding diet.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.

Alexander, T.W., McAllister, T.A., Stanford, K.I.M., Reuter, T.R., and Topp, E. (2014). "Characterization of Shiga toxin-producing *Escherichia coli* isolated from feces of cattle in commercial feedlots.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.

He, Z., Walker, N.D., McAllister, T.A., and Yang, W.-Z. (2014). "Effect of wheat dried distillers grains with soubles inclusion and fibrolytic enzyme supplementation on ruminal fermentation and digestibility in beef heifers fed backgrounding diet.", *Journal of Dairy Science (JDS)*, 97(E-Suppl.1), pp. 818. (Abstract)

Jin, L., Duniere, L., Wang, Y., and McAllister, T.A. (2014). "Effects of lactobacilli and fibrolytic enzymes on ensiling as well as in vitro and in situ digestibility of barley silage.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.

## 2013

Agomoh, I., Hao, X., Li, C., Yang, G., Schoenau, J.J., and McAllister, T.A. (2013). "Greenhouse gas emission from soil amended with DDGS manure and compost: a laboratory study.", 50th Annual Alberta Soil Science Workshop, Lethbridge, AB, Canada, February 19-21, 2013.

Jancewicz, L.J., Swift, M.-L., Penner, G.B., McKinnon, J.J., Beauchemin, K.A., and McAllister, T.A. (2013). "Using Near-Infrared Spectroscopy to Predict the Relationship Between Fecal Starch Concentration and Feed Efficiency for Feedlot Cattle.", Joint ADSA-ASAS Annual Meeting 2013, Indianapolis, Indiana, USA, July 8-12, 2013.

Turner, T.D., Mapiye, C., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Lopez-Campos, O., López-Campos, Ó., Aalhus, J.L., and Dugan, F.M. (2013). "Inclusion of perirenal fat to enhance the bioactive fatty acid content of hamburger.", 2013, Banff, Alberta, Canada, June 18-20, 2013.

Dugat-Bony, E., Xu, Y., Cousteix, E., Zaheer, R., Munns, K., Selinger, L.B., McAllister, T.A., and Selinger, B. (2013). "Changes in bacterial community composition of *Escherichia coli* O157:H7 super-shedding cattle occur in the lower intestine.", 5th Congress of European Microbiologists (FEMS 2013), Leipzig, Germany, July 21-25, 2013.

Ding, S., He, M.L., de O. Ribeiro Junior, G., Alazzez, A.Y., Holo, H., Harstad, O.M., Meale, S.J., Chaves, A.V., and McAllister, T.A. (2013). "Effects of *Propionibacterium freudenreichii* on rumen methane production of beef finishing diets containing flax oils using a semi-continuous fermentation system (RUSITEC).", *Greenhouse Gases and Animal Agriculture*, Dublin, Ireland, June 23-26, 2013.

Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R. (2013). "Effects of feeding flaxseed and sunflower seed diets in high forage diets on biohydrogenation intermediates in adipose tissues of yearling steers.", ADSA-ASAS Joint Annual Meeting, Indianapolis, USA, July 2013. (Abstract)

Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R. (2013). "Effects of feeding flaxseed or sunflower seed in high forage diets on biohydrogenation intermediates in adipose tissues of yearling steers.", ADSA-ASAS Joint Annual Meeting, Indianapolis, USA, July 2013. (Abstract)

Avila-Stagno, J., Chaves, A.V., de O. Ribeiro Junior, G., Meale, S.J., Harstad, O.M., and McAllister, T.A. (2013). "Supplementing glycerol in forage diets increases in vitro methane production using a rumen simulation technique (RUSITEC).", *Greenhouse Gases and Animal Agriculture*, Dublin, Ireland, June 23-26, 2013.

Sura, S., Degenhardt, D., Peru, K.M., Bailey, J., Cessna, A.J., Lamey, F.J., McAllister, T.A., and Headley, J.V. (2013). "Analysis of veterinary antimicrobials in stockpiled feedlot manure using LC-ESI/MS/MS.", 26th Tandem Mass Spectrometry Workshop, Lake Louise, AB, Canada, December 4-7, 2013. (Poster)

- Sura, S., Degenhardt, D., Cessna, A.J., Lamey, F.J., Olson, A.F., and McAllister, T.A. (2013). "Transport of three veterinary antimicrobials from feedlot pens via simulated rainfall runoff.", 40th Aquatic Toxicology Workshop, Moncton, NB, Canada, October 6-9, 2013.
- Amarakoon, I.D., Sura, S., Zvomuya, F., McAllister, T.A., Lamey, F.J., Degenhardt, D., Cessna, A.J., and Xu, S. (2013). "Degradation kinetics of spiked vs. excreted chlortetracycline, sulfamethazine and tylosin during composting of beef cattle manure.", Canadian Society of Soil Science-Manitoba Soil Science Soc.-Can. Soc. Agric. Forest Meteorology Joint Ann. Meeting, Winnipeg, MB, Canada, July 22-25, 2013. (Abstract)
- McGeough, E.J., Little, S.M., Janzen, H.H., McAllister, T.A., McGinn, S.M., and Beauchemin, K.A. (2013). "Greenhouse gas emissions from dairying in Eastern Canada – Effects of varying dairy cow replacement rate.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P42, pp. 42. (Poster)
- Nair, J., Penner, G.B., Yu, P., Lardner, H.A., McAllister, T.A., and McKinnon, J.J. (2013). "Apparent nutrient digestibility and rumen fermentation characteristics of finishing diets supplemented with canola meal derived from *Brassica napus* or *Brassica juncea*.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P70-GS, pp. 54. (Poster)
- Harvey, A., Reuter, T.R., Selinger, L.B., Kingsley, A., and McAllister, T.A. (2013). "Compost Temperatures Reduce *Bacillus* Endospore Viability.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O25, pp. 13.
- Romao, J.M., Jin, W., He, M.L., McAllister, T.A., and Guan, L.L. (2013). "Bovine microRNAs: genomic organization and expression in subcutaneous adipose tissue.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O19-GS, pp. 10.
- Jin, L., Lynch, J.P., Duniere, L., Wang, Y., Baah, J., Beauchemin, K.A., and McAllister, T.A. (2013). "Ensiling properties of whole crop barley and intercropped barley-oat-spring triticale.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P63, pp. 51. (Poster)
- Jin, L., Lynch, J.P., Duniere, L., Wang, Y., Baah, J., Beauchemin, K.A., and McAllister, T.A. (2013). "Effect of inoculant containing *L. buchneri* on ensiling fermentation of whole barley crop.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P64, pp. 51. (Poster)
- McGeough, E.J., Beauchemin, K.A., and McAllister, T.A. (2013). "Effect of varying replacement rate on greenhouse gas emissions from dairying in Eastern Canada – Evaluation using farm based life cycle assessment.", Greenhouse Gases and Animal Agriculture, Dublin, Ireland, June 23-26, 2013.
- Munns, K., Xu, Y., Stanford, K.I.M., Selinger, L.B., and McAllister, T.A. (2013). "Whole genome sequencing of *Escherichia coli* O157:H7 isolates from super-shedder and non-super-shedder cattle.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P65-GS, pp. 52. (Poster)
- Ekine, C., Chen, L., Vinsky, M.D., Wang, Z., Stothard, P., Okine, E.K., Aldai, N., Dugan, M.E.R., McAllister, T.A., and Li, C. (2013). "Genetic influence of host animal on fatty acid composition in beef cattle tissues.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O18-GS, pp. 10.
- He, M.L., Jin, L., McAllister, T.A., and Marquess, F. (2013). "Interactions of cattle leptin genotype and dietary oilseeds and dried distiller's grain on fat accumulation, adipocyte size, and body fatty acid profile.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P58, pp. 49. (Poster)
- Jancewicz, L.J., Penner, G.B., Swift, M.-L., McKinnon, J.J., Beauchemin, K.A., and McAllister, T.A. (2013). "Accuracy of Predicting Feed Efficiency from the Starch Concentration in the Feces of Feedlot Cattle.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P69-GS, pp. 54. (Poster)
- Subramanian, S., McAllister, T.A., Baah, J., and Alexander, T.W. (2013). "Analysis of probiotic bacteria to inhibit the respiratory pathogen *Mannheimia haemolytica* and adhere to bovine bronchial epithelial cells in vitro.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P57, pp. 49. (Poster)
- Ding, S., Oba, M., Swift, M.-L., Yang, W.-Z., and McAllister, T.A. (2013). "The effect of malt characteristics on in situ digestibility of malt barley grain harvested in three years.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O07-GS, pp. 5.
- Nair, J., Penner, G.B., Yu, P., Lardner, H.A., McAllister, T.A., and McKinnon, J.J. (2013). "Evaluation of canola meal derived from *Brassica napus* versus *Brassica juncea* for growing and finishing cattle.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O08-GS, pp. 6.
- Klima, C.L., Zaheer, R., Hendrick, S., Alexander, T.W., and McAllister, T.A. (2013). "Agents of Bovine Respiratory Disease in North American Feedlots.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O13-GS, pp. 8.

Romao, J.M., Jin, W., He, M.L., McAllister, T.A., and Guan, L.L. (2013). "Bovine microRNAs: genomic organization and expression in subcutaneous adipose tissue.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O19-GS, pp. 10.

Vyas, D., McGeough, E.J., McGinn, S.M., McAllister, T.A., Smith, A.H., and Beauchemin, K.A. (2013). "Methane emissions in response to various *Propionibacterium* strains in beef heifers fed high forage diet.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P47, pp. 45. (Poster)

Reuter, T.R., Gilroyed, B.H., Xu, W., McAllister, T.A., and Stanford, K.I.M. (2013). "Microbial Biodegradation of Recalcitrant Beta-Sheet Rich Protein by Shifting Communities of Bacteria and Fungi During Composting.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O24, pp. 12.

Addah, W., Baah, J., McAllister, T.A., and Okine, E.K. (2013). "Effects of an esterase-producing inoculant and chop-length on silage fermentation, ruminal fermentation, growth performance and carcass characteristics of finishing feedlot steers.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O14-GS, pp. 8.

Niu, Y.D., Liu, H., Li, J.-Q., McAllister, T.A., and Stanford, K.I.M. (2013). "Simultaneous Inhibition of *E. coli* O157:H7, O26:H11, O145:NM and *Salmonella* Using a Single Bacteriophage.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P68, pp. 53. (Poster)

McAllister, T.A., He, M.L., McKinnon, J.J., Nair, J., Johnson, E.N., and Cheng, B.F. (2013). "Canola juncea - new meal in town.", Saskatchewan Beef and Forage Symposium, Saskatoon, SK, Canada, January 24, 2013. (Presentation)

Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R. (2013). "Beef production and quality of yearling steers fed high-forage diets with flaxseed or sunflower-seed.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P29, pp. 37. (Poster)

Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R. (2013). "Composition of biohydrogenation intermediates in intramuscular fat of yearling steers fed forage-based diets with supplemental flaxseed or sunflower-seed.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P28, pp. 36. (Poster)

Turner, T.D., Aalhus, J.L., Mapiye, C., Rolland, D.C., Larsen, I.L., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R. (2013). "Enriching hamburger with PUFA biohydrogenation products by supplementing steers fed high forage diets with either flaxseed or sunflower seed: Effects of adipose tissue source on palatability and fatty acid composition.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P20, pp. 32. (Poster)

Xu, Y., Dugat-Bony, E., Munns, K., Selinger, L.B., and McAllister, T.A. (2013). "Reliability and variability of 16S rRNA for microbial profiling of cattle feces.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P17, pp. 31. (Poster)

Vyas, D., McGeough, E.J., McGinn, S.M., McAllister, T.A., Beauchemin, K.A., and Smith, A.H. (2013). "Methane emissions in response to various *Propionibacterium* strains in beef heifers fed a high grain diet.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P46, pp. 44. (Poster)

Jin, L., He, M.L., Wang, Y., Alexander, T.W., Kraft, J., Li, C., Zhang, Y.G., and McAllister, T.A. (2013). "In vitro effects of echium oil and flaxseed oil on major rumen bacterial populations.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P48, pp. 45. (Poster)

Liu, H., Niu, Y., Li, J.-Q., Stanford, K.I.M., and McAllister, T.A. (2013). "In Vitro Efficacy of Bacteriophages T5, T4, T1 and O1 against *E. coli* O157:H7.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P60-GS, pp. 50. (Poster)

Jin, L., Kouzounde, J.B., Wang, Y., McAllister, T.A., and Groenewegen, P. (2013). "Differential effects of nitrogen sources including Optigen® II on in vitro rumen ammonia release.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P50, pp. 46. (Poster)

Conrad, C.C., Stanford, K.I.M., McAllister, T.A., Thomas, J.E., and Reuter, T.R. (2013). "Boosting Molecular Assays to Detect Pathogenic *Escherichia Coli* in Cattle.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O26, pp. 13.

Damiran, D., Jonker, A., McKinnon, J.J., McAllister, T.A., Christensen, D.A., Yari, M., Lardner, H.A., and Yu, P. (2013). "Effect of Substituting Oat Grain by Wheat-based Dried Distillers Grains with Solubles on Nutritional Profiles, Energy Values, Rumen Degradation Kinetics and Balance, and Metabolizable Protein Supply in Cattle.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P45, pp. 44. (Poster)

He, M.L., Jin, L., Wang, Y., Penner, G.B., and McAllister, T.A. (2013). "Effect of wheat vs barley and processing index on growth performance, eating behavior and carcass quality of finishing feedlot steers.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P52, pp. 47. (Poster)

He, M.L., Jin, L., Wang, Y., Penner, G.B., and McAllister, T.A. (2013). "Effect of replacing barley grain with wheat on rumen fermentation in finishing beef cattle.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P53, pp. 47. (Poster)

Hünerberg, M., Little, S.M., Beauchemin, K.A., McGinn, S.M., Harstad, O.M., Okine, E.K., and McAllister, T.A. (2013). "Farm-based life cycle assessment of greenhouse gas emissions from beef cattle fed dried distillers' grains plus solubles.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P43-GS, pp. 43. (Poster)

Amarakoon, I.D., Sura, S., Degenhardt, D., Lamey, F.J., Zvomuya, F., and McAllister, T.A. (2013). "Fate of veterinary antimicrobials with beef feedlot manure handling and land application practices.", Tri-Provincial Manure Management Workshop, Lethbridge, AB, Canada, March 20-21, 2013, Oral presentation.

## 2012

Gilroyed, B.H. and McAllister, T.A. (2012). "Defining the Fate of BSE and CWD in Specified Risk Materials Treated by Advanced Oxidation and/or Thermal Hydrolysis, Biodigestion, and Composting.", Joint PrioNet/APRI Networking and Collaboration Meeting 2012, Vancouver, BC, Canada, January 16-17, 2012.

Amarakoon, I.D., Sura, S., Degenhardt, D., Zvomuya, F., McAllister, T.A., Lamey, F.J., and Cessna, A.J. (2012). "Degradation of veterinary antimicrobials during composting of manure containing excreted antimicrobials vs. manure spiked with antimicrobials.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012, Oral presentation, pp. 52.

Pereira, E.O., Tsang, A., McAllister, T.A., and Menassa, R. (2012). "The expression and characterization of new active lipase from *Acremonium alcalophilum* using tobacco plants as bioreactor.", 8th Canadian Plant Biotechnology Conference, University of Guelph, Guelph, ON, Canada, May 14-17, 2012.

Hao, X., Lamey, F.J., and McAllister, T.A. (2012). "Effect of dried distillers' grains with solubles (DDGS) in cattle diets and windrow turning frequency on greenhouse gas emissions during feedlot manure composting.", 2012 World Congress on Advances in Civil, Environmental and Materials Research (ACEM'12), Seoul, South Korea, August 26-30, 2012, pp. 76.

Zhou, M., Hünerberg, M., Beauchemin, K.A., McAllister, T.A., Okine, E.K., and Guan, L.L. (2012). "Comparison of animal and dietary effects on ruminal methanogens and their association with protozoa in beef cattle.", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012. (Poster)

Schlau, N., Duineveld, L., Yang, W.-Z., McAllister, T.A., and Oba, M. (2012). "Effect of precision processing barley grain on dry matter intake, milk production, rumen pH and nutrient digestibility in lactating dairy cows.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

Hünerberg, M., McAllister, T.A., Beauchemin, K.A., McGinn, S.M., Harstad, O.M., and Okine, E.K. (2012). "Effect of dried distillers' grains with solubles on enteric methane emissions and nitrogen excretion from finishing beef cattle.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

Ekine, C., Aldai, N., Vinsky, M.D., Chen, L., Wang, Z., Stothard, P., Dugan, M.E.R., and McAllister, T.A. (2012). "Heritability and gene SNP associations with fatty acid composition in beef cattle.", 33rd Conference of the International Society of Animal Science, Cairns, Australia, July 15-20, 2012.

Amarakoon, I.D., Sura, S., Degenhardt, D., Zvomuya, F., McAllister, T.A., Lamey, F.J., and Cessna, A.J. (2012). "Dissipation of Fortified vs. Cattle Excreted Chlorotetracycline, Sulfamethazine and Tylosin During Manure Composting.", Canadian Society of Soil Science and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) are organizing the joint conference, Manoir St-Castin, Lac Beauport, Quebec, Canada, June 3-7, 2012.

McAllister, T.A. (2012). "Strategies to reduce emissions of greenhouse gases from livestock.", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012, Presentation.

Wang, Y., Xu, Z.J., Acharya, A., and McAllister, T.A. (2012). "Effect of sainfoin condensed tannins on the N transformation of alfalfa forage preserved as silage.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

McGeough, E.J., Chung, Y.-H., Beauchemin, K.A., McGinn, S.M., Harstad, O.M., and McAllister, T.A. (2012). "Methane emissions and diet digestibility from sheep offered diets varying in fat content and nutritive value", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012. (Poster)

McAllister, T.A., Agopowicz, C.A., and Stanford, K.I.M. (2012). "Antimicrobial resistance and genetic diversity among isolates of *Escherichia coli* O157:H7 from feces and hides of super-shedders and low-shedding pen-mates.", 8th International Symposium on Shiga Toxin (Verocytotoxin) Producing *Escherichia coli* Infections. VTEC 2012., Amsterdam, The Netherlands, May 6-9, 2012.

Avila, J.S., Meale, S.J., McAllister, T.A., He, M.L., Harstad, O.M., Beauchemin, K.A., McGinn, S.M., and Chaves, A.V. (2012). "Effect of replacing barley grain with glycerol in feedlot diets on nutrient digestibility, methane emissions, growth, fatty acid profiles and carcass traits of lambs.", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012. (Poster)

Hünerberg, M., McAllister, T.A., Beauchemin, K.A., and Okine, E.K. (2012). "Effect of dried distillers' grains plus solubles on enteric methane emissions and nitrogen excretion from finishing beef cattle.", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012. (Poster)

Hünerberg, M., McAllister, T.A., McGinn, S.M., Beauchemin, K.A., and Okine, E.K. (2012). "Use of dried distillers' grains with soluble to reduce enteric methane emissions from growing beef cattle.", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012. (Poster)

Storlien, T.M., Harstad, O.M., Almøy, T., Volden, H., Beauchemin, K.A., and McAllister, T.A. (2012). "Prediction of enteric methane production from dairy cows.", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012. (Poster)

Storlien, T.M., Beauchemin, K.A., McAllister, T.A., Prestløkken, E., Helberg, A., Galmeus, D., and Harstad, O.M. (2012). "The effect of including rape seed in the concentrate on enteric methane production from dairy cows on pasture.", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012. (Poster)

Chen, J., Harstad, O.M., McAllister, T.A., and Holo, H. (2012). "Mitigation of methane emissions from ruminants by feeding propionibacteria.", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012. (Poster)

McGeough, E.J., Little, S.M., Janzen, H.H., McAllister, T.A., McGinn, S.M., and Beauchemin, K.A. (2012). "Life-cycle assessment of greenhouse gas emissions from dairy production in Eastern Canada: A case study.", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012, Oral Presentation.

Avila, J.S., Meale, S.J., McAllister, T.A., Palmer, C.D., O'Hara, A.S., and Chaves, A.V. (2012). "Effect of replacing barley grain with wheat dry distillers grains with solubles on in situ degradation kinetics, growth, and fatty acid profiles of lambs.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

Gilroyed, B.H. and McAllister, T.A. (2012). "Investigation on the Uptake of Pathogenic Prion Protein by Plants Grown on Prion-Contaminated Soil.", Joint PrioNet/APRI Networking and Collaboration Meeting 2012, Vancouver, BC, Canada, January 16-17, 2012.

Zhou, M., Hünerberg, M., Beauchemin, K.A., McAllister, T.A., Okine, E.K., and Guan, L.L. (2012). "Comparison of animal and dietary effects on ruminal methanogens and their association with protozoa in beef cattle.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

McKinnon, J.J., Yang, W.-Z., and McAllister, T.A. (2012). "Alternatives to starch-based feeding programs for growing and finishing cattle.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

Jin, L., Xu, Z.J., Iwaasa, A.D., Zhang, Y.G., Schellenberg, M.P., McAllister, T.A., and Wang, Y. (2012). "Mixing purple prairie clover with alfalfa reduced alfalfa N transforming to ammonia-N.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

He, M.L., Hernandez-Calva, L.M., McAllister, T.A., Aalhus, J.L., Dugan, M.E.R., and McKinnon, J.J. (2012). "Inclusion of triticale dried distiller grains and flaxseed in feedlot cattle diets increases alpha-linolenic acid in beef without affecting carcass or meat quality traits.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

Petri, R.M., Schwaiger, T., Penner, G.B., Beauchemin, K.A., Forster, R.J., McKinnon, J.J., and McAllister, T.A. (2012). "From Forage to Grain: Community Structures of Rumen Epithelial Bacteria in Cattle.", General Meeting of the American Society for Microbiology, San Francisco, California, USA, June 16-19, 2012.

Liu, X.-L., Jin, L., Xu, Z.J., Hao, Y.-Q., McAllister, T.A., Lu, Z.-X., and Yang, W.-Z. (2012). "Condensed tannin of purple prairie clover inhibited anti-*Escherichia coli* activity through disrupting the outer and inner membrane.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.



- Rasmussen, J.D., Gilroyed, B.H., Reuter, T.R., Badea, A., Eudes, F., Graf, R.J., Laroche, A., Kav, N.N.V., and McAllister, T. A. (2012). "The uptake of functional proteins and infectious prions into major crop plants.", PrP Canada 2012 & Protein Folding Disease Conference, Toronto, Ontario, Canada, June 25-27, 2012, #64, pp. 122. (Poster)
- Addah, W., Baah, J., Okine, E.K., and McAllister, T.A. (2012). "Effects of an esterase-producing inoculant and chop-length on fermentation and aerobic stability of barley silage.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.
- Mapiye, C., Dugan, M.E.R., Turner, T.D., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., and Aalhus, J.L. (2012). "Relationships of trans-18:1 isomers between red blood cells and beef tissues in steers fed red clover silage with/without flaxseed.", 58th International Congress of Meat Science and Technology, Montreal, Canada, August 12-17, 2012.
- Selinger, L.B., Barbieri, L.R., Garland, S., Munns, K., Dobson, A., Loftus, R., McAllister, T.A., and Selinger, B. (2012). "The incidence of feedlot cattle shedding high levels of *Escherichia coli* O157:H7.", 8th International Symposium on Shiga Toxin (Verocytotoxin) Producing *Escherichia coli* Infections. VTEC 2012., Amsterdam, The Netherlands, May 6-9, 2012.
- Munns, K., Selinger, L., Selinger, L.B., and McAllister, T. A. (2012). "Characterization of *Escherichia coli* O157:H7 shedding from supershedder feedlot cattle.", 1st Annual Biology Graduate Research Symposium, University of Lethbridge, Lethbridge, Alberta, Canada, January 20, 2012.
- Munns, K., Selinger, L., Selinger, L.B., and McAllister, T.A. (2012). "Persistence of *Escherichia coli* O157:H7 shedding from supershedder feedlot cattle.", 8th International Symposium on Shiga Toxin (Verocytotoxin) Producing *Escherichia coli* Infections. VTEC 2012., Amsterdam, The Netherlands, May 6-9, 2012.
- Niu, Y.D., Stanford, K.I.M., Ackermann, H.-W., and McAllister, T. A. (2012). "Characterization of Four T1-like Lytic Bacteriophages that Lyse Shiga-toxin Producing *Escherichia coli* O157:H7.", 8th International Symposium on Shiga Toxin (Verocytotoxin) Producing *Escherichia coli* Infections. VTEC 2012., Amsterdam, The Netherlands, May 6-9, 2012.
- Alazzeah, A.Y., McAllister, T.A., Beauchemin, K.A., Wang, Y., Holo, H., and Harstad, O.M. (2012). "Potential of Propionibacteria to Mitigate Methane In Vitro.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.
- Chung, Y.-H., He, M.L., McGinn, S.M., McAllister, T.A., and Beauchemin, K.A. (2012). "Methane suppressing effect of flaxseed in diets containing hay or silage.", *Journal of Animal Science*, 88(Suppl. 2), pp. 871-872 (#1136). (Abstract)
- Amarakoon, I.D., Sura, S., Degenhardt, D., Zvomuya, F., McAllister, T.A., Lamey, F.J., and Cessna, A.J. (2012). "Dissipation of fortified vs. excreted chlortetracycline, sulfamethazine and tylosin during composting of beef cattle manure.", 55th Annual Manitoba Soil Science Society Meeting, Winnipeg, MB, Canada, February 2-3, 2012. (Poster)
- Gilroyed, B.H. and McAllister, T.A. (2012). "Investigation on the potential uptake of infectious prion protein by plants grown on prion-contaminated soil.", Joint PrionNet/APRI Networking and Collaboration Meeting 2012, Vancouver, BC, Canada, January 16-17, 2012.
- Ding, S., Meale, S.J., He, M.L., Long, J., Alazzeah, A.Y., McAllister, T.A., and Chaves, A.V. (2012). "Effect of Propionibacterium freudenreichii supplementation in diets containing canola or flaxseed oil on in vitro methanogenesis and lipid biohydrogenation.", *Journal of Animal Science*, 90(Suppl. 3), pp. 627 (#W362). (Abstract)
- Alazzeah, A.Y., Sultana, H., McAllister, T.A., Beauchemin, K.A., Wang, Y., Holo, H., and Harstad, O.M. (2012). "In Vitro Methane Mitigation by Different Strains of Propionibacteria.", NJF Nordic Association of Agricultural Scientists.: Seminar no. 453., Climate and Pollution Agency (KLIF), Oslo, Norway, November 5-6, 2012. (Presentation)
- Narvaez, N., Wang, Y., and McAllister, T.A. (2012). "Effects of monensin and extracts of hops and *Yucca schidigera* applied alone or in combination on rumen fermentation in vitro.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, W374. (Poster)
- Avila, J.S., Meale, S.J., McAllister, T.A., He, M.L., Harstad, O.M., Beauchemin, K.A., McGinn, S.M., and Chaves, A.V. (2012). "Effect of replacing barley grain with glycerol in feedlot diets on nutrient digestibility, methane emissions, growth, fatty acid profiles and carcass traits of lambs.", *Journal of Animal Science*, 90(Suppl. 3). (Abstract)
- Amarakoon, I.D., Sura, S., Degenhardt, D., Zvomuya, F., McAllister, T.A., Lamey, F.J., and Cessna, A.J. (2012). "Microwave-assisted extraction of chlortetracycline, sulfamethazine and tylosin from cattle manure.", 47th Annual Western Canada Trace Organic Workshop, Saskatoon, SK, Canada, April 22-25, 2012. (Abstract)
- Niu, Y.D., Stanford, K.I.M., Ackermann, H.-W., and McAllister, T.A. (2012). "Characterization of 4 T1-like lytic bacteriophages that lyse Shiga-toxin *Escherichia coli* O157:H7.", *Zoonoses and Public Health*, 59(S1), pp. 19-90, # 224. (Abstract)
- McGeough, E.J., Chung, Y.-H., Beauchemin, K.A., McGinn, S.M., and McAllister, T.A. (2012). "Methane emissions and diet digestibility for sheep offered diets varying in fat content and forage quality.", *Journal of Animal Science*, 90(Suppl. 3), pp. 129-130 (#M352). (Abstract)

Alexander, T.W. and McAllister, T.A. (2012). "Manipulating the ruminant microbiota to improve production.", 48th Annual Eastern Nutrition Conference of the Animal Nutrition Association of Canada (ANAC), Kitchener, ON, Canada, May 9-10, 2012.

Alexander, T.W., Wright, A.-D.G., and McAllister, T.A. (2012). "Comparison of the Bacterial Microbiota in Nasopharyngeal Samples from Cattle Treated for Bovine Respiratory Disease and Cattle with no History of Disease.", 112th General Meeting of American Society for Microbiology, San Francisco, CA, USA, June 15-19, 2012.

Yang, W.-Z., McAllister, T.A., and Oba, M. (2012). "Precision processing barley grain improved feeding value of barley grain in beef cattle.", ADSA-AMPA-ASAS-CSAS-WSASAS Joint Annual Meeting, Phoenix, AZ, USA, July 15-19, 2012. (Presentation)

He, M.L., McAllister, T.A., and Gibb, D.J. (2012). "Effect of canola meal on growth performance, carcass quality and meat fatty acid profiles of feedlot cattle.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012.

Schlau, N., Duineveld, L., Yang, W.-Z., McAllister, T.A., and Oba, M. (2012). "Precision processing barley grain improved feeding value of barley grain in beef cattle.", ADSA-AMPA-ASAS-CSAS-WSASAS Joint Annual Meeting, Phoenix, AZ, USA, July 15-19, 2012. (Presentation)

Alexander, T.W. and McAllister, T.A. (2012). "Manipulating the ruminant microbiota to improve production.", DSM Pharmaceuticals Conference: Probiotics, Rheinfelden, Switzerland, February 1-2, 2011. (Presentation)

Yang, W.-Z. and McAllister, T.A. (2012). "Develop fecal starch index to predict feeding value of barley grain in feedlot cattle.", ADSA-AMPA-ASAS-CSAS-WSASAS Joint Annual Meeting, Phoenix, AZ, USA, July 15-19, 2012. (Presentation)

Hünerberg, M., Holtshausen, L., McAllister, T.A., Beauchemin, K.A., and Okine, E.K. (2012). "In vitro methane production from increasing levels of corn- or wheat-based dried distillers grains with solubles.", Journal of Animal Science, 88(Suppl. 2), pp. 425 (#T361). (Abstract)

## 2011

Qi, M., Wang, P., O'Toole, N., Barboza, P.S., Leigh, M.B., Selinger, L.B., Butler, G., Tsang, A., McAllister, T.A., and Forster, R.J. (2011). "Snapshot of the eukaryotic gene expression in muskoxen rumen - A metatranscriptomic approach.", 26th Fungal Genetics Conference (26th FCG), Asilomar, CA, USA, March 15-20, 2011, # 107, pp. 144. (Poster)

Prieto, N., Dugan, M.E.R., López-Campos, Ó., McAllister, T.A., Aalhus, J.L., and Uttaro, B. (2011). "Predicting the content of polyunsaturated fatty acids and biohydrogenation products in subcutaneous fat of beef cows fed flaxseed by near infrared reflectance spectroscopy.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.

McLean, K.L., Dugan, M.E.R., McAllister, T.A., Basu, U., Li, C., He, M.L., Aalhus, J.L., Guan, L.L., and Fitzsimmons, C.J. (2011). "Identifying gene expression differences associated with a diet-induced increase of omega-3 fatty acids in beef cattle.", Plant & Animal Genome XIX Conference, Town & Country Convention Center, San Diego, CA, USA, January 15-19, 2011, P708.

Li, C., Vinsky, M.D., Ekine, C., Zeng, Z., Dugan, M.E.R., Aldai, N., and McAllister, T.A. (2011). "A multiple candidate gene association approach to identifying single nucleotide polymorphisms (SNP) associated with fatty acid composition in commercial crossbred beef steers.", Gordon Research Conferences on Quantitative Genetics and Genomics, Galveston, TX, USA, February 20-25, 2011. (Poster)

Yang, W.-Z., McAllister, T.A., and Beauchemin, K.A. (2011). "Use of wheat-based dried distillers grains studied?", Prairie Post - Bull Breeders, 2011, pp. A8.

Lamey, F.J., Cessna, A.J., Kuchta, S.L., Hao, X., Entz, T., Topp, E., and McAllister, T.A. (2011). "Composting effects on antibiotics in feedlot manure.", Manure Management Update 2011, Lethbridge, AB, Canada, January 17, 2011, pp. 46-54.

Gilroyed, B.H., Li, C.L., McAllister, T.A., and Hao, X. (2011). "Anaerobic fermentative hydrogen production using manure from cattle fed on a modified distiller's grain diet", 48th Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 15-17, 2011, pp. 19. (Workshop)

Li, C.L., Hao, X., Yang, G., Schoenau, J.J., and McAllister, T.A. (2011). "Greenhouse gas emission from soil amended with DDGS cattle manure and compost: The effect of condensed tannin co-application.", 48th Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 15-17, 2011, pp. 23. (Workshop)

Hao, X., Li, C.L., and McAllister, T.A. (2011). "Greenhouse gas emission from stockpiling cattle feedlot manure.", 48th Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 15-17, 2011, pp. 24. (Workshop)

Gilroyed, B.H., Reuter, T.R., Braithwaite, S.L., Czub, S., Graham, C., Neumann, N.F., and McAllister, T.A. (2011). "Prion detection during anaerobic digestion of specified risk materials using protein misfolding cyclic amplification (PMCA) and immunoquantitative real-time PCR (iQ-RT-PCR).", PRION 2011, Montréal, QC, Canada, May 16-19, 2011.

McAllister, T.A., Gibb, D.J., Van Herk, F.H., and McKinnon, J.J. (2011). "Non-traditional sources of energy for feedlot cattle.", Saskatchewan 2011 Beef and Forage Symposium, Saskatoon, SK, Canada, January 19-20, 2011.

Addah, W., Baah, J., Barkley, C., Wilde, R.E., Okine, E.K., and McAllister, T.A. (2011). "Use of infrared thermography to assess the aerobic stability of silage.", 32nd Western Nutrition Conference: Quality from Complexity, Crowne Plaza Chateau Lacombe, Edmonton, AB, Canada, September 14-15, 2011.

Addah, W., Baah, J., Okine, E.K., and McAllister, T.A. (2011). "Thermal infrared assessment of aerobic stability of barley silage ensiled with or without an esterase silage inoculant in large silos.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.

Beauchemin, K.A., McGeough, E.J., Little, S.M., Janzen, H.H., McAllister, T.A., McGinn, S.M., and Maclean, K. (2011). "The HolosModel: reflections on progress and future plans.", Norway, June 2011. (Presentation)

Addah, W., Baah, J., Okine, E.K., and McAllister, T.A. (2011). "Effects of applying a feroul esterase silage inoculant at ensiling on in situ neutral detergent fibre disappearance of barley silage.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.

Degenhardt, D., Lamey, F.J., Cessna, A.J., Sura, S., Olson, A.F., and McAllister, T.A. (2011). "Dissipation of three veterinary antimicrobials in feedlot manure stockpiles.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Abstract)

Addah, W., Baah, J., Okine, E.K., and McAllister, T.A. (2011). "A ferulic acid esterase silage inoculant improves barley silage fermentation, aerobic stability and efficiency of feed use by growing feedlot cattle.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.

Hallewell, J., McAllister, T.A., Thomas, J., Booker, C.W., Hannon, S., and Stanford, K.I.M. (2011). "Fecal shedding and persistence of *Escherichia coli* O157:H7 from cattle fed finishing diets containing corn or wheat distillers grains with solubles.", 46th Annual Pacific Northwest Nutrition Conference, Portland, OR, USA, October 4-5, 2011. (Poster)

Hünerberg, M., McAllister, T.A., McGinn, S.M., Beauchemin, K.A., and Okine, E.K. (2011). "Effect of dried distillers' grains with solubles on enteric methane emissions from finishing beef cattle.", 32nd Western Nutrition Conference: Quality from Complexity, Crowne Plaza Chateau Lacombe, Edmonton, AB, Canada, September 14-15, 2011.

Klima, C.L., McAllister, T.A., Hendrick, S., and Alexander, T.W. (2011). "Antimicrobial susceptibility and genetic characterization of *Mannheimia haemolytica* isolates from the nasopharynx of feedlot cattle in western Canada.", Antimicrobial stewardship in Canadian agriculture and veterinary medicine conference: How is Canada doing and what still needs to be done?, Toronto Airport, Toronto, ON, Canada, October 30-November 2, 2011.

Braithwaite, S.L., Price, L.M., Gilroyed, B.H., Reuter, T.R., Czub, S., Graham, C., Balachandran, A., McAllister, T.A., Belosevic, M., and Neumann, N.F. (2011). "Detection of prions in anaerobic digestion sludge by PMCA 1.", PRION 2011, Montréal, QC, Canada, May 16-19, 2011.

Jin, L., Zhang, Y.G., Iwaasa, A.D., Schellenberg, M.P., Xu, Z.J., McAllister, T.A., and Wang, Y. (2011). "Effect of incorporation of purple prairie clover (*Petalostemon purpureum*) into cool season grasses mixture on in vitro ruminal fermentation.", *Canadian Journal of Animal Science*, 91(3), pp. 476. (Abstract)

Okine, E.K., Aldai, N., Vinsky, M.D., Chen, L., Zeng, Z., Wang, Z., Stothard, P., Dugan, M.E.R., McAllister, T.A., and Li, C. (2011). "A multiple candidate-gene association approach to identifying single nucleotide polymorphisms (SNP) associated with fatty acid composition in commercial crossbred beef steers.", *Livestock Genetics's 2nd Annual Conference: Addressing the Gap Between Discovery and Profitable Adoption*, Edmonton, AB, Canada, October 19-20, 2011. (Poster)

Niu, Y.D., Stanford, K.I.M., Kropinski, A.M., Ackermann, H.-W., Johnson, R.P., Ahmed, R., Villegas, A., and McAllister, T.A. (2011). "A T5-like bacteriophage with high virulence and specificity for *E. coli* O157:H7.", 19th Evergreen International Phage Biology Meeting, Evergreen State College, Olympia, WA, USA, August 7-12, 2011, #67. (Abstract)

Niu, Y.D., Stanford, K.I.M., and McAllister, T.A. (2011). "The use of bacteriophage to control *Escherichia coli* O157:H7 on farm.", *Alltech's 27th International Animal Health and Nutrition Industry Symposium*, Lexington, KY, USA, May 22-25, 2011. (Abstract)

Stanford, K.I.M., Stephens, T.P., McAllister, T.A., Niu, Y.D., and Johnson, R.P. (2011). "Oral delivery systems for encapsulated bacteriophages targeted to *E. coli* O157:H7.", *ADSA-CSAS-ASAS 2009 Joint Annual Meeting*, Montréal Convention Center, Montréal, QC, Canada, July 12-16, 2009, Published in: *Journal of Animal Science*, 87(E. Suppl. 2), pp. 179, # 212. (Abstract)

Gilroyed, B.H., McAllister, T.A., Reuter, T.R., and Xu, S. (2011). "The Fate of Scrapie Prion and Specified Risk Material in Compost.", *Joint PrionNet/APRI Networking and Collaboration Meeting 2011*, Olds, AB, Canada, June 16, 2011.

Jin, L., Zhang, Y.G., Iwaasa, A.D., Schellenberg, M.P., Xu, Z.J., McAllister, T.A., and Wang, Y. (2011). "Fecal shedding of *Escherichia coli* of cattle grazing pastures with and without purple prairie clover (*Petalostemon purpureum*).", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011, TDC-2. (Poster)

Lamey, F.J., Cessna, A.J., and McAllister, T.A. (2011). "Composting effects on antibiotic in feedlot manure.", *County of Lethbridge Newsletter*, 2011 (Winter).

- Jin, L., Zhang, Y.G., Iwaasa, A.D., Schellenberg, M.P., Xu, Z.J., McAllister, T.A., and Wang, Y. (2011). "Effect of incorporation of purple prairie clover (*Petalostemon purpureum*) into cool season grasses mixture on in vitro ruminal fermentation.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011, FPE-3. (Poster)
- Yang, W.-Z., Li, Y.L., McAllister, T.A., and Beauchemin, K.A. (2011). "The use of wheat-based dried distillers grains as a source of energy and roughage in finishing rations.", Open House & Field Day at the Lethbridge Research Centre 2011, Lethbridge, AB, Canada, July 20, 2011.
- Jin, L., Xu, Z.J., Iwaasa, A.D., Zhang, Y.G., Schellenberg, M.P., McAllister, T.A., and Wang, Y. (2011). "Nutrient and tannin contents of purple prairie clover (*Petalostemon purpureum*) harvested at different growth stages.", ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 11-14, 2011, M#127. (Poster)
- Jin, L., Xu, Z.J., Iwaasa, A.D., Schellenberg, M.P., Zhang, Y.G., McAllister, T.A., and Wang, Y. (2011). "Nutrient and tannin contents of purple prairie clover (*Petalostemon purpureum*) harvested at different growth stages.", *Journal of Animal Science*, 89(E-Suppl. 1), pp. 48. (Abstract)
- Jin, L., Xu, Z.J., Iwaasa, A.D., Zhang, Y.G., Schellenberg, M.P., McAllister, T.A., and Wang, Y. (2011). "Effect of tannins on in vitro ruminal degradability of purple prairie clover (*Petalostemon purpureum*) harvested at two growth stages in the Daisy II Fermentation System.", *Journal of Animal Science*, 89(E-Suppl. 1), pp. 387. (Abstract)
- McAllister, T.A., Yang, W.-Z., and Oba, M. (2011). "Matching processing with grain size.", 32nd Western Nutrition Conference: Quality from Complexity, Crowne Plaza Chateau Lacombe, Edmonton, AB, Canada, September 14-15, 2011.
- Gilroyed, B.H., McAllister, T.A., Reuter, T.R., and Xu, S. (2011). "Fate of Prions in Full Scale Mortality Composting.", Joint PrioNet/APRI Networking and Collaboration Meeting 2011, Olds, AB, Canada, June 16, 2011.
- McAllister, T.A., Hallewell, J., Thomas, J., and Stanford, K.I.M. (2011). "Shedding and persistence of *Escherichia coli* O157:H7 from cattle fed distillers dried grain with solubles.", Insights into Use of DDGS in Western Canadian Feedlot Diets, Lethbridge Lodge Hotel, Lethbridge, AB, Canada, June 9, 2011.
- Jin, L., Zhang, Y.G., Iwaasa, A.D., Schellenberg, M.P., Xu, Z.J., McAllister, T.A., and Wang, Y. (2011). "Fecal shedding of *Escherichia coli* of cattle grazing pastures with and without purple prairie clover (*Petalostemon purpureum*).", *Canadian Journal of Animal Science*, 91(3), pp. 503. (Abstract)
- Niu, Y.D., Stanford, K.I.M., Kropinski, A.M., Johnson, R.P., Ahmed, R., Villegas, A., and McAllister, T.A. (2011). "A T5-like bacteriophage with high virulence and specificity for *Escherichia coli* O157:H7.", ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 10-14, 2011.
- Jin, L., Xu, Z.J., Iwaasa, A.D., Zhang, Y.G., Schellenberg, M.P., McAllister, T.A., and Wang, Y. (2011). "Effect of tannins on in vitro ruminal degradability of purple prairie clover (*Petalostemon purpureum*) harvested at two growth stages in the Daisy II Fermentation System.", ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 11-14, 2011, T356. (Poster)
- Baah, J., Addah, W., Okine, E.K., and McAllister, T.A. (2011). "Effects of homo-lactic bacterial inoculant alone or combined with an anionic surfactant on fermentation, aerobic stability and in situ ruminal degradability of barley silage.", *Asian-Australasian Journal of Animal Science*, 24(3), pp. 369-378.
- Gilroyed, B.H., McAllister, T.A., Reuter, T.R., and Xu, S. (2011). "Detection of Prions by Immuno-Quantitative Real Time PCR (iQ-RT-PCR).", Joint PrioNet/APRI Networking and Collaboration Meeting 2011, Olds, AB, Canada, June 16, 2011.
- Amarakoon, I.D., Zvomuya, F., Degenhardt, D., Cessna, A.J., McAllister, T.A., Lamey, F.J., and Farenhorst, A. (2011). "Antimicrobial transport in simulated rainfall runoff from cropland amended with solid beef cattle manure.", 3rd International Conference on Occurrence, Fate, Effects and Analysis of Emerging Contaminants in the Environment, Copenhagen, Denmark, August 23-26, 2011. (Poster)
- Amarakoon, I.D., Zvomuya, F., Degenhardt, D., Cessna, A.J., Lamey, F.J., and McAllister, T.A. (2011). "Antimicrobial transport in simulated rainfall runoff from cropland amended with solid beef cattle manure.", 46th Annual Western Canada Trace Organic Workshop, Edmonton, AB, Canada, May 8-11, 2011. (Abstract)
- McAllister, T.A., Alexander, T.W., Cook, S.R., Yanke, L.J., and Zaheer, R. (2011). "Molecular Ecology of Antimicrobial Resistance in the Feedlot.", Antimicrobial Stewardship in Canadian Agriculture and Veterinary Medicine: How is Canada doing and what still needs to be done?, Toronto Airport, Toronto, ON, Canada, October 30- November 2, 2011.
- Acharya, S.N., Iwaasa, A.D., McAllister, T.A., Wang, Y., and Thomas, J. (2011). "Animal performance and incidence of bloat in mixed alfalfa/sainfoin grazing.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.
- Christensen, C.R., McKinnon, J.J., McAllister, T.A., Zijlstra, R., Van Kessel, A.G., Anweiller, D., Fonstad, T.A., Pozniak, C.J., Hobbs, J., and Smyth, S. (2011). "The Feed Opportunities from the Biofuels Industries: A Canadian Research Network.", 102nd American Oil Chemist Society Annual Meeting and Expo, Cincinnati, Ohio, USA, May 1-4, 2011.
- Acharya, S.N., Iwaasa, A.D., Coulman, B., Jefferson, P.G., McAllister, T.A., and Wang, Y. (2011). "New sainfoin keepspace with alfalfa for safe grazing.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

Yang, W.-Z., McAllister, T.A., and Oba, M. (2011). "In vitro digestion and gas production of wheat grain varying processing.", ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 10-14, 2011.

Aldai, N., Aalhus, J.L., Mantecon, A., McKinnon, J.J., and McAllister, T.A. (2011). "Comparison of wheat- versus corn-based dried distillers' grains with solubles on muscle fatty acid composition of feedlot cattle.", BSAS/ASF/AVTRW Conference, Jubilee Campus Nottingham University, Nottingham, UK, April 4-5, 2011, Reference Number: 0228.

Li, C.L., Hao, X., Yang, G., Schoenau, J.J., and McAllister, T.A. (2011). "Greenhouse Gas Emissions from Soil Amended with Cattle Manure and Compost - The Effect of Condensed Tannin Co-applications.", 48th Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 15-17, 2011.

Wu, R.-B., Alexander, T.W., Li, J.-Q., Munns, K., Sharma, R., and McAllister, T.A. (2011). "Characterization of class 1 integrons and resistance genes in antimicrobial-resistant *Escherichia coli* in beef cattle.", Antimicrobial stewardship in Canadian agriculture and veterinary medicine conference: How is Canada doing and what still needs to be done?, Toronto Airport, Toronto, ON, Canada, October 30-November 2, 2011.

Reuter, T.R., Alexander, T.W., and McAllister, T.A. (2011). "Detection of genetically modified feed and food.", in Fink-Gremmels, J. (ed.) - Animal Feed Contamination: Effects on Livestock and Food Safety, Woodhead Publishing, Cambridge, UK.

Zaheer, R., Cook, S.R., Klima, C.L., Read, R.R., Alexander, T.W., and McAllister, T.A. (2011). "Characterization of *Mannheimia haemolytica* and other erythromycin resistant nasopharyngeal microbes from macrolide-treated feedlot cattle.", Antimicrobial stewardship in Canadian agriculture and veterinary medicine conference: How is Canada doing and what still needs to be done?, Toronto Airport, Toronto, ON, Canada, October 30-November 2, 2011.

Beauchemin, K.A., McGeough, E.J., Little, S.M., Janzen, H.H., McAllister, T.A., McGinn, S.M., and Maclean, K. (2011). "GHG modelling activities: an overview.", Seminar on Greenhouse Gases from Agriculture, Norwegian University of Life Sciences, Norway, June 29, 2011. (Presentation)

Benedict, K., Gow, S.P., Reid-Smith, R., Booker, C.W., McAllister, T.A., and Morley, P.S. (2011). "Evaluation of resistance classification accuracy by latent class analysis of data from disk diffusion and broth microdilution for *Escherichia coli* and *Mannheimia haemolytica*.", Canadian Association of Veterinary Epidemiology and Preventive Medicine (CAVEPM) 2011 Conference, St. Hyacinthe, Quebec, Canada, May 26-27, 2011, pp. 62.

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## Research Publications:

2015

Brown, P.D., Randhawa, H.S., Fetch, J.M., Fox, S.L., Humphreys, D.G., Meiklejohn, M., Green, D.A., Wise, I.L., Fetch Jr., T.G., Gilbert, J., McCallum, B.D., and Menzies, J.G. (2015). "AAC Foray red spring wheat.", *Canadian Journal of Plant Science*, 95(4), pp. 799-803. doi: 10.4141/cjps-2015-007

Brown, P.D., Randhawa, H.S., Fetch, J.M., Meiklejohn, M., Fox, S.L., Humphreys, D.G., Green, D.A., Wise, I.L., Fetch Jr., T.G., Gilbert, J., McCallum, B.D., and Menzies, J.G. (2015). "AAC Tenacious red spring wheat.", *Canadian Journal of Plant Science*, 95(4), pp. 805-810. doi: 10.4141/cjps-2015-011

Wang, X., McCallum, B.D., Fetch Jr., T.G., Bakkeren, G., and Saville, B.J. (2015). "Sr36- and Sr5-mediated resistance response to *Puccinia graminis* sp. *tritici* is associated with callose deposition in wheat guard cells.", *Phytopathology*, 105(6), pp. 728-737. doi: 10.1094/PHYTO-08-14-0213-R

Zhang, P., Hiebert, C.W., McIntosh, R.A., McCallum, B.D., Thomas, J.B., Hoxha, S., Singh, D., and Bansal, U. (2015). "The relationship of leaf rust resistance gene Lr13 and hybrid necrosis gene Ne2m on wheat chromosome 2BS.", *Theoretical and Applied Genetics (TAG)*, pp. 1-9. doi: 10.1007/s00122-015-2642-6

Hiebert, C.W., Spielmeyer, W., McCartney, C., Kassa, M.T., Fetch Jr., T.G., You, F.M., Menzies, J.G., Humphreys, D.G., and McCallum, B.D. (2015). "Stem rust resistance: two approaches.", in Ogihara, Y. et al. (eds.) - *Proceedings of the 12th International Wheat Genetics Symposium*, Springer, Chapter 20, pp. 183-191.

Chen, D., Hu, X.S., Wang, X., Deschiffart, I., Sperry, H., Xue, A.G., Chen, Y.Y., Langille, L., Dion, Y., McCallum, B.D., Voldeng, H.D., and Khanizadeh, S. (2015). "Agronomic performance and susceptibility of selected spring wheat lines to fusarium head blight and leaf rust in Eastern Canada.", *Journal of Food, Agriculture & Environment (JFAE)*, 13(3&4), pp. 86-89.

Panwar, V., McCallum, B.D., and Bakkeren, G. (2015). "A functional genomics method for assaying gene function in phytopathogenic fungi through host-induced gene silencing mediated by Agroinfiltration.", in Mysore, K.S. and Senthil-Kumar, M. - *Methods in Molecular Biology Series*, Springer New York, Chapter 13, pp. 179-189.

2014

Hiebert, C.W., McCallum, B.D., and Thomas, J.B. (2014). "Lr70, a new gene for leaf rust resistance mapped in common wheat accession KU3198.", *Theoretical and Applied Genetics (TAG)*, 127(9), pp. 2005-2009. doi: 10.1007/s00122-014-2356-1

Dakouri, A., McCallum, B.D., and Cloutier, S. (2014). "Haplotype diversity and evolutionary history of the Lr34 locus of a world wheat germplasm collection.", *Molecular Breeding*, 33(3), pp. 639-655. doi: 10.1007/s11032-013-9981-2

Rosa, S.B., McCallum, B.D., Brûlé-Babel, A.L., and Seto-Goh, P.L. (2014). "Double artificial inoculation of *Puccinia triticina* for the study of wheat leaf rust resistance.", *Canadian Journal of Plant Pathology*, 36(1), pp. 83-88. doi: 10.1080/07060661.2013.878753

Kumar, S., Wang, Z.N., Banks, T.W., Jordan, M.C., McCallum, B.D., and Cloutier, S. (2014). "Lr1-mediated leaf rust resistance pathways of transgenic wheat lines revealed by a gene expression study using the Affymetrix GeneChip® Wheat Genome Array.", *Molecular Breeding*, 34(1), pp. 127-141. doi: 10.1007/s11032-014-0022-6

Seifers, D.L., Haber, S.M., Martin, T.J., and McCallum, B.D. (2014). "Heritable, De novo Resistance to Leaf Rust and other Novel Traits in Selfed Descendants of Wheat Responding to Inoculation with Wheat Streak Mosaic Virus.", *PLoS ONE*, 9(1): e86307. doi: 10.1371/journal.pone.0086307

Cabral, A.L., Gnanesh, B.N., Mitchell Fetch, J.W., McCartney, C.A., Fetch Jr., T.G., Park, R.F., Menzies, J.G., McCallum, B.D., Nanaiah, G.K., and Goyal, A. (2014). "Oat Fungal Diseases and the Application of Molecular Marker Technology for Their Control.", in Goyal, A. and Manoharachary, C. - *Future Challenges in Crop Protection Against Fungal Pathogens*, Fungal Biology, Springer Science + Business Media, pp. 343-358.

Fetch Jr., T.G. and McCallum, B.D. (2014). "Increased virulence of wheat rusts and the threat to global crop protection.", .

Humphreys, D.G., Brûlé-Babel, A.L., Brule-Babel, A., DePauw, R.M., Fetch Jr., T.G., and McCallum, B.D. (2014). "Agronomic suitability of German spring wheat sources of Fusarium Head Blight resistance for western Canada.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

McCallum, B.D. and Thomas, J.B. (2014). "Lr34 is the Key to the Durable Leaf Rust Resistance in the Canadian cultivar Pasqua.", Borlaug Global Rust Initiative Technical Workshop, Obregon, México.

McCartney, C.A., Brûlé-Babel, A.L., Fedak, G., Martin, R.C., McCallum, B.D., Gilbert, J.R., Blackwell, B.A., Spaner, D.M., Pozniak, C.J., and N'Daiye, A. (2014). "Studies of the genetics of FHB resistance.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Randhawa, H.S., Singh, D., Pozniak, C.J., McCallum, B.D., Fetch Jr., T.G., Goyal, A., and Graf, R.J. (2014). "Genetic mapping of stem, leaf and stripe rust resistance in a spring wheat population using a 90K SNP Infinium iSelect assay.", EUCARPIA-ITMI 2014.

Zhang, W., Boyle, K., Gao, P., McCallum, B.D., and Fobert, P. (2014). "A comparative transcriptome analysis to dissect host-pathogen interactions.", Borlaug Global Rust Initiative (BGRI) Technical Workshop 2014, CIMMYT, México, March 2014.

Zhang, W., Boyle, K., Gao, P., Francis, T., McCallum, B.D., and Fobert, P. (2014). "A comparative transcriptome analysis to dissect host-pathogen interactions.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Humphreys, D.G., Townley-Smith, T.F., Lukow, O.M., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Tkachuk, V.L., Brown, P.D., and Fox, S.L. (2014). "Peace hard red spring wheat.", Canadian Journal of Plant Science, 94(7), pp. 1297-1302. doi : 10.4141/CJPS2013-286

## 2013

Panwar, V., McCallum, B.D., and Bakkeren, G. (2013). "Endogenous silencing of *Puccinia triticina* pathogenicity genes through in planta-expressed sequences leads to the suppression of rust diseases on wheat.", Plant Journal, 73(3), pp. 521-532. doi : 10.1111/tpj.12047

Dakouri, A., McCallum, B.D., Radovanovic, N., and Cloutier, S. (2013). "Molecular and phenotypic characterization of seedling and partial leaf rust resistance in a world wheat collection.", Molecular Breeding, 32(3), pp. 663-677. doi : 10.1007/s11032-013-9899-8

McCallum, B.D., Seto-Goh, P.L., and Xue, A.G. (2013). "Physiologic specialization of *Puccinia triticina*, the causal agent of wheat leaf rust, in Canada in 2009.", Canadian Journal of Plant Pathology, 35(3), pp. 338-345. doi : 10.1080/07060661.2013.810669

Thomas, J.B., Fox, S.L., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Wise, I.L., Smith, M.A.H., Despins, T., Niziol, D., Humphreys, D.G., and Brown, P.D. (2013). "Vesper hard red spring wheat.", Canadian Journal of Plant Science, 93(2), pp. 315-321. doi : 10.4141/cjps2012-233

Fox, S.L., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Fernandez, M.R., Despins, T., and Niziol, D. (2013). "Cardale hard red spring wheat.", Canadian Journal of Plant Science, 93(2), pp. 307-313. doi : 10.4141/cjps2012-236

Fox, S.L., Wise, I.L., Smith, M.A.H., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Fernandez, M.R., Despins, T., Lukow, O.M., and Niziol, D. (2013). "Shaw hard red spring wheat.", Canadian Journal of Plant Science, 93(2), pp. 299-305. doi : 10.4141/cjps2012-137

Panwar, V., McCallum, B.D., and Bakkeren, G. (2013). "Host-induced gene silencing of wheat leaf rust fungus *Puccinia triticina* pathogenicity genes mediated by the Barley stripe mosaic virus.", Plant Molecular Biology, 81(6), pp. 595-608. doi : 10.1007/s1103-013-0022-7

Boyce, M., Brule-Babel, A., Brûlé-Babel, A.L., Hiebert, C.W., and McCallum, B.D. (2013). "Identification, characterization and mapping of a new leaf rust (*Puccinia triticina*) resistance gene in spring wheat (*Triticum aestivum*).", The American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America 2013 International Annual Meetings, Tampa, FL, USA, November 3-6, 2013.

Zeng, J., Cao, W., Fedak, G., Sun, S., McCallum, B.D., Fetch Jr., T.G., and Xue, A.G. (2013). "Molecular cytological characterization of two novel durum–Thinopyrum intermedium partial amphiploids with resistance to leaf rust, stem rust and Fusarium head blight.", Hereditas, 150(1), pp. 10-16. doi : 10.1111/j.1601-5223.2012.02262.x

Cao, W., Fedak, G., McCallum, B.D., Fetch Jr., T.G., Xue, A.G., and Chi, D. (2013). "Developing wheat germplasm for resistance to Fusarium head blight, leaf rust and stem rust.", 7th International Triticeae Symposium, Chengdu, China, June 9-14, 2013.

Singh, A., Pandey, M.P., Singh, A.K., Knox, R.E., Ammar, K., Clarke, J.M., Clarke, F.R., Singh, R.P., Pozniak, C.J., DePauw, R.M., McCallum, B.D., Cuthbert, R.D., Randhawa, H.S., and Fetch Jr., T.G. (2013). "Identification and mapping of leaf, stem and stripe rust resistance quantitative trait loci and their interactions in durum wheat.", Molecular Breeding, 31(2), pp. 405-418. doi : 10.1007/s11032-012-9798-4

Joly, D.L., Mulock, B.S., Cuomo, C.A., Saville, B.J., McCallum, B.D., and Bakkeren, G. (2013). "Illumina-based genetic linkage map for wheat leaf rust.", 27th American Genetics Society meeting on Fungal Genetics, Asilomar, CA, USA.

Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Menzies, J.G., Pozniak, C.J., Sharpe, A.G., Fobert, P., Rezac, N., and others (2013). "Fine mapping of the wheat leaf rust resistance gene Lr16.", International Wheat Genetics Symposium, Yokohama, Japan, September 8-14, 2013.

McCartney, C.A., Brûlé-Babel, A.L., Fedak, G., Martin, R.C., McCallum, B.D., and Gilbert, J. (2013). "Fusarium head blight resistance QTL in the Kenyon x 86ISMN 2137 population.", National Fusarium Head Blight Forum, Milwaukee, WI, USA, December 3-5, 2013. (Poster)

Zhang, W., Boyle, K., McCallum, B.D., Cloutier, S., and Fobert, P. (2013). "Capturing dynamic host-parasite interactions.", 9th Canadian Plant Genomics Workshop, Halifax, NS, Canada, August 12-15, 2013.

Wang, X., McCallum, B.D., Fetch Jr., T.G., Bakkeren, G., Marais, G.F., and Saville, B. (2013). "Comparative microscopic and molecular analysis of Thatcher near-isogenic lines with wheat leaf rust resistance genes Lr2a, Lr3, LrB or Lr9 upon challenge with different *Puccinia triticina* races.", *Plant Pathology*, 62(3), pp. 698-707. doi: 10.1111/j.1365-3059.2012.02660.x

Humphreys, D.G., Townley-Smith, T.F., Czamecki, E.M., Lukow, O.M., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Brown, P.D., and Fox, S.L. (2013). "Snowstar hard white spring wheat.", *Canadian Journal of Plant Science*, 93(1), pp. 143-148. doi: 10.4141/cjps2012-146

## 2012

McCallum, B.D., Humphreys, D.G., Somers, D.J., Dakouri, A., and Cloutier, S. (2012). "Allelic variation for the rust resistance gene Lr34/Yr18 in Canadian wheat cultivars.", *Euphytica*, 183(2), pp. 261-274. doi: 10.1007/s10681-011-0519-6

Bakkeren, G., Song, X., Panwar, V., Linning, R., Wang, X., Rampitsch, C., McCallum, B.D., Fellers, J.P., and Saville, B. (2012). "Functional genomic approaches in cereal rusts.", *Canadian Journal of Plant Pathology*, 34(1), pp. 3-12. doi: 10.1080/07060661.2012.664567

Fox, S.L., Lamb, R.J., McKenzie, R.I.H., Wise, I.L., Smith, M.A.H., Humphreys, D.G., Brown, P.D., Townley-Smith, T.F., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Fernandez, M.R., Despina, T., Lukow, O.M., and Niziol, D. (2012). "Registration of 'Fieldstar' Hard Red Spring Wheat.", *Journal of Plant Registrations*, 6(2), pp. 161-168. doi: 10.3198/jpr2011.06.0329crc

## 2011

Hiebert, C.W., Fetch Jr., T.G., Zegeye, T., Thomas, J.B., Somers, D.J., Humphreys, D.G., McCallum, B.D., Cloutier, S., Singh, D., and Knott, D.R. (2011). "Genetics and mapping of seedling resistance to Ug99 stem rust in Canadian wheat cultivars 'Peace' and 'AC Cadillac'." *Theoretical and Applied Genetics (TAG)*, 122(1), pp. 143-149. doi: 10.1007/s00122-010-1430-6

Huerta-Espino, J., Singh, R.P., Germán, S., McCallum, B.D., Park, R.F., Chen, W.Q., Bhardwaj, S.C., and Goyeau, H. (2011). "Global status of wheat leaf rust caused by *Puccinia triticina*." *Euphytica*, 179(1), pp. 143-160. doi: 10.1007/s10681-011-0361-x

Song, X., Rampitsch, C., Soltani, B.M., Mauthe, W.R., Linning, R., Banks, T.W., McCallum, B.D., and Bakkeren, G. (2011). "Proteome analysis of wheat leaf rust fungus, *Puccinia triticina*, infection structures enriched for haustoria." *Proteomics*, 11(5), pp. 944-963. doi: 10.1002/pmic.201000014

Xu, J., Linning, R., Fellers, J.P., Dickinson, M., Zhu, W., Antonov, I., Joly, D.L., Donaldson, M.E., Eilam, T., Anikster, Y., Banks, T.W., Munro, S., May, M., Wynhoven, B., Ali, J., McCallum, B.D., Borodovsky, M., Saville, B., and Bakkeren, G. (2011). "Gene discovery in EST sequences from the wheat leaf rust fungus *Puccinia triticina* sexual spores, asexual spores and haustoria, compared to other rust and corn smut fungi." *BMC Genomics*, 12:161. doi: 10.1186/1471-2164-12-161

McCallum, B.D., Seto-Goh, P.L., and Xue, A.G. (2011). "Physiologic specialization of *Puccinia triticina*, the causal agent of wheat leaf rust, in Canada in 2008." *Canadian Journal of Plant Pathology*, 33(4), pp. 541-549. doi: 10.1080/07060661.2011.627950

Fetch Jr., T.G., McCallum, B.D., Menzies, J.G., Rashid, K.Y., and Tenuta, A.U. (2011). "Rust diseases in Canada." *Prairie Soils and Crops*, 4, pp. 87-96.

## Other Science Related Publications:

### 2015

Bakkeren, G., Fellers, J.P., Linning, R., Szabo, L.J., Hulbert, S., Chen, X., McCallum, B.D., Wang, X., Hamelin, R.C., Saville, B.J., and Cuomo, C.A. (2015). "Mating-type genes in cereal rust fungi." 28th Fungal Genetics Conference, Pacific Grove, CA, USA, March 17-22, 2015, Invited oral presentation. (Abstract)



McCartney, C.A., Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Panwar, V., Pozniak, C.J., Menzies, J.G., Humphreys, D.G., Fobert, P., Sharpe, A.G., and Jordan, M.C. (2015). "Progress towards sequencing the leaf rust resistance gene Lr16.", International Wheat Conference 2015, Sydney, Australia, September 20-25, 2015.

Babel, C.M., McCallum, B.D., Fetch Jr., T.G., Hiebert, C.W., and McCartney, C.A. (2015). "Gene mapping resistance genes for stem and leaf rust resistance in wheat.", International Cereal Rusts and Powdery Mildews Conference, Helsingør, Denmark, July 6-8, 2015. (Poster)

Kassa, M.T., You, F.M., Hiebert, C.W., McCallum, B.D., Cabral, A.L., Panwar, V., Pozniak, C.J., Fetch Jr., T.G., Zegeye, T., Menzies, J.G., Humphreys, D.G., Fobert, P., Sharpe, A.G., Jordan, M.C., and McCartney, C.A. (2015). "Targeting high impact wheat resistance genes for leaf rust, Ug99 stem rust and wheat midge.", Canadian Wheat Alliance Annual Science and Business Meeting (Invited), Saskatoon, SK, Canada, July 14-16, 2015. (Presentation)

Babel, C.M., McCallum, B.D., Fetch Jr., T.G., Hiebert, C.W., and McCartney, C.A. (2015). "Genetic mapping of stem and leaf rust resistance in the spring wheat line Kavkaz-K4500.", Manitoba Regional Meeting of the Canadian Phytopathological Society, December 7, 2015. (Presentation)

## 2014

Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Panwar, V., Menzies, J.G., Pozniak, C.J., Sharpe, A.G., Fobert, P., Jordan, M.C., and McCartney, C.A. (2014). "Fine Mapping of the Wheat Leaf Rust Resistance Gene Lr16.", XXII Plant & Animal Genome Conference, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014.

Rampitsch, C., Bakkeren, G., and McCallum, B.D. (2014). "Custom database searching to reveal differences in the haustoria proteomes of three races of wheat leaf rust, *Puccinia triticina*.", 1st Meeting of the International Plant Proteomics Organization, Hamburg, Germany, August 31-September 4, 2014. (Presentation)

Cao, W., Wolfe, D., Fedak, G., McCallum, B.D., Fetch Jr., T.G., Xue, A.G., and Chi, D. (2014). "Development of aneuploids by means of doubled haploid technology – corn pollination method.", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014.

Dhariwal, R., Randhawa, H.S., Pozniak, C.J., McCallum, B.D., Fetch Jr., T.G., and Graf, R.J. (2014). "Genetic analysis of stem, leaf and stripe rust resistance in a spring wheat.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Rampitsch, C., Beimcik, E., Bakkeren, G., Linning, R., Joly, D.L., and McCallum, B.D. (2014). "Quantitative proteomics with custom database searching to reveal differences in the haustorial proteomes of three races of wheat leaf rust, *Puccinia triticina*.", 12th European Conference on Fungal Genetics, Sevilla, Spain, March 2014.

Humphreys, D.G., Brûlé-Babel, A.L., DePauw, R.M., Fetch Jr., T.G., and McCallum, B.D. (2014). "Field evaluation of German spring wheat sources of *Fusarium* Head Blight resistance in western Canada.", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014.

Rampitsch, C., Beimcik, E., Günel, A., Bakkeren, G., Linning, R., Joly, D.L., McCallum, B.D., and Fan, T. (2014). "Custom database searching to reveal differences in the haustorial proteomes of three races of wheat leaf rust, *Puccinia triticina*.", Canadian Society of Mass Spectrometry, Montreal, QC, Canada, April 13-16, 2014.

Humphreys, D.G., Brûlé-Babel, A.L., DePauw, R.M., Fetch Jr., T.G., and McCallum, B.D. (2014). "Agronomic suitability of German spring wheat sources of *Fusarium* Head Blight resistance for western Canada.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014, Abstract and Poster, pp. 88.

Panwar, V., Kassa, M.T., Bakkeren, G., Fobert, P., Jordan, M.C., McCallum, B.D., and McCartney, C.A. (2014). "VIGS as a powerful genomics resource for identifying host or pathogen gene targets for the control of cereal rust diseases.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Bakkeren, G., Fellers, J.P., Panwar, V., Joly, D.L., Szabo, L.J., Kolmer, J.A., Hulbert, S., Wang, M., Yin, C., Chen, X., Rampitsch, C., McCallum, B.D., Wang, X., Goldberg, J., Young, S., Hamelin, R.C., Saville, B.J., and Cuomo, C.A. (2014). "Comparative genomics of rust fungi drives research and innovations.", XXII Plant & Animal Genome Conference, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014.

Bakkeren, G., Fellers, J.P., Panwar, V., Joly, D.L., Szabo, L.J., Kolmer, J.A., Hulbert, S., Wang, M., Yin, C., Chen, X., Rampitsch, C., McCallum, B.D., Wang, X., Goldberg, J., Young, S., Hamelin, R.C., Saville, B.J., and Cuomo, C.A. (2014). "Comparative genomics of rust fungi drives research and innovations for crop protection.", 16th conference of the International Society for Molecular Plant-Microbe Interactions, Rhodes, Greece, July 6-10, 2014.

Panwar, V., Jordan, M.C., McCallum, B.D., Fobert, P., and Bakkeren, G. (2014). "Host-induced gene silencing of *Puccinia triticina* genes shows enhanced resistance to leaf rust disease in transgenic wheat plants.", XVI 2014 APS-CPS Joint Meeting, Minneapolis, Minnesota, USA, August 9-13, 2014. (Abstract)

2013

Kassa, M.T., McCartney, C.A., You, F.M., Hiebert, C.W., Jordan, M.C., Pozniak, C.J., MacLachlan, R., McCallum, B.D., Fox, S.L., Wise, I.L., and Thomas, J.B. (2013). "Marker development for wheat leaf rust resistance gene Lr16 and wheat midge resistance gene Sm1 in Canadian wheat cultivars.", Plant & Animal Genome XXI Conference, Town & Country Convention Center, San Diego, CA, USA, January 12-16, 2013.

Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Menzies, J.G., Pozniak, C.J., Sharpe, A.G., Fobert, P., Jordan, M.C., and McCartney, C.A. (2013). "Fine mapping of the wheat leaf rust resistance gene Lr16.", 12th International Wheat Genetics Symposium (IWGS), Yokohama, Japan, September 8-14, 2013. (Poster)

Hiebert, C.W., Spielmeyer, W., McCartney, C.A., Kassa, M.T., Fetch Jr., T.G., You, F.M., Menzies, J.G., Humphreys, D.G., and McCallum, B.D. (2013). "Stem rust resistance - two approaches.", 12th International Wheat Genetics Symposium (IWGS), Yokohama, Japan, September 8-14, 2013, Invited presentation.

Rampitsch, C., Beimcik, E., Günel, A., Bakkeren, G., McCallum, B.D., and Fan, T. (2013). "Comparative proteomics of monoclonal-antibody enriched haustoria from three races of *Puccinia triticina*.", 27th American Genetics Society meeting on Fungal Genetics, Asilomar, CA, USA. (Poster)

McCallum, B.D. and Seto-Goh, P.L. (2013). "Leaf and stripe rust of wheat in Manitoba and Saskatchewan in 2012.", Canadian Plant Disease Survey, 93, pp. 134.

Cao, W., Fedak, G., McCallum, B.D., Fetch Jr., T.G., Xue, A.G., and Chi, D. (2013). "Enhancement of wheat germplasm for resistance to Fusarium head blight, leaf rust and stem rust.", 7th International Triticeae Symposium, Chengdu, China, June 9-14, 2013, pp. 87.

Fedak, G., Cao, W., Chi, D., Zhang, L., Rouse, M.N., Xue, A.G., Fetch Jr., T.G., Molnar, M., and McCallum, B.D. (2013). "Screening of cytogenetic stocks for resistance to Ug99.", 7th International Triticeae Symposium, Chengdu, China, June 9-14, 2013, pp. 91.

McCartney, C.A., Kassa, M.T., Cabral, A.L., Hiebert, C.W., You, F.M., Jordan, M.C., Menzies, J.G., Humphreys, D.G., Fellers, J.P., Rezac, N., Fobert, P., Sharpe, A.G., Pozniak, C.J., and McCallum, B.D. (2013). "Molecular Analysis of the Lr16 Locus.", North American Cereal Rust Workers Meeting, Winnipeg, MB, Canada, March 20, 2013.

2012

Panwar, V., McCallum, B.D., and Bakkeren, G. (2012). "Host-expressed in-vivo silencing of fungal pathogenicity genes suppresses disease in the wheat-*Puccinia triticina* leaf rust pathosystem.", 2012 Keystone Symposia on Molecular and Cellular Biology: Gene Silencing by Small RNAs (B1), Fairmont Hotel Vancouver, Vancouver, BC, Canada, February 7-12, 2012. (Poster)

McCallum, B.D. and Seto-Goh, P.L. (2012). "Leaf rust and stripe rust of wheat in Manitoba and eastern Saskatchewan in 2012.", Canadian Plant Disease Survey, 93.

Rampitsch, C., Beimcik, E., Günel, A., Gunel, A., Bakkeren, G., McCallum, B.D., and Fan, T. (2012). "The proteome of haustoria from *Puccinia triticina*.", 13th International Cereal Rusts and Powdery Mildews Conference (ICRPMC), Beijing Friendship Hotel, Beijing, China, August 28-31, 2012. (Poster)

McCallum, B.D. and Seto-Goh, P.L. (2012). "Leaf rust and stripe rust of wheat in Manitoba and Eastern Saskatchewan in 2011.", Canadian Plant Disease Survey, 92, pp. 105.

Nilsen, K., Randhawa, H.S., McCallum, B.D., McCartney, C., MacLachlan, R., Humphreys, D.G., Martin, R.A., and Pozniak, C.J. (2012). "Application of Illumina 9K iSelect Genotyping Towards Mapping Leaf and Stripe Rust Resistance in the Spring Wheat Cross AC Domain x RL4452.", The Annual General Meeting of Canadian Triticum Advancement through Genomics (CTAG), Saskatoon, SK, Canada, November 23-24, 2012.

McCallum, B.D., Hiebert, C.W., Huerta-Espino, J., and Cloutier, S. (2012). "Wheat Leaf Rust.", in Sharma, I. (ed.) - Disease Resistance in Wheat. CABI Plant Protection Series, CABI Publishing, Wallingford, UK, Chapter 3, pp. 33-63.

Singh, A., Pandey, M.P., Singh, A.K., Clarke, J.M., Knox, R.E., Ammar, K., Singh, R.P., Pozniak, C.J., DePauw, R.M., Clarke, F.R., McCallum, B.D., Cuthbert, R.D., and Randhawa, H.S. (2012). "Molecular mapping of leaf rust and stripe rust resistance QTL in durum wheat.", Canadian Journal of Plant Science, 92, pp. 593. (Abstract)

DePauw, R.M., McCallum, B.D., Voldeng, H.D., Knox, R.E., Edwards, N., Hatcher, D., Fetch Jr., T.G., Lukow, O.M., Fox, S.L., Pozniak, C.J., Hucl, P.J., Comeau, A., and Singh, A.K. (2012). "Canadian Triticologists: The Game Changers!", Canadian Journal of Plant Science, 92, pp. 593. (Abstract)

Knox, R.E., Hucl, P.J., Cuthbert, R.D., Singh, A.K., Clarke, F.R., DePauw, R.M., Pozniak, C.J., Fox, S.L., Humphreys, D.G., Clarke, J.M., Randhawa, H.S., Spaner, D.M., McCartney, C., Gaudet, D.A., Menzies, J.G., Gilbert, J.R., Fetch Jr., T.G., McCallum, B.D., and Brûlé-Babel, A.L. (2012). "Phenomics.", Canadian Triticum Advancement through Genomics (CTAG) annual meeting 2014, Saskatoon, SK, Canada.

Bakkeren, G., Joly, D.L., Wang, X., Thiessen, N., Taylor, G.P., Jackman, S.D., Birol, I., Jones, S., McCallum, B.D., Hamelin, R.C., and others (2012). "Deep-sequencing of multiple race-leaf rust, *Puccinia triticina* genomes and transcriptomes during wheat infection.", 15th International Congress on Molecular Plant-Microbe Interactions (MPMI), Kyoto International Conference Center, Kyoto, Japan, July 29-August 2, 2012. (Poster)

Cabral, A.L., McCartney, C., McCartney, C.A., Hiebert, C.W., McCallum, B.D., and Jordan, M.C. (2012). "Utility of EMS mutants in rust resistance studies and map based cloning in wheat.", 2012 International Tritici Mapping Initiative, Fargo, ND, USA. (Poster)

Kassa, M.T., McCartney, C.A., You, F.M., McCallum, B.D., Hiebert, C.W., and Jordan, M.C. (2012). "Marker development for the wheat leaf rust resistance gene Lr16 using a comparative genomic approach.", 22nd International Triticeae Mapping Initiative (ITMI) and 4th National Wheat Genomics Committee Joint Workshop, Fargo, ND, USA, June 25-29, 2012.

Humphreys, D.G., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Townley-Smith, T.F., and Lukow, O.M. (2012). "Development of hard white spring wheat for Western Canada.", 2012 American Society of Agronomy, Cincinnati, OH, USA. (Poster)

McCallum, B.D. and Hiebert, C.W. (2012). "Characterization of the wheat leaf rust resistance gene LrCen.", XX Plant and Animal Genome Conference, San Diego, CA, USA, January 14-18, 2012. (Poster)

## 2011

McCallum, B.D., Fetch Jr., T.G., Hiebert, C.W., and Thomas, J.B. (2011). "The effect of Lr34 on wheat stem rust.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, Poster #66. (Poster)

Comeau, A., Langevin, F., Voldeng, H.D., Haber, S.M., Gilbert, J., Randhawa, H.S., Dion, Y., Rioux, S., McCallum, B.D., Fetch Jr., T.G., Eudes, F., Blackwell, B.A., Martin, R.A., Scheeren, P., Caetano, V., Frégeau-Reid, J.A., and Fedak, G. (2011). "The systemic approach: faster genetic progress for complex goals.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Nilsen, K., Humphreys, D.G., Randhawa, H.S., Martin, R.C., McCartney, C., McCallum, B.D., and Pozniak, C.J. (2011). "Mapping field reaction to leaf and stripe rust in the spring wheat cross RL4452 x AC Domain.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, Presentation.

McCallum, B.D. and Seto-Goh, P.L. (2011). "Leaf rust and stripe rust of wheat in Manitoba and Eastern Saskatchewan in 2010.", Canadian Plant Disease Survey, 91, pp. 98.

Marsh, K., McCallum, B.D., Wang, X., Tenuta, A.U., Hambleton, S., and Saville, B. (2011). "Investigating emerging wheat pathogens, new wheat leaf rust virulence in Ontario.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

DePauw, R.M., McCallum, B.D., Voldeng, H.D., Knox, R.E., Edwards, N., Fetch Jr., T.G., Lukow, O.M., Fox, S.L., Pozniak, C.J., Hucl, P.J., Singh, A.K., and Comeau, A. (2011). "Canadian Triticologists: the game changers.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Wang, X., McCallum, B.D., Fetch Jr., T.G., Bakkeren, G., and Saville, B. (2011). "Leaf extracts from Thatcher inoculated with the avirulent race of *Puccinia triticina* confer race-specific resistance in Thatcher-Lr2a through infiltration.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011. (Poster)

Fox, S.L., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Wise, I.L., Smith, M.A.H., Thomas, J.B., Hiebert, C.W., McCartney, C.A., Lukow, O.M., and Niziol, D. (2011). "Breeding for Canada's premier wheat marker class: Canadian Western Red Spring.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Wang, X., McCallum, B.D., Fetch Jr., T.G., Bakkeren, G., and Saville, B. (2011). "Leaf extracts from Thatcher wheat inoculated with the avirulent race of *Puccinia triticina* confers race-specific resistance in Thatcher-Lr2a through infiltration.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, pp. 65.

Hamelin, R.C., Bakkeren, G., Saville, B., McCallum, B.D., Fetch Jr., T.G., Wang, X., Joly, D.L., and Tanguay, P. (2011). "Emergence and evolution of forest and cereal rusts.", Quebec Society for Plant Protection Annual Meeting: Exotic and invasive species., Montmagny, QC, Canada, June 2011. (Presentation)

Bakkeren, G., Song, X., Panwar, V., Linning, R., Joly, D.L., Wang, X., Rampitsch, C., McCallum, B.D., Fellers, J.P., and Saville, B. (2011). "Functional genomic approaches for the wheat leaf rust fungus.", North American Rust Workers Meeting (NARW), St. Paul, MN, USA, June 12, 2011. (Presentation)

McCallum, B.D., Humphreys, D.G., DePauw, R.M., and Hiebert, C.W. (2011). "The effect of leaf rust on 'Thatcher' near-isogenic wheat lines.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011. (Poster)

Singh, M.P., Singh, A.K., Clarke, J.M., Knox, R.E., Ammar, K., Singh, R.P., Pozniak, C.J., DePauw, R.M., Clarke, F.R., McCallum, B.D., Cuthbert, J.L., and Randhawa, H.S. (2011). "Molecular mapping of leaf rust and stripe rust resistance QTL in durum wheat.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Wang, X., McCallum, B.D., Fetch Jr., T.G., Bakkeren, G., Marais, G.F., and Saville, B.J. (2011). "Comparative analysis of Thatcher isogenic lines with wheat leaf rust resistance genes Lr2a, Lr3, LrB and Lr9 interacting with different *Puccinia triticina* virulence phenotypes.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011. (Poster)

Goyal, A., Puchalski, B., Gaudet, D.A., Graf, R.J., McCallum, B.D., and Randhawa, H.S. (2011). "Genetics of resistance to common bunt, leaf and stripe rust in N9195 spring wheat.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011. (Abstract)

Hiebert, C.W., McCallum, B.D., and Popovic, M. (2011). "Identification of introgressions carrying wheat leaf rust resistance genes in five near-isogenic lines using SSR markers.", Plant & Animal Genome XIX Conference, Town & Country Convention Center, San Diego, CA, USA, January 15-19, 2011.

McCallum, B.D., Seto-Goh, P.L., and Xue, A.G. (2011). "The detection of virulence to Lr21 in Canada during 2011.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

McCallum, B.D., Seto-Goh, P.L., and Xue, A.G. (2011). "Wheat leaf rust in Canada during 2010.", North American Rust Workers Meeting (NARW), St. Paul, MN, USA, June 12, 2011.

Rosa, S.B., McCallum, B.D., and Brûlé-Babel, A.L. (2011). "Quantitative resistance conferring durable leaf rust resistance in wheat cultivar Toropi.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011.

DePauw, R.M., Somers, D.J., Cuthbert, R.D., McCallum, B.D., Knox, R.E., Voldeng, H.D., Humphreys, D.G., Fox, S.L., Singh, A.K., McCartney, C.A., and Fedak, G. (2011). "Are QTLs for fusarium head blight response additive?", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 70.

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## Research Publications:

2015

Ghose, K., McCallum, J.L., Sweeney-Nixon, M., and Fofana, B. (2015). "Histidine 352 (His352) and tryptophan 355 (Trp355) are essential for flax UGT74S1 glucosylation activity toward secoisolariciresinol.", *PLoS ONE*, 10(2): e116248. doi: 10.1371/journal.pone.0116248

Stetson, C., Kim, J., Elwood, B., McCallum, J.L., and Hurta, R.A.R. (2015). "Lowbush Blueberry Component Pterostilbene Inhibits the Matrix Metalloproteinase and the Urokinase Signaling Systems in Human Prostate Cancer Cells Via Alterations in Cellular Signal Transduction Pathways.", *FASEB Journal*, 29(1 Supplement)894.1).

Nabuurs, M.H., McCallum, J.L., Brown, D.C.W., and Kirby, C.W. (2015). "NMR characterization of novel pyranoanthocyanins derived from the pulp of *Panax quinquefolius* L. (North American ginseng).", *Magnetic Resonance in Chemistry*. doi : 10.1002/mrc.4366

2014

Ghose, K., Selvaraj, K., McCallum, J.L., Kirby, C.W., Sweeney-Nixon, M., Cloutier, S., Deyholos, M.K., Datta, R.S.S., and Fofana, B. (2014). "Identification and functional characterization of a flax UDP-glycosyltransferase glucosylating secoisolariciresinol (SECO) into secoisolariciresinol monoglucoside (SMG) and diglucoside (SDG).", *BMC Plant Biology*, 14(1: Article number 82). doi : 10.1186/1471-2229-14-82

MacPhee, J., Stetson, C.R., Elwood, B., Patel, K., McCallum, J.L., Neto, C., and Hurta, R.A.R. (2014). "Flavonol-enriched fraction from *Vaccinium macrocarpon* fruit inhibits matrix metalloproteinase-2, matrix metalloproteinase-9 and urokinase-type plasminogen activator expression in human prostate cancer cells in vitro.", *The Journal of Functional Foods in Health and Disease*, 4(11), pp. 474-492.

2013

Kirby, C.W., Wu, T., Tsao, R., and McCallum, J.L. (2013). "Isolation and structural characterization of unusual pyranoanthocyanins and related anthocyanins from Staghorn sumac (*Rhus typhina* L.) via UPLC-ESI-MS, <sup>1</sup>H, <sup>13</sup>C, and 2D NMR spectroscopy.", *Phytochemistry*, 94, pp. 284-293. doi : 10.1016/j.phytochem.2013.06.017

Diarra, M.S., Block, G.S., Rempel, H., Oomah, B.D., Harrison, J.E., McCallum, J.L., Boulanger, S., Brouillette, É., Gattuso, M., and Malouin, F. (2013). "In vitro and in vivo antibacterial activities of cranberry press cake extracts alone or in combination with  $\beta$ -lactams against *Staphylococcus aureus*.", *BMC Complimentary and Alternative Medicine Journal*, 13(90). doi : 10.1186/1472-6882-13-90

Ghose, K., McCallum, J.L., Fillmore, S.A.E., Kirby, C.W., Sanderson, K.R., Joly, S., Bruneau, A., and Fofana, B. (2013). "Structuration of the genetic and metabolite diversity among Prince Edward Island cultivated wild rose ecotypes.", *Scientia Horticulturae*, 160(27), pp. 251-263. doi : 10.1016/j.scienta.2013.01.016

Wu, T., McCallum, J.L., Wang, S., Liu, R., Zhu, H., and Tsao, R. (2013). "Evaluation of antioxidant activities and chemical characterisation of staghorn sumac fruit (*Rhus typhina* L.).", *Food Chemistry*, 138(2), pp. 1333-1340. doi : 10.1016/j.foodchem.2012.10.086

2011

Kirby, C.W., McCallum, J.L., and Fofana, B. (2011). "A <sup>1</sup>H NMR study of the fatty acid distribution in developing flax bolls before and after a cooking treatment.", *Canadian Journal of Chemistry*, 89(9), pp. 1138-1142. doi : 10.1139/V11-057

Fofana, B., Cloutier, S., Kirby, C.W., McCallum, J.L., and Duguid, S.D. (2011). "A well balanced omega-6/omega-3 ratio in developing flax bolls after heating and its implications for use as a fresh vegetable by humans.", *Food Research International*, 44(8), pp. 2459-2464. doi : 10.1016/j.foodres.2010.12.018

## Other Science Related Publications:

## 2015

Fofana, B., Ghose, K., McCallum, J.L., You, F.M., and Cloutier, S. (2015). "UGT74S1 is a single-copy gene and is unique in controlling Secoisolariciresinol Diglucoside (SDG) formation in flax.", Botany 2015 Joint Conference: Science and plants for people, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-30, 2015. (Poster)

Nabuurs, M.H., Boyetchko, S.M., McCallum, J.L., Mills, A.A.S., Zhou, T., and Kirby, C.W. (2015). "Application of Bioautography in the Discovery of Biopesticides from Natural Resources.", 98th Canadian Chemistry Conference and Exhibition, Ottawa, ON, Canada, June 13-17, 2015. (Abstract)

## 2014

McCallum, J.L. and Kirby, C.W. (2014). "Phytochemical profile of Staghorn sumac (*Rhus typhina* L.) during inflorescence development.", Plant Biology 2014, Portland, Oregon, USA, July 12-16, 2014. (Poster)

Fischer, M.B., Nabuurs, M.H., McCallum, J.L., and Kirby, C.W. (2014). "Pyranoanthocyanin Behaviour in Solution.", MOOT XXVII NMR Symposium, Montreal, QC, Canada, October 18-19, 2014. (Poster)

Nabuurs, M.H., McCallum, J.L., and Kirby, C.W. (2014). "Isolation of Novel Pyranoanthocyanins From North American Ginseng Berry Pulp.", MOOT XXVII NMR Symposium, Montreal, QC, Canada, October 18-19, 2014. (Poster)

Kirby, C.W., Nabuurs, M.H., and McCallum, J.L. (2014). "Anthocyanin and Pyranoanthocyanin biosynthesis in Staghorn Sumac (*Rhus typhina* L.)", 6th Maritime Natural Products Conference, Charlottetown, PEI, Canada, August 18-20, 2014.

Kirby, C.W., Nabuurs, M.H., and McCallum, J.L. (2014). "Anthocyanin and Pyranoanthocyanin biosynthesis in Staghorn Sumac (*Rhus typhina* L.)", 52nd Annual meeting of Phytochemical Society of North America, Raleigh, NC, USA, August 9-13, 2014.

Kirby, C.W., Wu, T.-Y., Nabuurs, M.H., Tsao, R., Tsao, R., and McCallum, J.L. (2014). "Anthocyanin and Pyranoanthocyanin Biosynthesis in Staghorn Sumac (*Rhus typhina* L.)", Maritimes Natural Products Conference (MNPC) 2014, Charlottetown, Prince Edward Island, Canada, August 18-20, 2014, Presentation.

Nabuurs, M.H., McCallum, J.L., and Kirby, C.W. (2014). "Novel Pyranoanthocyanins Isolated From North American Ginseng Berry Pulp.", 6th Maritime Natural Products Conference, Charlottetown, PEI, Canada, August 18-20, 2014. (Presentation)

Stetson, C.R., MacPhee, J., Patel, K., McCallum, J.L., Neto, C., and Hurta, R.A.R. (2014). "Vaccinium macrocarpon flavonol-enriched extract inhibits matrix metalloproteinase-2, matrix metalloproteinase-9 and urokinase-type plasminogen activator expression in human prostate cancer cells in vitro.", Maritimes Natural Products Conference (MNPC) 2014, Charlottetown, Prince Edward Island, Canada, August 18-20, 2014.

Fofana, B., Ghose, K., McCallum, J.L., and Cloutier, S. (2014). "Flax SDG lignan glucosylation: from gene discovery to flax lines with altered SDG profiles.", Plant Biology 2014, Portland, Oregon, USA, July 12-16, 2014. (Poster)

Kirby, C.W. and McCallum, J.L. (2014). "Temporal and tissue-specific accumulation of unusual pyranoanthocyanins during development of Staghorn sumac (*Rhus typhina* L.)", Plant Biology 2014, Portland, Oregon, USA, July 12-16, 2014. (Poster)

Somalraju, A., Ghose, K., McCallum, J.L., and Fofana, B. (2014). "A potato without toxic compounds?/Une patate sans composés toxiques?", CLRC open House, Charlottetown, Canada, August 23, 2014. (Presentation)

Kirby, C.W., Wu, T.-Y., Nabuurs, M.H., Tsao, R., Tsao, R., and McCallum, J.L. (2014). "Anthocyanin and Pyranoanthocyanin Biosynthesis in Staghorn Sumac (*Rhus typhina* L.)", 53rd Annual meeting of Phytochemical Society of North America (PSNA), Raleigh, North Carolina, USA, August 9-13, 2014, Presentation.

Nabuurs, M.H., McCallum, J.L., and Kirby, C.W. (2014). "Isolation of Novel Pyranoanthocyanins From North American Ginseng Berry Pulp.", MOOT XXVII NMR Symposium, Montreal, QC, Canada, October 18-19, 2014. (Poster)

Nabuurs, M.H., McCallum, J.L., and Kirby, C.W. (2014). "Novel Pyranoanthocyanins Isolated From North American Ginseng Berry Pulp.", 6th Maritime Natural Products Conference, Charlottetown, PEI, Canada, August 18-20, 2014.

## 2013

Kirby, C.W., Wu, T., Tsao, R., Tsao, R., and McCallum, J.L. (2013). "Isolation and structural characterization of unusual pyranoanthocyanins and related anthocyanins from Staghorn Sumac (*Rhus typhina* L.) via UPLC-ESI-MS, 1H, 13C, and 2D NMR spectroscopy.", 52nd Annual meeting of Phytochemical Society of North America (PSNA), Corvallis, Oregon, USA, August 2-7, 2013.

Ghose, K., Selvaraj, K., McCallum, J.L., Datla, R.S.S., Cloutier, S., and Fofana, B. (2013). "Key Catalytic Amino Acids for a Flax Secoisolariciresinol Glycosyltransferase as determined by Molecular Modeling and Site-Directed Mutagenesis.", 2013 CSPB/SCBV Annual General Meeting, Laval University, Quebec City, Canada, June 25-28, 2013.

Ghose, K., McCallum, J.L., Stetson, C., and Fofana, B. (2013). "Reducing potato anti-nutritional factors.", Open House (Poster), Harington, PE, Canada, August 16, 2013. (Presentation)

## 2012

Kirby, C.W., Wu, T., Tsao, R., and McCallum, J.L. (2012). "NMR structure elucidation of novel anthocyanins from Staghorn Sumac (*Rhus typhina* L.)", MOOT XXV Mini NMR Symposium, Université Laval, Québec City, QC, Canada, October 20-21, 2012.

McCallum, J.L. (2012). "Isolation and structural characterization of unusual pyranoanthocyanins and related anthocyanins from Staghorn Sumac (*Rhus typhina* L.) via UPLC-ESI-MS, <sup>1</sup>H, <sup>13</sup>C, and 2D NMR spectroscopy", 51st Annual meeting of Phytochemical Society of North America (PSNA) 2012, London, ON, Canada, Aug 11-15, 2012.

## 2011

Kirby, C.W., McCallum, J.L., Bernard, K., and Fofana, B. (2011). "Cooked Flax Bolls: An Alternative Omega-3 Fatty Acid Source.", MOOT XXIV NMR Minisymposium, Toronto, ON, Canada, October 21-22, 2011. (Poster)

Ghose, K., Sanderson, K.R., Kirby, C.W., McCallum, J.L., and Fofana, B. (2011). "Genetic structure of Prince Edwards island wild rosehip ecotypes as revealed by single nucleotide polymorphism.", Canadian Phytopathological Society (CPS) 82nd Annual Meeting (with Plant Canada 2011), Halifax, NS, Canada, July 17-21, 2011, CSHS-9, pp. 283. (Poster)

Fofana, B., Main, D., Ghose, K., Grimmett, M.G., Kirby, C.W., McCallum, J.L., Peters, R.D., Drake, K.A., Locke, S.J., and Sweetney, M.E. (2011). "Improving the antioxidant capacity of field crops by increasing selenoprotein content.", 2011 Annual Meeting of the Canadian Phytopathological Society (with Plant Canada 2011), Halifax, NS, Canada, July 17-21, 2011, pp. 61, #1145. (Presentation)

Brown, D.C.W., Mazza, G., Ross, K.A., Jordan, M.A., McCallum, J.L., Netticadan, T., Siow, Y.L., Khanizadeh, S., Ames, N.P., and Lui, E.M.K. (2011). "Plant Bioactives Research in Canada.", Plant Bioactives Research in Canada. Canada-United Kingdom Gut and Health Workshop, AAFC-FRDC / AAC-CRDA, Saint-Hyacinthe, QC, Canada, February 24-25, 2011.

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## Research Publications:

2015

McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M., Pozniak, C.J., Uauy, C., Förster, R.J., Ordon, F., Sharpe, A.G., Fobert, P., Fox, S.L., You, F.M., Thomas, J., Hiebert, C.W., Jordan, M.C., and Costamagna, A. (2015). "Management of Wheat Midge with Host Genetics.", Department of Entomology Seminar Series, University of Manitoba, Winnipeg, MB, Canada, January 27, 2015, Invited presentation.

Kassa, M.T., Menzies, J.G., and McCartney, C.A. (2015). "Mapping of a resistance gene to loose smut (*Ustilago tritici*) from the Canadian wheat breeding line BW278.", *Molecular Breeding*, 35(9: Article number 180), pp. 1-8. doi : 10.1007/s11032-015-0369-3

2014

Kassa, M.T., Menzies, J.G., and McCartney, C.A. (2014). "Mapping of the loose smut resistance gene *Ut6* in wheat (*Triticum aestivum* L.).", *Molecular Breeding*, 33(3), pp. 569-576. doi: 10.1007/s11032-013-9973-2

Cabral, A.L., Jordan, M.C., McCartney, C.A., You, F.M., Humphreys, D.G., MacLachlan, R., and Pozniak, C.J. (2014). "Identification of candidate genes, regions and markers for pre-harvest sprouting resistance in wheat (*Triticum aestivum* L.).", *BMC Plant Biology*, 14(340). doi: 10.1186/s12870-014-0340-1

Gnanesh, B.N., McCartney, C.A., Eckstein, P.E., Mitchell Fetch, J.W., Menzies, J.G., and Beattie, A.D. (2014). "Genetic analysis and molecular mapping of a seedling crown rust resistance gene in oat.", *Theoretical and Applied Genetics (TAG)*, 128(2), pp. 247-258. doi: 10.1007/s00122-014-2425-5

Cabral, A.L., Gnanesh, B.N., Mitchell Fetch, J.W., McCartney, C.A., Fetch Jr., T.G., Park, R.F., Menzies, J.G., McCallum, B.D., Nanaiah, G.K., and Goyal, A. (2014). "Oat Fungal Diseases and the Application of Molecular Marker Technology for Their Control.", in Goyal, A. and Manoharachary, C. - *Future Challenges in Crop Protection Against Fungal Pathogens*, *Fungal Biology*, Springer Science + Business Media, pp. 343-358.

McCartney, C.A., Brûlé-Babel, A.L., Fedak, G., Martin, R.C., McCallum, B.D., Gilbert, J.R., Blackwell, B.A., Spaner, D.M., Pozniak, C.J., and N'Daiye, A. (2014). "Studies of the genetics of FHB resistance.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Lin, Y., Gnanesh, B.N., Chong, J., Chen, G., Beattie, A.D., Mitchell Fetch, J.W., Kutcher, H.R., Eckstein, P.E., Menzies, J.G., Jackson, E.W., and McCartney, C.A. (2014). "A major quantitative trait locus conferring adult plant partial resistance to crown rust in oat.", *BMC Plant Biology*, 14(250), pp. 11 pages. doi : 10.1186/s12870-014-0250-2

Gnanesh, B.N., Mitchell Fetch, J.W., Zegeye, T., McCartney, C.A., and Fetch Jr., T.G. (2014). "Oat", in Pratap, A. and Kumar, J. (eds.) - *Alien Gene Transfer in Crop Plants*, Volume 2, Springer Science + Business Media, pp. 51-73.

2013

McCartney, C.A., Brûlé-Babel, A.L., Fedak, G., Martin, R.C., McCallum, B.D., and Gilbert, J. (2013). "Fusarium head blight resistance QTL in the Kenyon x 86ISMN 2137 population.", National Fusarium Head Blight Forum, Milwaukee, WI, USA, December 3-5, 2013. (Poster)

Gaudet, D.A., Puchalski, B., Despins, T., McCartney, C.A., Menzies, J.G., and Graf, R.J. (2013). "Seeding date and location affect winter wheat infection by common bunt (*Tilletia tritici* and *T. laevis*) in western Canada.", *Canadian Journal of Plant Science*, 93(3), pp. 483-489. doi : 10.4141/cjps2012-176

Gnanesh, B.N., Mitchell Fetch, J.W., Menzies, J.G., Beattie, A.D., Eckstein, P.E., and McCartney, C.A. (2013). "Chromosome location and allele-specific PCR markers for marker-assisted selection of the oat crown rust resistance gene *Pc91*.", *Molecular Breeding*, 32(3), pp. 679-686. doi : 10.1007/s11032-013-9900-6

2012

Matlock, E.D., McCartney, C.A., and Gilbert, J. (2012). "Physiological specialization in the western Canadian population of *Phaeosphaeria nodorum*.", *Canadian Journal of Plant Pathology*, 34(1), pp. 75-82. doi : 10.1080/07060661.2012.664566



2011

Chong, J., Gruenke, J., Dueck, R., Mayert, W., Mitchell Fetch, J.W., and McCartney, C.A. (2011). "Virulence of *Puccinia coronata* f. sp. *avenae* in the eastern prairie region of Canada during 2007-2009.", *Canadian Journal of Plant Pathology*, 33(1), pp. 77-87. doi: 10.1080/07060661.2010.546957

## Other Science Related Publications:

2015

Spielmeier, W., Mago, R., Tabe, L., Hiebert, C.W., Briggs, J., Kolmer, J.A., McCartney, C.A., Rouse, M.N., and Ellis, J.L. (2015). "Durable but complex: stem rust resistance from emmer wheat.", *International Cereal Rusts and Powdery Mildews Conference*, Helsingør, Denmark, July 6-8, 2015.

Kassa, M.T., You, F.M., Hiebert, C.W., McCallum, B.D., Cabral, A.L., Panwar, V., Pozniak, C.J., Fetch Jr., T.G., Zegeye, T., Menzies, J.G., Humphreys, D.G., Fobert, P., Sharpe, A.G., Jordan, M.C., and McCartney, C.A. (2015). "Targeting high impact wheat resistance genes for leaf rust, Ug99 stem rust and wheat midge.", *Canadian Wheat Alliance Annual Science and Business Meeting (Invited)*, Saskatoon, SK, Canada, July 14-16, 2015. (Presentation)

Jordan, M.C., Cabral, A.L., McCartney, C.A., and Pozniak, C.J. (2015). "High Density SNP Mapping to Identify Candidate Genes Underlying QTL for Pre-Harvest Sprouting in Wheat.", *Plant and Animal Genome*, January 9-14, 2015. (Poster)

Babel, C.M., McCallum, B.D., Fetch Jr., T.G., Hiebert, C.W., and McCartney, C.A. (2015). "Gene mapping resistance genes for stem and leaf rust resistance in wheat.", *International Cereal Rusts and Powdery Mildews Conference*, Helsingør, Denmark, July 6-8, 2015. (Poster)

Jordan, M.C., Cabral, A.L., and McCartney, C.A. (2015). "High density SNP mapping to identify candidate genes underlying QTL for pre-harvest sprouting.", *XXIII Plant and Animal Genome Conference*, San Diego, CA, USA, January 10-14, 2015.

Hiebert, C.W., McCartney, C.A., Kassa, M.T., You, F.M., Pozniak, C.J., Fobert, P., and Fetch Jr., T.G. (2015). "Genetic mapping of resistance to *Puccinia graminis* race TTKSK in Triumph 64.", *Boilaug Global Rust Initiative Workshop*, Sydney, Australia, September 17-20, 2015. (Poster)

Costamagna, A., McCartney, C.A., Wolfe, S., and Wise, I.L. (2015). "Progress in Screening for Wheat Midge Resistance.", *2015 Entomological Society of America*, Montréal, QC, Canada, November 8-11, 2015. (Poster)

McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M., Pozniak, C.J., Uauy, C., Förster, R.J., Ordon, F., Sharpe, A.G., Fobert, P., Fox, S.L., You, F.M., Thomas, J., Hiebert, C.W., Jordan, M.C., and Costamagna, A. (2015). "Management of Wheat Midge with Host Genetics.", *Department of Entomology Seminar Series (Invited)*, University of Manitoba, Winnipeg, MB, Canada, January 27, 2015. (Presentation)

Humphreys, D.G., Cao, W., Kalikililo, A., Langille, L., McCartney, C.A., Blackwell, B.A., and Graf, R.J. (2015). "Enhancing Tools for Fusarium Resistance Breeding in Canadian Winter Wheat.", *National Fusarium Head Blight Forum*, St. Louis, MO, USA, December 6-8, 2015. (Poster)

McCartney, C.A., Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Panwar, V., Pozniak, C.J., Menzies, J.G., Humphreys, D.G., Fobert, P., Sharpe, A.G., and Jordan, M.C. (2015). "Progress towards sequencing the leaf rust resistance gene *Lr16*.", *International Wheat Conference 2015*, Sydney, Australia, September 20-25, 2015.

Jordan, M.C., Cabral, A.L., and McCartney, C.A. (2015). "Candidate genes underlying QTL for Pre-Harvest Sprouting.", *International Wheat Conference 2015*, Sydney, Australia, September 20-25, 2015.

Babel, C.M., McCallum, B.D., Fetch Jr., T.G., Hiebert, C.W., and McCartney, C.A. (2015). "Genetic mapping of stem and leaf rust resistance in the spring wheat line Kavkaz-K4500.", *Manitoba Regional Meeting of the Canadian Phytopathological Society*, December 7, 2015. (Presentation)

2014

Mwaniki, A., Brûlé-Babel, A.L., McCartney, C.A., Fernando, W.G.D., and Crow, G.H. (2014). "Inheritance of Fusarium Head Blight Resistance in a Double Haploid Winter Wheat Population.", *2nd Canadian Wheat Symposium*, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M.A.H., Pozniak, C.J., Sharpe, A.G., Fobert, P., Fox, S.L., Thomas, J.B., Hiebert, C.W., Jordan, M.C., and Costamagna, A. (2014). "Managing Wheat Midge with Host Genetics.", *2nd Canadian Wheat Symposium*, Saskatoon, SK, Canada, June 8-11, 2014. (Abstract)

Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Panwar, V., Menzies, J.G., Pozniak, C.J., Sharpe, A.G., Fobert, P., Jordan, M.C., and McCartney, C.A. (2014). "Fine Mapping of the Wheat Leaf Rust Resistance Gene *Lr16*.", *XXII Plant & Animal Genome Conference*, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014.

Cabral, A.L., Jordan, M.C., You, F.M., McCartney, C.A., and Pozniak, C.J. (2014). "Identification of a Maturity QTL That Coincides with a Heading Date Locus on 7D in a DH Population of RL4452/AC Domain.", XXII Plant & Animal Genome Conference, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014.

Panwar, V., Kassa, M.T., Bakkeren, G., Fobert, P., Jordan, M.C., McCallum, B.D., and McCartney, C.A. (2014). "VIGS as a powerful genomics resource for identifying host or pathogen gene targets for the control of cereal rust diseases.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Jordan, M.C., Cabral, A.L., McCartney, C.A., and Humphreys, D.G. (2014). "High density SNP mapping and genome synteny to identify candidate genes underlying QTL for pre-harvest sprouting.", 2014 World Forum of Biology, Savannah, GA, USA, May 31 - June 4, 2014. (Poster)

Cabral, A.L., Jordan, M.C., You, F.M., McCartney, C.A., and Pozniak, C.J. (2014). "Identification of a maturity QTL that coincides with a heading date locus on 7D in a DH population of RL4452/AC Domain.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

Cao, W., Fedak, G., Voldeng, H.D., Somers, D.J., Xue, A.G., Fregeau-Reid, J., and McCartney, C.A. (2014). "Application of marker assisted selection in spring wheat breeding.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

Ye, Z., Brûlé-Babel, A.L., Beres, B.L., Tamburic-Ilicic, L., and McCartney, C.A. (2014). "Evaluation of the Role of Genetics and Fungicides on the Development of Fusarium Head Blight in Wheat.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

Pozniak, C.J., Hucl, P.J., Graf, R.J., Knox, R.E., Cuthbert, R.D., and McCartney, C.A. (2014). "Deployment of Genomic Tools: Breeding, Targets, and Progress to Enhance Development of Field Ready Wheat Cultivars.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. Invited presentation.

Gnanesh, B.N., McCartney, C.A., Lin, Y., Beattie, A.D., Chong, J., Mitchell Fetch, J.W., Kutcher, H.R., Eckstein, P.E., Jackson, E.W., Menzies, J.G., and Parkin, I.A.P. (2014). "A major QTL for Adult Plant Crown Rust Resistance in Oat.", XXII Plant & Animal Genome Conference, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014. (Poster)

## 2013

Kassa, M.T., McCartney, C.A., You, F.M., Hiebert, C.W., Jordan, M.C., Pozniak, C.J., MacLachlan, R., McCallum, B.D., Fox, S.L., Wise, I.L., and Thomas, J.B. (2013). "Marker development for wheat leaf rust resistance gene Lr16 and wheat midge resistance gene Sm1 in Canadian wheat cultivars.", Plant & Animal Genome XXI Conference, Town & Country Convention Center, San Diego, CA, USA, January 12-16, 2013.

Kassa, M.T., Hiebert, C.W., You, F.M., Jordan, M.C., Fobert, P., Sharpe, A.G., Pozniak, C.J., Zegeye, T., Fetch Jr., T.G., and McCartney, C.A. (2013). "Fine mapping of Ug99 stem rust resistance gene SrCad.", Canadian Phytopathological Society Annual Meeting, Edmonton, AB, Canada, June 16-19, 2013.

McCartney, C.A., Kassa, M.T., Cabral, A.L., Hiebert, C.W., You, F.M., Jordan, M.C., Menzies, J.G., Humphreys, D.G., Fellers, J.P., Rezac, N., Fobert, P., Sharpe, A.G., Pozniak, C.J., and McCallum, B.D. (2013). "Molecular Analysis of the Lr16 Locus.", North American Cereal Rust Workers Meeting, Winnipeg, MB, Canada, March 20, 2013.

Hiebert, C.W., Spielmeyer, W., McCartney, C.A., Kassa, M.T., Fetch Jr., T.G., You, F.M., Menzies, J.G., Humphreys, D.G., and McCallum, B.D. (2013). "Stem rust resistance - two approaches.", 12th International Wheat Genetics Symposium (IWGS), Yokohama, Japan, September 8-14, 2013, Invited presentation.

McCartney, C.A., Gaudet, D.A., Knox, R.E., and Menzies, J.G. (2013). "QTL Analysis of Common Bunt Resistance in the 'Kenyon'/86ISMN 2137 Mapping Population.", XXI Plant and Animal Genome Conference, San Diego, CA, USA, January 12-16, 2013.

McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M., Fox, S.L., You, F.M., Thomas, J., Hiebert, C.W., Jordan, M.C., and Pozniak, C.J. (2013). "Efforts to manage wheat midge through host genetics.", 69th Annual Meeting of the Entomological Society of Manitoba, Winnipeg, MB, Canada, November 1-2, 2013, Invited Keynote Speech.

McCartney, C.A., Lin, Y., Gnanesh, B.N., Beattie, A.D., Chong, J., Mitchell Fetch, J.W., Kutcher, H.R., Eckstein, P.E., Jackson, E.W., Menzies, J.G., and Parkin, I.A.P. (2013). "Mapping Adult Plant Crown Rust Resistance in Oat.", Canadian Phytopathological Society Annual Meeting, Edmonton, AB, Canada, June 16-19, 2013. (Poster)

Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Menzies, J.G., Pozniak, C.J., Sharpe, A.G., Fobert, P., Jordan, M.C., and McCartney, C.A. (2013). "Fine mapping of the wheat leaf rust resistance gene Lr16.", 12th International Wheat Genetics Symposium (IWGS), Yokohama, Japan, September 8-14, 2013. (Poster)

Bajracharya, P., Rampitsch, C., Daayf, F., and McCartney, C.A. (2013). "Purification and characterization of *Phaeosphaeria nodorum* toxins and mapping of toxin insensitivity.", Canadian Phytopathological Society (CPS) & Pacific Division of the American Phytopathological Society Joint 2010 Meeting, University of British Columbia, Vancouver, BC, Canada, June 20-23, 2010. (Poster)

Kassa, M.T., Hiebert, C.W., You, F.M., Jordan, M.C., Fobert, P., Sharpe, A.G., Pozniak, C.J., Zegeye, T., Fetch Jr., T.G., Menzies, J.G., Humphreys, D.G., and McCartney, C.A. (2013). "Molecular Diagnosis of SrCad and Sr42 resistance genes.", North American Cereal Rust Workers Meeting, Winnipeg, MB, Canada, March 20, 2013.

2012

Gnanesh, B.N., McCartney, C.A., Mitchell Fetch, J.W., Menzies, J.G., Beattie, A.D., and Eckstein, P.E. (2012). "Validation and deployment of breeder-friendly markers for oat crown rust resistance gene Pc91.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

Kassa, M.T., McCartney, C.A., You, F.M., McCallum, B.D., Hiebert, C.W., and Jordan, M.C. (2012). "Marker development for the wheat leaf rust resistance gene Lr16 using a comparative genomic approach.", 22nd International Triticeae Mapping Initiative (ITMI) and 4th National Wheat Genomics Committee Joint Workshop, Fargo, ND, USA, June 25-29, 2012.

Gnanesh, B.N., McCartney, C.A., Mitchell Fetch, J.W., Menzies, J.G., Beattie, A.D., and Eckstein, P.E. (2012). "Development and application of KASPar markers for marker-assisted selection of the Pc91 oat crown rust resistance gene.", Canadian Phytopathological Society (CPS) 2012 Annual Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, O-30. (Presentation)

Cabral, A.L., McCartney, C., McCartney, C.A., Hiebert, C.W., McCallum, B.D., and Jordan, M.C. (2012). "Utility of EMS mutants in rust resistance studies and map based cloning in wheat.", 2012 International Tritici Mapping Initiative, Fargo, ND, USA. (Poster)

2011

Fox, S.L., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Wise, I.L., Smith, M.A.H., Thomas, J.B., Hiebert, C.W., McCartney, C.A., Lukow, O.M., and Niziol, D. (2011). "Breeding for Canada's premier wheat marker class: Canadian Western Red Spring.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Fox, S.L., DePauw, R.M., Humphreys, D.G., Hucl, P.J., Singh, A.K., Pozniak, C.J., Brown, P.D., Graf, R.J., Randhawa, H.S., Voldeng, H.D., McCartney, C.A., Hiebert, C.W., Knox, R.E., Thomas, J.B., Townley-Smith, L., and Fetch Jr., T.G. (2011). "Canadian initiatives in breeding for stem rust resistance to race Ug99 and variants.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, pp. 121-126.

McCartney, C.A., Somers, D.J., Brûlé-Babel, A.L., Fedak, G., Gilbert, J., and Cao, W. (2011). "Mapping of the Wuhan-1 chromosome 2DL FHB QTL in a uniform genetic background.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB)/ Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 97.

DePauw, R.M., Somers, D.J., Cuthbert, R.D., McCallum, B.D., Knox, R.E., Voldeng, H.D., Humphreys, D.G., Fox, S.L., Singh, A.K., McCartney, C.A., and Fedak, G. (2011). "Are QTLs for fusarium head blight response additive?", 7th Canadian Workshop on Fusarium Head Blight (CWFHB)/ Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 70.

McCartney, C.A. (2011). "Overview and progress on the CTAG project.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

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## Research Publications:

2016

Chai, L.L., Kröbel, R., Macdonald, D.J., Bittman, S., Beauchemin, K.A., Janzen, H.H., McGinn, S.M., and VanderZaag, A.C. (2016). "An ecoregion-specific ammonia emissions inventory of Ontario dairy farming: Mitigation potential of diet and manure management practices.", *Atmospheric Environment*, 126, pp. 1-14. doi: 10.1016/j.atmosenv.2015.11.030

Bai, M., Griffith, D.W.T., Phillips, F.A., Naylor, T., Muir, S.K., McGinn, S.M., Chen, D., and others (2016). "Correlations of methane and carbon dioxide concentration from feedlot cattle as a predictor of methane emissions.", *Animal Production Science*, 56(1), pp. 108-115. doi: 10.1071/AN14550

2015

Vyas, D., Alazzeah, A.Y., McGinn, S.M., McAllister, T.A., Harstad, O.M., Holo, H., and Beauchemin, K.A. (2015). "Enteric methane emissions in response to ruminal inoculation of *Propionibacterium* strains in beef cattle fed a mixed diet.", *Animal Production Science*, 118, pp. 989-997. doi: 10.1071/AN14801

Hünerberg, M., Beauchemin, K.A., McGinn, S.M., Entz, T., Okine, E.K., McAllister, T.A., and Harstad, O.M. (2015). "Impact of ruminal pH on enteric methane emissions.", *Journal of Animal Science*, 93(4), pp. 1760-1766. doi: 10.2527/jas.2014-8469

Bai, M., Flesch, T.K., McGinn, S.M., and Chen, D. (2015). "A snapshot of greenhouse gas emissions from a cattle feedlot.", *Journal of Environmental Quality*, 44(6), pp. 1974-1978. doi: 10.2134/jeq2015.06.0278

McGinn, S.M., Flesch, T.K., Coates, T., Charmley, E., Chen, D., Bai, M., and Bishop-Hurley, G. (2015). "Evaluating dispersion modelling options to estimate methane emissions from grazing beef cattle.", *Journal of Environmental Quality*, 44(1), pp. 97-102. doi: 10.2134/jeq2014.06.0275

2014

Vyas, D., McGeough, E.J., McGinn, S.M., McAllister, T.A., and Beauchemin, K.A. (2014). "Effects of *Propionibacterium* strains on ruminal fermentation, nutrient digestibility and methane emissions in beef cattle fed a corn grain finishing diet.", *Animal*, 8(11), pp. 1807-1815. doi: 10.1017/S1751731114001657

Romero-Pérez, G.A., Okine, E.K., McGinn, S.M., Guan, L.L., Oba, M., Duval, S., Kindermann, M., and Beauchemin, K.A. (2014). "The potential of 3-nitrooxypropanol to lower enteric methane emissions from beef cattle.", *Journal of Animal Science*, 92(10), pp. 4682-4693. doi: 10.2527/jas.2014-7573

McGinn, S.M., Beauchemin, K.A., Coates, T., and McGeough, E.J. (2014). "Cattle methane emission and pasture carbon dioxide balance of a grazed grassland.", *Journal of Environmental Quality*, 43(3), pp. 820-828. doi: 10.2134/jeq2013.09.0371

Vyas, D., McGeough, E.J., McGinn, S.M., McAllister, T.A., and Beauchemin, K.A. (2014). "Effect of *Propionibacterium* spp. on ruminal fermentation, nutrient digestibility, and methane emissions in beef heifers fed a high-forage diet.", *Journal of Animal Science*, 92(5), pp. 2192-2201. doi: 10.2527/jas.2013-7492

Denmead, O.T., Chen, D., Rowell, D.L., Loh, Z., Hill, J., Muir, S.K., Griffith, D.W.T., Naylor, T., Bai, M., Phillips, F.A., and McGinn, S.M. (2014). "Gaseous nitrogen emissions from Australian cattle feedlots.", in Sutton, M.A., Mason, K.E., Sheppard, L.J., Sverdrup, H., Haeuber, R. and Hicks, W.K. (eds.) - *Nitrogen Deposition, Critical Loads and Biodiversity: Proceedings of the International Nitrogen Initiative Workshop, Linking Experts of the Convention on Long-range Transboundary Air Pollution and the Convention on Biological Diversity*, Springer Netherlands, Chapter 3, pp. 24-29.

Flesch, T.K., McGinn, S.M., Chen, D., Wilson, J.D., and Desjardins, R.L. (2014). "Data filtering for inverse dispersion emission calculations.", *Agricultural and Forest Meteorology*, 198-199, pp. 1-6. doi: 10.1016/j.agrformet.2014.07.010

Chai, L.L., Kröbel, R., Janzen, H.H., Beauchemin, K.A., McGinn, S.M., Bittman, S., Atia, A., Edeogu, I., MacDonald, D., and Dong, R.L. (2014). "A regional mass balance model based on total ammoniacal nitrogen for estimating ammonia emissions from beef cattle in Alberta Canada.", *Atmospheric Environment*, 92, pp. 292-302. doi: 10.1016/j.atmosenv.2014.04.037

Hünerberg, M., Little, S.M., Beauchemin, K.A., McGinn, S.M., O'Connor, D., Okine, E.K., Harstad, O.M., Kröbel, R., and McAllister, T.A. (2014). "Feeding high concentrations of corn dried distillers' grains decreases methane, but increases nitrous oxide emissions from beef cattle production.", *Agricultural Systems*, 127, pp. 19-27. doi: 10.1016/j.agsy.2014.01.005

## 2013

Chung, Y.-H., McGeough, E.J., Acharya, S.N., McAllister, T.A., McGinn, S.M., Harstad, O.M., and Beauchemin, K.A. (2013). "Enteric methane emission, diet digestibility and nitrogen excretion from beef heifers fed sainfoin or alfalfa.", *Journal of Animal Science*, 91(10), pp. 4861-4874. doi: 10.2527/jas.2013-6498

Hünerberg, M., McGinn, S.M., Beauchemin, K.A., Okine, E.K., Harstad, O.M., and McAllister, T.A. (2013). "Effect of dried distillers' grains with solubles on enteric methane emissions and nitrogen excretion from finishing beef cattle.", *Canadian Journal of Animal Science*, 93(3), pp. 373-385. doi: 10.4141/CJAS2012-151

Koenig, K.M., McGinn, S.M., and Beauchemin, K.A. (2013). "Ammonia emissions and performance of backgrounding and finishing beef feedlot cattle fed barley-based diets varying in dietary crude protein concentration and rumen degradability.", *Journal of Animal Science*, 91(5), pp. 2278-2294. doi: 10.2527/jas.2012-5651

Hünerberg, M., McGinn, S.M., Beauchemin, K.A., Okine, E.K., Harstad, O.M., and McAllister, T.A. (2013). "Effect of dried distillers' grains plus solubles on enteric methane emissions and nitrogen excretion from growing beef cattle.", *Journal of Animal Science*, 91(6), pp. 2846-2857. doi: 10.2527/jas.2012-5564

McGinn, S.M. (2013). "Developments in micrometeorological techniques for methane emissions.", *Animal*, 7(Suppl 2), pp. 386-393. doi: 10.1017/S1751731113000657

McGinn, S.M. (2013). "Quantitative Measurements of Ammonia and Methane Loss from Livestock", in Kebreab, E. (ed.) - *Sustainability of Animal Production*, CABI Publishing, Chapter 15, pp. 238-253.

## 2012

McGeough, E.J., Little, S.M., Janzen, H.H., McAllister, T.A., McGinn, S.M., and Beauchemin, K.A. (2012). "Life-cycle assessment of greenhouse gas emissions from dairy production in eastern Canada: A case study.", *Journal of Dairy Science (JDS)*, 95(9), pp. 5164-5175. doi: 10.3168/jds.2011-5229

Beauchemin, K.A., Coates, T., Farr, B., and McGinn, S.M. (2012). "Can the sulphur hexafluoride tracer gas technique be used to accurately measure enteric methane production from ruminally cannulated cattle? Technical Note.", *Journal of Animal Science*, 90(8), pp. 2727-2732. doi: 10.2527/jas.2011-4681

Hünerberg, M., Beauchemin, K.A., Okine, E.K., Holtshausen, L., McGinn, S.M., Harstad, O.M., and McAllister, T.A. (2012). "In vitro production of methane with increasing levels of corn or wheat based dried distillers' grains with solubles in a barley silage based diet.", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 62(4), pp. 289-294. doi: 10.1080/09064702.2013.773057

McGinn, S.M. and Beauchemin, K.A. (2012). "Dairy Farm Methane Emissions Using a Dispersion Model.", *Journal of Environmental Quality*, 41(1), pp. 73-79. doi: 10.2134/jeq2011.0266

Avila-Stagno, J., Chaves, A.V., He, M.L., Harstad, O.M., Beauchemin, K.A., McGinn, S.M., and McAllister, T.A. (2012). "Effects of increasing concentrations of glycerol in concentrate diets on nutrient digestibility, methane emissions, growth, fatty acid profiles and carcass traits of lambs.", *Journal of Animal Science*, 91(2), pp. 829-837. doi: 10.2527/jas.2012-5215

## 2011

Cárcamo, H.A., Beres, B.L., Herle, C.E., McLean, H., and McGinn, S.M. (2011). "Solid-stemmed wheat does not affect overwintering mortality of the wheat stem sawfly, *Cephus cinctus*.", *Journal of Insect Science*, 11(129), pp. 1-12. doi: 10.1673/031.011.12901

Avila, J.S., Chaves, A.V., Hernandez-Calva, L.M., Beauchemin, K.A., McGinn, S.M., Wang, Y., Harstad, O.M., and McAllister, T.A. (2011). "Effects of replacing barley grain in feedlot diets with increasing levels of glycerol on in vitro fermentation and methane production.", *Animal Feed Science and Technology*, 166-167, pp. 265-268. doi: 10.1016/j.anifeedsci.2011.04.016

Mohammed, R., McGinn, S.M., and Beauchemin, K.A. (2011). "Prediction of enteric methane output from milk fatty acid concentrations and rumen fermentation parameters in dairy cows fed sunflower, flax, or canola seeds.", *Journal of Dairy Science (JDS)*, 94(12), pp. 6057-6068. doi: 10.3168/jds.2011-4369

Chung, Y.-H., He, M.L., McGinn, S.M., McAllister, T.A., and Beauchemin, K.A. (2011). "Linseed suppresses enteric methane emissions from cattle fed barley silage, but not from those fed grass hay.", *Animal Feed Science and Technology*, 166-167, pp. 321-329. doi: 10.1016/j.anifeedsci.2011.04.022

Beauchemin, K.A., Janzen, H.H., McAllister, T.A., and McGinn, S.M. (2011). "Mitigation of greenhouse gas emissions from beef production in western Canada - Evaluation using farm-based life cycle assessment.", *Animal Feed Science and Technology*, 166-167, pp. 663-677. doi: 10.1016/j.anifeedsci.2011.04.047

McAllister, T.A., Beauchemin, K.A., McGinn, S.M., Hao, X., and Robinson, P.H. (2011). "Greenhouse gases in animal agriculture-Finding a balance between food production and emissions.", *Animal Feed Science and Technology*, 166-167, pp. 1-6. doi : 10.1016/j.anifeedsci.2011.04.057

Chung, Y.-H., Walker, N.D., McGinn, S.M., and Beauchemin, K.A. (2011). "Differing effects of 2 active dried yeast (*Saccharomyces cerevisiae*) strains on ruminal acidosis and methane production in nonlactating dairy cows.", *Journal of Dairy Science (JDS)*, 94(5), pp. 2431-2439. doi : 10.3168/jds.2010-3277

Tomkins, N.W., McGinn, S.M., Turner, D.A., and Charmley, E. (2011). "Comparison of open-circuit respiration chambers with a micrometeorological method for determining methane emissions from beef cattle grazing a tropical pasture.", *Animal Feed Science and Technology*, 166-167, pp. 240-247. doi : 10.1016/j.anifeedsci.2011.04.014

## Other Science Related Publications :

### 2015

Chai, L.L., Kröbel, R., Macdonald, D.J., Bittman, S., Beauchemin, K.A., Janzen, H.H., and McGinn, S.M. (2015). "Developing nitrogen loss fractions for beef and dairy cattle manure storage systems in Canadian ecoregions: a comparison between West and East.", *Canadian Society for Bioengineering Conference/CSBE/SCGAB 2015 Annual Conference*, Edmonton, AB, Canada, July 5-8, 2015.

Chai, L.L., Kröbel, R., Beauchemin, K.A., Macdonald, D.J., Janzen, H.H., McGinn, S.M., and Bittman, S. (2015). "Greenhouse gases and ammonia emissions from grazing beef cattle in Alberta and Ontario Canada.", *Canadian Society for Bioengineering Conference/CSBE/SCGAB 2015 Annual Conference*, Edmonton, AB, Canada, July 5-8, 2015, Presentation.

Bai, M., Flesch, T.K., McGinn, S.M., and Chen, D. (2015). "Greenhouse gas emissions from a beef cattle feedlot.", *ASA-CSSA-SSSA International Annual Meeting: Synergy in Science. Partnering for Solutions*, Minneapolis, MN, USA, November 15-18, 2015.

### 2014

Vyas, D., Alazzeq, A.Y., McGinn, S.M., Harstad, O.M., Holo, H., McAllister, T.A., and Beauchemin, K.A. (2014). "Efficacy of *Propionibacterium* strains in mitigating methane emissions from beef heifers fed a high forage diet.", *ADSA-ASAS 2014 Joint Annual Meeting*, Kansas City, MO, USA, July 20-24, 2014.

### 2013

Koenig, K.M., McGinn, S.M., and Beauchemin, K.A. (2013). "Feeding tannins to reduce ammonia emissions from feedlot cattle fed high protein finishing diets containing corn distillers grains.", *CSAS-CMSA Joint Annual Meeting*, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P56, pp. 48. (Poster)

McGeough, E.J., Little, S.M., Janzen, H.H., McAllister, T.A., McGinn, S.M., and Beauchemin, K.A. (2013). "Greenhouse gas emissions from dairying in Eastern Canada – Effects of varying dairy cow replacement rate.", *CSAS-CMSA Joint Annual Meeting*, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P42, pp. 42. (Poster)

Chai, L.L., Kröbel, R., Janzen, H.H., Beauchemin, K.A., McGinn, S.M., Bittman, S., Atia, A., and Edeogu, I. (2013). "A mass balance model based on total ammoniacal nitrogen for estimating ammonia volatilization from beef cattle manure management in Alberta in Canada.", *ASABE Annual International Meeting*, Kansas City, MO, USA, July 21-24, 2013, paper #: 1596572.

Romero-Pérez, G.A., Beauchemin, K.A., McGinn, S.M., Okine, E.K., Guan, L.L., Oba, M., and Duval, S. (2013). "The potential of 3-nitrooxypropanol to lower enteric methane emissions from beef cattle.", *CSAS-CMSA Joint Annual Meeting*, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O01-GS, pp. 3.

Vyas, D., McGeough, E.J., McGinn, S.M., McAllister, T.A., Beauchemin, K.A., and Smith, A.H. (2013). "Methane emissions in response to various *Propionibacterium* strains in beef heifers fed a high grain diet.", *CSAS-CMSA Joint Annual Meeting*, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P46, pp. 44. (Poster)

Vyas, D., McGeough, E.J., McGinn, S.M., McAllister, T.A., Smith, A.H., and Beauchemin, K.A. (2013). "Methane emissions in response to various *Propionibacterium* strains in beef heifers fed high forage diet.", *CSAS-CMSA Joint Annual Meeting*, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P47, pp. 45. (Poster)

Hünerberg, M., Little, S.M., Beauchemin, K.A., McGinn, S.M., Harstad, O.M., Okine, E.K., and McAllister, T.A. (2013). "Farm-based life cycle assessment of greenhouse gas emissions from beef cattle fed dried distillers' grains plus solubles.", *CSAS-CMSA Joint Annual Meeting*, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P43-GS, pp. 43. (Poster)

2012

Avila, J.S., Meale, S.J., McAllister, T.A., He, M.L., Harstad, O.M., Beauchemin, K.A., McGinn, S.M., and Chaves, A.V. (2012). "Effect of replacing barley grain with glycerol in feedlot diets on nutrient digestibility, methane emissions, growth, fatty acid profiles and carcass traits of lambs.", *Journal of Animal Science*, 90(Suppl. 3). (Abstract)

Chung, Y.-H., He, M.L., McGinn, S.M., McAllister, T.A., and Beauchemin, K.A. (2012). "Methane suppressing effect of flaxseed in diets containing hay or silage.", *Journal of Animal Science*, 88(Suppl. 2), pp. 871-872 (#1136). (Abstract)

McGeough, E.J., Chung, Y.-H., Beauchemin, K.A., McGinn, S.M., and McAllister, T.A. (2012). "Methane emissions and diet digestibility for sheep offered diets varying in fat content and forage quality.", *Journal of Animal Science*, 90(Suppl. 3), pp. 129-130 (#M352). (Abstract)

Hünerberg, M., McAllister, T.A., Beauchemin, K.A., McGinn, S.M., Harstad, O.M., and Okine, E.K. (2012). "Effect of dried distillers' grains with solubles on enteric methane emissions and nitrogen excretion from finishing beef cattle.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

McGeough, E.J., Little, S.M., Janzen, H.H., McAllister, T.A., McGinn, S.M., and Beauchemin, K.A. (2012). "Life-cycle assessment of greenhouse gas emissions from dairy production in Eastern Canada: A case study.", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012, Oral Presentation.

McGeough, E.J., Chung, Y.-H., Beauchemin, K.A., McGinn, S.M., Harstad, O.M., and McAllister, T.A. (2012). "Methane emissions and diet digestibility from sheep offered diets varying in fat content and nutritive value", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012. (Poster)

Avila, J.S., Meale, S.J., McAllister, T.A., He, M.L., Harstad, O.M., Beauchemin, K.A., McGinn, S.M., and Chaves, A.V. (2012). "Effect of replacing barley grain with glycerol in feedlot diets on nutrient digestibility, methane emissions, growth, fatty acid profiles and carcass traits of lambs.", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012. (Poster)

Hünerberg, M., McAllister, T.A., McGinn, S.M., Beauchemin, K.A., and Okine, E.K. (2012). "Use of dried distillers' grains with solubles to reduce enteric methane emissions from growing beef cattle.", Symposium on "Agriculture and greenhouse gases", Oslo, Norway, November 5-6, 2012. (Poster)

2011

Koenig, K.M., Beauchemin, K.A., and McGinn, S.M. (2011). "Feeding tannins to reduce nitrogen losses from feedlot cattle fed high protein diets containing distillers grains 2. Nutrient digestibility and route of nitrogen excretion.", ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 11-14, 2011. (Poster)

Beauchemin, K.A., McGeough, E.J., Little, S.M., Janzen, H.H., McAllister, T.A., McGinn, S.M., and Maclean, K. (2011). "The HolosModel: reflections on progress and future plans.", Norway, June 2011. (Presentation)

Koenig, K.M., Beauchemin, K.A., and McGinn, S.M. (2011). "Feeding tannins to reduce nitrogen losses from feedlot cattle fed high protein diets containing distillers grains 1. Animal performance and plasma urea nitrogen.", ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 11-14, 2011. (Poster)

Hünerberg, M., McAllister, T.A., McGinn, S.M., Beauchemin, K.A., and Okine, E.K. (2011). "Effect of dried distillers' grains with solubles on enteric methane emissions from finishing beef cattle.", 32nd Western Nutrition Conference: Quality from Complexity, Crowne Plaza Chateau Lacombe, Edmonton, AB, Canada, September 14-15, 2011.

Koenig, K.M., Beauchemin, K.A., and McGinn, S.M. (2011). "Feeding tannins to reduce nitrogen losses from feedlot cattle fed high protein diets containing distillers grains 1. Animal performance and plasma urea nitrogen.", *Journal of Dairy Science (JDS)*, 94(E-Suppl. 1), pp. 111. (Abstract)

Koenig, K.M., Beauchemin, K.A., and McGinn, S.M. (2011). "Feeding tannins to reduce nitrogen losses from feedlot cattle fed high protein diets containing distillers grains 2. Nutrient digestibility and route of nitrogen excretion.", *Journal of Dairy Science (JDS)*, 94(E-Suppl. 1), pp. 111. (Abstract)

Beauchemin, K.A., McGeough, E.J., Little, S.M., Janzen, H.H., McAllister, T.A., McGinn, S.M., and Maclean, K. (2011). "GHG modelling activities: an overview.", Seminar on Greenhouse Gases from Agriculture, Norwegian University of Life Sciences, Norway, June 29, 2011. (Presentation)

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## Other Science Related Publications:

2014

Debnath, S.C., McKenzie, D.B., Bishop, G.A., Dixon, P.L., Siow, Y.L., and Mills, A.A.S. (2014). "Blueberries: transitioning from wild to cultivated production.", STB Weekly Science Story, January 21, 2014. (Newsletter)

McKenzie, D.B., Bishop, G.A., and Dixon, P.L. (2014). "Effet de divers types de paillis sur la croissance initiale des cultivars de bleuets semi-géants de différentes classes de précocité de maturation dans les conditions fraîches et pluvieuses de l'est de Terre-Neuve.", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014.

McKenzie, D.B., Bishop, G.A., Dixon, P.L., and Noronha, C. (2014). "No thanks, I'll pass on the wireworms in my potatoes.", 56th Annual Farm Field Day, St. John's, NL, Canada, August 9, 2014, Presentation. (Poster)

McKenzie, D.B., Bishop, G.A., Dixon, P.L., and Noronha, C. (2014). "Non merci, je ne veux pas de larves de doryphore sur mes patates!", 56th Annual Farm Field Day, St. John's, NL, Canada, August 9, 2014, Presentation. (Poster)

McKenzie, D.B., Bishop, G.A., and Dixon, P.L. (2014). "Assessment of surface mulch type effect on the initial growth of half-high blueberry cultivars from a range of maturity classes under the cool, high precipitation climatic conditions of eastern Newfoundland.", Research Centre Field Day, Centre de recherche de l'Atlantique sur les cultures de climat frais, Agriculture et Agroalimentaire Canada, St. John's, NL, Canada, August 9, 2014. (Poster)

McKenzie, D.B., Bishop, G.A., and Dixon, P.L. (2014). "Effet de divers types de paillis sur la croissance initiale des cultivars de bleuets semi-géants de différentes classes de précocité de maturation dans les conditions fraîches et pluvieuses de l'est de Terre-Neuve.", Research Centre Field Day, Centre de recherche de l'Atlantique sur les cultures de climat frais, Agriculture et Agroalimentaire Canada, St. John's, NL, Canada, August 9, 2014. (Poster)

McKenzie, D.B., Bishop, G.A., and Dixon, P.L. (2014). "Assessment of surface mulch type effect on the initial growth of half-high blueberry cultivars from a range of maturity classes under the cool, high precipitation climatic conditions of eastern Newfoundland.", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014, Presentation. (Poster)

Debnath, S.C., Anderson, S., Bishop, G.A., Dixon, P.L., McKenzie, D.B., Mills, A.A.S., and Siow, Y.L. (2014). Developing innovative technologies to accelerate industry transition from 'wild' to cultivated cool climate berry crop production systems. Project ID: 13-1155; Research Project Annual Report 2013-2014, AAFC Science and Technology Branch. (Report)

2012

Debnath, S.C., McKenzie, D.B., Dixon, P.L., and Bishop, G.A. (2012). "Cool climate berry crop production and protection in Newfoundland and Labrador.", Newfoundland and Labrador Symposium: Our Food, Our Future, Growing the Agriculture Industry in Newfoundland and Labrador, Corner Brook, NL, Canada, November 23, 2012, pp. 11-12.



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## Research Publications:

2015

Chang, K.F., Hwang, S.F., Conner, R.L., Ahmed, H.U., Zhou, Q.-X., Turnbull, G.D., Strelkov, S.E., McLaren, D.L., and Gossen, B.D. (2015). "First report of *Fusarium proliferatum* causing root rot in soybean (*Glycine max* L.) in Canada.", *Crop Protection*, 67, pp. 52-58. doi : 10.1016/j.cropro.2014.09.020

2014

Henriquez, M.A., McLaren, D.L., Conner, R.L., Balasubramanian, P.M., Chang, K.F., Hwang, S.F., and Strelkov, S.E. (2014). "First report of *Fusarium cuneirostrum* causing root rot disease in dry bean (*Phaseolus vulgaris*) in Canada.", *Plant Disease*, 98(2), pp. 278. doi : 10.1094/PDIS-05-13-0553-PDN

Chang, K.F., Conner, R.L., Hwang, S.F., Ahmed, H.U., McLaren, D.L., Gossen, B.D., and Turnbull, G.D. (2014). "Effects of seed treatments and inoculum density of *Fusarium avenaceum* and *Rhizoctonia solani* on seedling blight and root rot of in faba bean.", *Canadian Journal of Plant Science*, 94(4), pp. 693-700. doi : 10.4141/cjps2013-339

Conner, R.L., Hou, A., Balasubramanian, P.M., McLaren, D.L., Henriquez, M.A., Chang, K.F., and McRae, K.B. (2014). "Reaction of dry bean cultivars grown in western Canada to root rot inoculation.", *Canadian Journal of Plant Science*, 94(7), pp. 1219-1230. doi : 10.4141/CJPS2013-416

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Turkington, T.K., Lupwayi, N.Z., Stevenson, F.C., McLaren, D.L., Khakbazan, M., and Smith, E.G. (2014). "Rotational effects of legumes and non-legumes on hybrid canola and malting barley.", *Agronomy Journal*, 106(6), pp. 1921-1932. doi : 10.2134/agronj14.0236

Bing, D.-J., Beauchesne, D., McLaren, D.L., Vera, C.L., and Gehl, D.T. (2014). "AAC Lacombe field pea.", *Canadian Journal of Plant Science*, 94(4), pp. 805-806. doi : 10.4141/cjps2013-365

Balasubramanian, P.M., Conner, R.L., McLaren, D.L., Chatterton, S., and Hou, A. (2014). "Partial resistance to white mould in dry bean.", *Canadian Journal of Plant Science*, 94(4), pp. 683-691. doi : 10.4141/cjps2013-312

Bing, D.-J., Beauchesne, D., McLaren, D.L., Vera, C.L., and Gehl, D.T. (2014). "AAC Ardill field pea.", *Canadian Journal of Plant Science*, 94(1), pp. 191-192. doi : 10.4141/cjps2013-213

2013

Bing, D.-J., Beauchesne, D., McLaren, D.L., Vera, C.L., and Gehl, D.T. (2013). "AAC Peace River field pea.", *Canadian Journal of Plant Science*, 93(2), pp. 337-339. doi : 10.4141/cjps2012-173

Nie, X., Singh, M., Pelletier, Y., and McLaren, D.L. (2013). "Recent Advances on Potato virus Y Research in Canada.", *American Journal of Potato Research*, 90(1), pp. 14-20. doi : 10.1007/s12230-012-9288-6

2012

Chen, Y.-Y., Conner, R.L., Gillard, C.L., McLaren, D.L., Boland, G.J., Balasubramanian, P.M., Stasolla, C., Zhou, Q.-X., Hwang, S.F., Chang, K.F., and Babcock, C. (2012). "A quantitative real-time PCR assay for detection of *Colletotrichum lindemuthianum* in navy bean seeds.", *Plant Pathology*. doi : 10.1111/j.1365-3059.2012.02692.x

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Klein-Gebbinck, H.W., Dossall, L.M., Hall, L.M., Willenborg, C.J., Kutcher, H.R., Malhi, S.S., Vera, C.L., Gan, Y.T., Lafond, G.P., May, W.E., Grant, C.A., and McLaren, D.L. (2012). "High-yield no-till canola production on the Canadian prairies.", *Canadian Journal of Plant Science*, 92(2), pp. 221-233. doi : 10.4141/CJPS2011-125

Feng, J., Chang, K.F., Hwang, S.F., Strelkov, S.E., Conner, R.L., Gossen, B.D., McLaren, D.L., and Chen, Y.Y. (2012). "Analysis of expressed sequence tags derived from pea leaves infected by *Peronospora viciae* f. sp. *pisi*.", *Annals of Applied Biology*, 161(3), pp. 214-222. doi : 10.1111/j.1744-7348.2012.00566.x

Mohr, R.M., Irvine, R.B., Khakbazan, M., McLaren, D.L., Monreal, M.A., Moulin, A.P., Tomaszewicz, D.J., Volkmar, K.M., and Derksen, D.A. (2012). "Potato Rotation Study - Carberry, Manitoba (1997-2010).", *Prairie Soils and Crops*, 5, pp. 36-41.

Li, W.J., Feng, J., Chang, K.F., Conner, R.L., Hwang, S.F., Strelkov, S.E., Gossen, B.D., and McLaren, D.L. (2012). "Microsatellite DNA Markers Indicate Quantitative Trait Loci Controlling Resistance to Pea Root Rot Caused by *Fusarium avenaceum* (Corda ex Fries) Sacc.", *Plant Pathology Journal*, 11(4), pp. 114-119. doi: 10.3923/ppj.2012.114.119

2011

Kutcher, H.R., Fernando, W.G.D., Turkington, T.K., and McLaren, D.L. (2011). "Best Management Practices for Blackleg Disease of Canola.", *Prairie Soils and Crops*, 4, pp. 122-134.

Mohr, R.M., Volkmar, K.M., Derksen, D.A., Irvine, R.B., Khakbazan, M., McLaren, D.L., Monreal, M.A., Moulin, A.P., and Tomasiwicz, D.J. (2011). "Effect of Rotation on Crop Yield and Quality in an Irrigated Potato System.", *American Journal of Potato Research*, 88(4), pp. 346-359. doi: 10.1007/s12230-011-9200-9

Monreal, M.A., Grant, C.A., Irvine, R.B., Mohr, R.M., McLaren, D.L., and Khakbazan, M. (2011). "Crop management effect on arbuscular mycorrhizae and root growth of flax.", *Canadian Journal of Plant Science*, 91(2), pp. 315-324. doi: 10.4141/cjps10136

Turkington, T.K., Kutcher, H.R., McLaren, D.L., and Rashid, K.Y. (2011). "Managing Sclerotinia in Oilseed and Pulse Crops.", *Prairie Soils and Crops*, 4, pp. 105-113.

Feng, J., Hwang, R., Chang, K.F., Conner, R.L., Hwang, S.F., Strelkov, S.E., Gossen, B.D., McLaren, D.L., and Xue, A.G. (2011). "Identification of microsatellite markers linked to quantitative trait loci controlling resistance to fusarium root rot in field pea.", *Canadian Journal of Plant Science*, 91(1), pp. 199-204. doi: 10.4141/CJPS09176

Gao, X., Mohr, R.M., McLaren, D.L., and Grant, C.A. (2011). "Grain cadmium and zinc concentrations in wheat as affected by genotypic variation and potassium chloride fertilization.", *Field Crops Research*, 122(2), pp. 95-103. doi: 10.1016/j.fcr.2011.03.005

Grant, C.A., Derksen, D.A., McLaren, D.L., and Irvine, R.B. (2011). "Nitrogen Fertilizer and Urease Inhibitor Effects on Canola Seed Quality in a One-Pass Seeding and Fertilizing System.", *Field Crops Research*, 121(2), pp. 201-208. doi: 10.1016/j.fcr.2010.10.012

Bing, D.-J., Beauchesne, D., Sloan, A., McLaren, D.L., and Vera, C.L. (2011). "Earlystar field pea.", *Canadian Journal of Plant Science*, 91(6), pp. 1115-1116. doi: 10.4141/CJPS2011-076

## Other Science Related Publications:

2015

Taheri, A.E., Safarieskandari, S., Chatterton, S., Foroud, N.A., Gossen, B.D., and McLaren, D.L. (2015). "Pathogenic fungi associated with root rot of field pea on the Canadian prairies.", *Canadian Journal of Plant Pathology*, 37, pp. 249. (Abstract)

Henriquez, M.A., McLaren, D.L., Conner, R.L., Balasubramanian, P.M., Chang, K.F., Hwang, S.F., Strelkov, S.E., Gossen, B.D., and Penner, W.C. (2015). "Soybean root rot and phytophthora rot in Manitoba, Canada.", *Canadian Journal of Plant Pathology*, 37, pp. 247. (Abstract)

Esmaili Taheri, A., Chatterton, S., Foroud, N.A., Gossen, B.D., and McLaren, D.L. (2015). "Identity and host specificity of root rot pathogens colonizing standing pea stubble from the Canadian Prairies.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015.

Chang, K.F., Hwang, S.F., Ahmed, H.U., Zhou, Q-X., Strelkov, S.E., Conner, R.L., McLaren, D.L., Gossen, B.D., and Turnbull, G.D. (2015). "Evaluation of soybean cultivars against root rot caused by *Fusarium avenaceum* and *Rhizoctonia solani* under low and high salinity.", *Phytopathology*. (Abstract)

2014

Chatterton, S., Foroud, N.A., Gossen, B.D., and McLaren, D.L. (2014). "Pathogen populations associated with root rot of field pea in western Canada.", 6th International Food Legumes Research Conference, Saskatoon, SK, Canada, July 7-11, 2014. (Poster)

Henriquez, M.A. and McLaren, D.L. (2014). "The root of the problem: *Fusarium* and *Phytophthora* in pulses in Manitoba.", *Agronomy Research Update: Root Rot Roundtable*, Saskatchewan Ministry of Agriculture, Saskatoon, SK, Canada, December 10, 2014. (Abstract)

McLaren, D.L., Henriquez, M.A., Conner, R.L., Balasubramanian, P.M., Chang, K.F., Hwang, S.F., Strelkov, S.E., and Gossen, B.D. (2014). "Fusarium species isolated from dry bean and field pea in Manitoba: Identification, pathogenicity and prognosis.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014. (Abstract)

Nyandoro, R., Chang, K.F., Hwang, S.F., Strelkov, S.E., Turnbull, G.D., Howard, R.J., Harding, M.W., McLaren, D.L., and Conner, R.L. (2014). "The occurrence of soybean root rot in southern Alberta, Canada in 2013.", *Canadian Plant Disease Survey*, 94, pp. 198-200.

McLaren, D.L., Platford, R.G., Kubinec, A.M., Derksen, H., Bargaen, E., Brackenreed, A., Brown-Livingston, K., Buss, T., Chomokovski, D., Farooq, A., Hausemann, D.J., Heshka, J., Henderson, T.L., Jersak, S., Kaskiw, E., Kaskiw, L., Kristjanson, I., Lange, D., McCracken, M., Nemberg, E., Picard, R., and Stoyanowski, D. (2014). "Survey of canola diseases in Manitoba in 2013.", *Canadian Plant Disease Survey*, 94, pp. 180-183.

McLaren, D.L., Hausemann, D.J., Henriquez, M.A., Chang, K.F., and Kerley, T.J. (2014). "Field pea diseases in Manitoba in 2013.", *Canadian Plant Disease Survey*, 94, pp. 191-192.

Henriquez, M.A., McLaren, D.L., Conner, R.L., Hall, B., Penner, W.C., and Kerley, T.J. (2014). "Root diseases of field bean in western Ontario in 2013.", *Canadian Plant Disease Survey*, 94, pp. 156-157.

Henriquez, M.A., McLaren, D.L., Conner, R.L., Penner, W.C., and Kerley, T.J. (2014). "Diseases of field bean in Manitoba in 2013.", *Canadian Plant Disease Survey*, 94, pp. 154-155.

McLaren, D.L., Henriquez, M.A., Conner, R.L., Chang, K.F., Henderson, T.L., and Kerley, T.J. (2014). "Soybean root rot in Manitoba in 2012 and 2013.", *Canadian Plant Disease Survey*, 94, pp. 201-202.

Olfert, O.O., Cárcamo, H.A., Elliott, R.H., Gan, Y.T., McLaren, D.L., Olivier, C.Y., Otani, J.K., Peng, G., and Soroka, J.J. (2014). Detection, surveillance and management of weed, insect and disease pests that threaten the economic viability of crop production and the environmental health of prairie agro-ecosystems. Annual Report to Canola Science Cluster (4 pages). (Report)

Hwang, S.F., Chang, K.F., Ahmed, H.U., Zhou, Q., Strelkov, S.E., Conner, R.L., McLaren, D.L., Gossen, B.D., and Turnbull, G.D. (2014). "First report of *Fusarium proliferatum* causing root rot disease in soybean (*Glycine max*) in Canada.", *The Western Producer*, 104(Supl. 3), pp. S3.53. (Abstract)

Chatterton, S., Balasubramanian, P.M., McLaren, D.L., Conner, R.L., and Howard, R.J. (2014). "Race structure of *Pseudomonas syringae* pv. *phaseolicola* from dry bean fields on the Canadian prairies.", *Annual Report of the Bean Improvement Cooperative (BIC)*, 57, pp. 147-148.

Taheri, A.E., Chatterton, S., Foroud, N.A., Gossen, B.D., and McLaren, D.L. (2014). "Pathogenic fungal communities invading roots, crowns, and lower stems of field pea in Canadian prairies.", 35th Meeting of the Plant Pathology Society of Alberta, Canmore, AB, Canada, October 27-29, 2014. (Poster)

Henriquez, M.A., McLaren, D.L., Conner, R.L., Balasubramanian, P.M., Chang, K.F., Hwang, S.F., Strelkov, S.E., and Gossen, B.D. (2014). "*Fusarium* species from soybean in Manitoba.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014. (Abstract)

Conner, R.L., Hou, A., Balasubramanian, P.M., McLaren, D.L., Henriquez, M.A., Chang, K.F., and McRae, K.B. (2014). "Reactions of dry bean cultivars from western Canada to root rot.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014. (Poster)

Chatterton, S., Gossen, B.D., and McLaren, D.L. (2014). "Pathogen populations associated with root rot of field pea in western Canada.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014. (Abstract)

McLaren, D.L., Henriquez, M.A., Conner, R.L., Mohr, R.M., Balasubramanian, P.M., and Chang, K.F. (2014). "The root of the problem: *Fusarium* and *Phytophthora* in Manitoba soybean fields.", *Canadian Association of Agri-Retailers (CAAR) Crop Management Forum*, Brandon, MB, Canada, November 18, 2014. (Abstract)

Henriquez, M.A., McLaren, D.L., Conner, R.L., Balasubramanian, P.M., Chang, K.F., Hwang, S.F., and Gossen, B.D. (2014). "Soybean root rot and *Phytophthora* rot in Manitoba, Canada.", CPS Regional Meeting, Morden, MB, Canada, December 4, 2014. (Abstract)

Taheri, A.E., Safarieskandari, S., Chatterton, S., Foroud, N.A., Gossen, B.D., and McLaren, D.L. (2014). "Pathogenic fungi associated with root rot of field pea on the Canadian prairies.", *Canadian Phytopathological Society 2014 Meeting*, Saskatoon, SK, Canada, December 11, 2014. (Abstract)

## 2013

Chang, K.F., Nyandoro, R., Howard, R.J., Hwang, S.F., Turnbull, G.D., Laflamme, P., Strelkov, S.E., and McLaren, D.L. (2013). "Occurrence of soybean root rot in southern Alberta, Canada in 2011 and 2012.", *Canadian Plant Disease Survey*, 93, pp. 170-173.

McLaren, D.L., Hausemann, D.J., Henriquez, M.A., Chang, K.F., and Kerley, T.J. (2013). "Field pea diseases in Manitoba in 2012.", *Canadian Plant Disease Survey*, 93, pp. 165-166.

McLaren, D.L., Henriquez, M.A., Conner, R.L., and Chang, K.F. (2013). "2012 Field pea, dry bean and soybean research at the Brandon Research Centre.", *Pulse Beat*, 68(Spring), pp. 35-36.

Feng, J., Chang, K.F., Hwang, S.F., Strelkov, S.E., Conner, R.L., Gossen, B.D., and McLaren, D.L. (2013). "Analysis of expressed sequence tags derived from a compatible pea-*Peronospora viciae* interaction.", *Canadian Journal of Plant Pathology*, 35, pp. 109. (Abstract)

Li, W.J., Feng, J.-W., Chang, K.F., Conner, R.L., Hwang, S.F., Strelkov, S.E., Gossen, B.D., and McLaren, D.L. (2013). "Microsatellite DNA markers indicate quantitative trait loci controlling resistance to pea root rot caused by *Fusarium avenaceum*.", *Canadian Journal of Plant Pathology*, 35, pp. 107. (Abstract)

McLaren, D.L., Platford, R.G., Kubinec, A.M., Derksen, H., Kutcher, H.R., Bargaen, E., Bisht, V., Brackenreed, A., Buss, T., Chomokovski, D., Farooq, A., Hausemann, D.J., Henderson, T.L., Jersak, S., Johnson, H., Kaskiw, L., Kristjanson, I., Lange, D., McCracken, M., Nernberg, E., Picard, R., Stadnyk, S., and Stoyanowski, D. (2013). "Survey of canola diseases in Manitoba in 2012.", *Canadian Plant Disease Survey*, 93, pp. 155-158.

McLaren, D.L., Henriquez, M.A., Conner, R.L., Balasubramanian, P.M., and Chang, K.F. (2013). "Root rot of pulses in Manitoba.", *Manitoba Special Crops 7th Symposium*, Victoria Inn and Convention Centre, Winnipeg, MB, Canada, February 6-7, 2013.

Mohr, R.M., Glenn, A.J., McLaren, D.L., Irvine, R.B., Sandercock, M., Finlay, G.J., Linde, C., Halabicki, P., Kostuik, J., and Chalmers, S. (2013). Effects of row spacing and seeding rate on soybean in Manitoba. *Canada Manitoba Crop Diversification Centre Annual Report 2013*. P. 16-29. <http://www.gov.mb.ca/agriculture/innovation-and-research/diversification-centres/print,index.html>. (Report)

Mohr, R.M., Glenn, A.J., McLaren, D.L., Irvine, R.B., Sandercock, M., Finlay, G.J., Linde, C., Halabicki, P., Burak, K., Kostuik, J., and Chalmers, S. (2013). Agronomic management of soybeans in Manitoba. *Westman Agricultural Diversification Organization 2013 Annual Report*. P. 82-113. <http://www.gov.mb.ca/agriculture/innovation-and-research/diversification-centres/print,index.html>. (Report)

Derksen, H., Kubinec, A.M., and McLaren, D.L. (2013). "Detection of *Plasmiodiophora brassicae* in Manitoba, 2011.", *Canadian Plant Disease Survey*, 93, pp. 159.

## 2012

Balasubramanian, P.M., Conner, R.L., McLaren, D.L., Chatterton, S., and Hou, A. (2012). "Development of dry bean cultivars with resistance to white mold. Oral presentation.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, Oral presentation.

McLaren, D.L., Hausemann, D.J., Henriquez, M.A., Kerley, T.J., and Chang, K.F. (2012). "Field pea diseases in Manitoba in 2011.", *Canadian Plant Disease Survey*, 92, pp. 150-151.

Henriquez, M.A., McLaren, D.L., Conner, R.L., Penner, W.C., and Kerley, T.J. (2012). "Diseases of field bean in Manitoba in 2011.", *Canadian Plant Disease Survey*, 92, pp. 120-121.

Balasubramanian, P.M., Chatterton, S., Hou, A., Conner, R.L., McLaren, D.L., Navabi, A., Pauls, K.P., and Bett, K.E. (2012). "Dry bean improvement on the prairies for high yield, disease resistance and seed quality.", *Pulse Science Cluster Scientific Meeting 2012*, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 5-6, 2012.

Henriquez, M.A., McLaren, D.L., Conner, R.L., Balasubramanian, P.M., and Chang, K.F. (2012). "Fusarium species from dry bean and field pea in Manitoba.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, pp. 6.

Chang, K.F., Conner, R.L., Hwang, S.F., Gossen, B.D., McLaren, D.L., and Turnbull, G.D. (2012). "Methods of inoculating pea plants with *Peronospora viciae* f. sp. *pisii*.", *Canadian Phytopathological Society (CPS) 82nd Annual Meeting (with Plant Canada 2011)*, Halifax, NS, Canada, July 17-21, 2011, Published in: *Can. J. Plant Pathol.* (2011), 34(2), pp. 328.

Conner, R.L., Chang, K.F., Hwang, S.F., McLaren, D.L., and Gossen, B.D. (2012). "Impact and control of fusarium root rot in faba bean.", *Pulse Beat*, 65, pp. 26-27.

Cross, D.J., Peng, G., Liban, S.H., Fernando, W.G.D., Kirkham, C., Yu, F.Q., Kutcher, H.R., Dokken-Bouchard, F.L., McLaren, D.L., Lange, R.M., Jurke, C., and Kubinec, A.M. (2012). "The Race Structure of *Leptosphaeria maculans* in Commercial Canola Fields Based on 2010 Disease Surveys on the Prairies.", *Joint Meeting of CPS Saskatchewan Group and Plant Pathological Society of Alberta*, Canada, November, 2012. (Poster)

Peng, G., Fernando, W.G.D., Kutcher, H.R., Cross, D.J., Liban, S.H., Yu, F.Q., Kirkham, C., Dokken-Bouchard, F.L., McLaren, D.L., and Kubinec, A.M. (2012). "Recent occurrence of blackleg on canola and the profile of *Leptosphaeria maculans* races on the Canadian prairies.", 4th Joint Saskatchewan-Alberta Plant Pathology Conference: Mapping and cloning of clubroot resistance genes in Brassica species, Lloydminster, SK, Canada, November 5-7, 2012.

McLaren, D.L., Platford, R.G., Kubinec, A.M., Kutcher, H.R., Bisht, V., Derksen, H., Kristjanson, I., Phillips, K., Henderson, T.L., Hausemann, D.J., Jack, B., Picard, R., Jersak, S., Johnson, H., Stomowski, D., Neurenberg, E., Farooq, A., and McCracken, M. (2012). "Survey of canola diseases in Manitoba in 2011.", *Canadian Plant Disease Survey*, 92, pp. 130-132.

Conner, R.L., Chang, K.F., McLaren, D.L., and Hwang, S.F. (2012). "Partial resistance to *Mycosphaerella* blight in field pea.", *Pulse Beat*, 65, pp. 32.

Feng, J., Chang, K.F., Hwang, S.F., Strelkov, S.E., Conner, R.L., Gossen, B.D., and McLaren, D.L. (2012). "Identification of genes from the pea-downy mildew pathosystem.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, pp. 36.

Turkington, T.K., Kutcher, H.R., Jurke, C., Buchwaldt, L., and McLaren, D.L. (2012). "Managing sclerotinia stem rot of canola.", Webinar, Canola Council of Canada and canola grower's associations (ACPC/SC/MCGA), Canada, June 28, 2012. (Presentation)

Strelkov, S.E., Hwang, S.F., Howard, R.J., Rahman, H., Kutcher, H.R., Turkington, T.K., Gossen, B.D., Peng, G., McLaren, D.L., LeBoldus, J.M., Feng, J., Cao, T., and Manolii, V.P. (2012). "Clubroot Risk Mitigation Initiative: Pathology Pillar.", Clubroot Summit 2012, Edmonton, AB, Canada, March 6, 2012, Invited presentation.

Peng, G., Fernando, W.G.D., Kirkham, C.L., Lange, R., Kutcher, H.R., McLaren, D.L., Johnson, E.N., and Turkington, T.K. (2012). "Mitigating the risk of blackleg disease of canola using fungicide strategies.", Soils and Crops Workshop 2012, University of Saskatchewan, Saskatoon, SK, Canada, March 13-14, 2012, [CD], 7 pages.

Cross, D.J., Liban, S.H., Peng, G., Fernando, W.G.D., Kutcher, H.R., Yu, F.Q., Kirkham, C., Dokken-Bouchard, F.L., McLaren, D.L., and Kubinec, A.M. (2012). "The race structure of *Leptosphaeria maculans* in commercial canola fields based on 2010 disease surveys in Manitoba and Saskatchewan.", 4th Joint Saskatchewan-Alberta Plant Pathology Conference: Mapping and cloning of clubroot resistance genes in Brassica species, Lloydminster, SK, Canada, November 5-7, 2012. (Poster)

Henriquez, M.A., McLaren, D.L., Conner, R.L., Balasubramanian, P.M., and Chang, K.F. (2012). "Root rot pathogens in dry bean and field pea fields in Manitoba.", Canadian Phytopathological Society (CPS) Manitoba Regional 2012 Meeting, Brandon, MB, Canada, November 29, 2012, Published in: *Can. J. Plant Pathol.* (2013), 35(2), pp. 270.

## 2011

Feng, J., Chang, K.F., Hwang, S.F., Gossen, B.D., Conner, R.L., and McLaren, D.L. (2011). "Production of non-specific esterase by conidia of *Peronospora viciae* f.sp. *pisii*.", *Canadian Journal of Plant Pathology*, 33, pp. 259. (Abstract)

Chang, K.F., Conner, R.L., Hwang, S.F., Gossen, B.D., McLaren, D.L., Strelkov, S.E., and Turnbull, G.D. (2011). "Occurrence, impact and management of root rot on faba bean in Alberta.", *Canadian Journal of Plant Pathology*, 33, pp. 272. (Abstract)

McLaren, D.L., Kubinec, A.M., Derksen, H., and Bisht, V. (2011). "What's lurking in your canola field?", Manitoba Agronomists 2011 Conference, Winnipeg, MB, Canada, December 13-14, 2011.

Conner, R.L., McLaren, D.L., Penner, W.C., and Kerley, T.J. (2011). "Diseases of dry bean in Manitoba in 2010.", *Canadian Plant Disease Survey*, 91, pp. 107-108.

McLaren, D.L., Platford, R.G., Kutcher, H.R., Bisht, V., Kubinec, A.M., Kristjanson, I., Hammond, D., Henderson, T.L., Hausermann, D.J., Kaskiw, L., Williamson, K., Jersak, S., Johnson, H., Souque, J., Heshka, J., and Farooq, A. (2011). "Survey of canola diseases in Manitoba in 2010.", *Canadian Plant Disease Survey*, 91, pp. 124-126.

McLaren, D.L., Hausermann, D.J., Henderson, T.L., and Kerley, T.J. (2011). "Field pea diseases in Manitoba in 2010.", *Canadian Plant Disease Survey*, 91, pp. 140-141.

Chang, K.F., Hwang, S.F., Conner, R.L., Gossen, B.D., Strelkov, S.E., McLaren, D.L., and Turnbull, G.D. (2011). "Fungicide seed treatments to manage seedling blight of faba bean in Alberta, Canada, 2010.", *American Phytopathological Society (APS) 2011 Joint Annual Meeting & International Association for the Plant Protection Sciences (IPPC)*, Honolulu, HI, USA, August 6-10, 2011, Published in: *Phytopathology* (2011), 101(6S), pp. S30.

McLaren, D.L., Henriquez, M.A., and Conner, R.L. (2011). "Field pea and dry bean research at the Brandon Research Centre.", *Pulse Beat*, 64(Fall/Winter), pp. 32.

McLaren, D.L. (2011). "Diseases of canola: what to look for in 2011.", Webinar Presentation, July 22, 2011. (Presentation)

Balasubramanian, P.M., Hou, A., Conner, R.L., McLaren, D.L., Navabi, A., and Pauls, K.P. (2011). "Improvement of dry bean on the prairies for high yield, disease resistance and seed quality.", *Pulse Science Cluster Scientific Meeting 2011*, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011.

Strelkov, S.E., Hwang, S.F., Howard, R.J., Rahman, H., Kutcher, H.R., Turkington, T.K., Gossen, B.D., Peng, G., McLaren, D.L., LeBoldus, J.M., Feng, J., Cao, T., and Manolii, V.P. (2011). "Clubroot Risk Mitigation Initiative: Pathology Pillar.", Clubroot Summit 2011, Saskatoon, SK, Canada, March 9, 2011, Invited presentation.

Kutcher, H.R., Turkington, T.K., Brandt, S.A., Gossen, B.D., McLaren, D.L., Dokken-Bouchard, F.L., and Strelkov, S.E. (2011). "Canola Disease Management", *Annual Indian Head Crop Management Field Day 2011*, Indian Head, SK, Canada, July 19, 2011.

Gao, X., Mohr, R.M., McLaren, D.L., and Grant, C.A. (2011). "Variation in Cadmium, Iron and Zinc Concentrations in Grain of 13 Bread Wheat Cultivars Grown on Canadian Prairies.", *11th International Conference of Biogeochemistry of Trace Elements*, Florence, Italy, July 3-7, 2011. (Abstract)

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## Research Publications:

2015

Xu, S.T., Zhang, L., McLaughlin, N.B., Mi, J.Z., Chen, Q., and Liu, J.H. (2015). "Effect of synthetic and natural water absorbing soil amendment soil physical properties under potato production in a semi-arid region.", *Soil & Tillage Research*, 148, pp. 31-39. doi : 10.1016/j.still.2014.10.002

Jia, S., Zhang, X.-P., Chen, X., McLaughlin, N.B., Zhang, S., Wei, S., Sun, B., and Liang, A.-Z. (2015). "Long-term conservation tillage influences the soil microbial community and its contribution to soil CO<sub>2</sub> emissions in a Mollisol in Northeast China.", *Journal of Soils and Sediments*. doi : 10.1007/s11368-015-1158-7

Pan, F.J., Han, X.Z., McLaughlin, N.B., Han, X., Li, C., Zhao, D., Zhan, L.-L., and Xu, Y.L. (2015). "Effect of long-term fertilization on free-living nematode community structure in Mollisols.", *Journal of Soil Science and Plant Nutrition*, 15(1), pp. 129-141. doi : 10.4067/S0718-9516201500500011

Sun, B., Jia, S., Zhang, S., McLaughlin, N.B., Liang, A.-Z., Chen, X., Liu, S.-Y., and Zhang, X.-P. (2015). "No tillage combined with crop rotation improves soil microbial community composition and metabolic activity.", *Environmental Science and Pollution Research*, pp. 1-11. doi : 10.1007/s11356-015-5812-9

2014

Drury, C.F., Tan, C.S., Welacky, T.W., Reynolds, W.D., Zhang, T.Q., Oloya, T.O., McLaughlin, N.B., and Gaynor, J.D. (2014). "Reducing nitrate loss in tile drainage water with cover crops and water-table management systems.", *Journal of Environmental Quality*, 43(2), pp. 587-598. doi : 10.2134/jeq2012.0495

Xu, S.T., Zhang, L., McLaughlin, N.B., Mi, J.Z., Chen, Q., and Liu, J.H. (2014). "Evaluation of synthetic and natural water absorbing soil amendment on potato production in a semi-arid region.", *Agricultural Engineering International: CIGR Journal*, 16(4), pp. 24-34.

Gregorich, E.G., McLaughlin, N.B., Lapen, D.R., Ma, B.-L., and Rochette, P. (2014). "Soil Compaction, Both an Environmental and Agronomic Culprit: Increased Nitrous Oxide Emissions and Reduced Plant Nitrogen Uptake.", *Soil Science Society of America Journal*, 78(6), pp. 1913-1923. doi : 10.2136/sssaj2014.03.0117

Wei, S., Zhang, X.-P., McLaughlin, N.B., Liang, A.-Z., Jia, S., Chen, X., and Chen, X. (2014). "Effect of soil temperature and soil moisture on CO<sub>2</sub> flux from eroded landscape positions on blacksoil in Northeast China.", *Soil & Tillage Research*, 144, pp. 119-125. doi : 10.1016/j.still.2014.07.012

Drury, C.F., Reynolds, W.D., Tan, C.S., McLaughlin, N.B., Yang, X.M., Calder, W., Oloya, T.O., and Yang, J.Y. (2014). "Impacts of 49-51 years of fertilization and crop rotation on growing season nitrous oxide emissions, nitrogen uptake and corn yields.", *Canadian Journal of Soil Science*, 94(3), pp. 421-433. doi : 10.4141/CJSS2013-101

2013

Zheng, H., McLaughlin, N.B., He, X., Yu, X., Ren, Z., and Zhang, D. (2013). "Temporal and geographical variation in the onset of climatological spring in Northeast China.", *Theoretical and applied climatology*. doi : 10.1007/s00704-013-0869-1

Liang, A.-Z., McLaughlin, N.B., Ma, B.-L., Gregorich, E.G., Morrison, M.J., Burt, S.D., Patterson, B.S., and Evenson, L.I. (2013). "Changes in mouldboard plough draught and tractor fuel consumption on continuous corn after 18 years of organic and inorganic N amendments.", *Energy*, 52, pp. 89-95. doi : 10.1016/j.energy.2012.10.064

Doerr, Z., Mohsenimanesh, A., Laguë, C., and McLaughlin, N.B. (2013). "Application of the LIDAR technology for obstacle detection during the operation of agricultural vehicles.", *Canadian Biosystems Engineering*, 55, pp. 2.9-2.16. doi : 10.7451/CBE.2013.55.2.9

Pan, F.J., Xue, A.G., McLaughlin, N.B., Li, S.X., Xu, Y.L., Zhao, D., and Qu, H.X. (2013). "Colonization of *Clonostachys rosea* on soybean root grown in media inoculated with *Fusarium graminearum*.", *Acta Agriculturae Scandinavica, Section B - Plant & Soil Science*, 63(6), pp. 564-569. doi : 10.1080/09064710.2013.816768

Periu, C.F., Mohsenimanesh, A., Laguë, C., and McLaughlin, N.B. (2013). "Isolation of vibrations transmitted to a LIDAR sensor mounted on an agricultural vehicle to improve obstacle detection.", *Canadian Biosystems Engineering*, 55, pp. 2.33-2.42. doi : 10.7451/CBE.2013.55.2.33

Pan, F.J., Xu, Y.L., McLaughlin, N.B., Liu, W., Han, X.Z., Zhan, L.-L., and Zhao, D. (2013). "Influence of different fertilization regimes on plant-parasitic nematodes in the blacksoil region of Northeast China.", *Phytoparasitica*. doi: 10.1007/s12600-013-0295-z

## 2012

Bao, K., Xing, W., Yu, X., Zhao, H., McLaughlin, N.B., Lu, X., and Wang, G.P. (2012). "Recent atmospheric dust deposition in a ombrotrophic peat bog in Great Hinggan Mountain, Northeast China.", *Science of the Total Environment*, 431, pp. 33-45. doi: 10.1016/j.scitotenv.2012.05.014

Shi, X.H., Zhang, X.-P., Yang, X.M., McLaughlin, N.B., Liang, A.-Z., and Fan, R.-Q. (2012). "An appropriate time-window for measuring soil CO<sub>2</sub> efflux: a case study on a Blacksoil in north-east China.", *Acta Agriculturae Scandinavica, Section B - Plant Soil Science*, 62(5), pp. 449-454. doi: 10.1080/09064710.2011.642001

Shi, X.H., Zhang, X.-P., Yang, X.M., Drury, C.F., McLaughlin, N.B., Liang, A.-Z., Fan, R.-Q., and Jia, S. (2012). "Contribution of winter soil respiration to annual soil CO<sub>2</sub> emission in a Mollisol under different tillage practices in northeast China.", *Global Biogeochemical Cycles*, 26(2, Article No. GB2007). doi: 10.1029/2011GB004054

Pan, F.J., Xu, Y.L., McLaughlin, N.B., Xue, A.G., Yu, Q., Han, X.Z., Liu, W., Zhan, L.-L., Zhao, D., and Li, C.J. (2012). "Response of soil nematode community structure and diversity to long-term land use in the blacksoil region in China.", *Ecological Research*, 27(4), pp. 701-714. doi: 10.1007/s11284-012-0944-6

Ma, B.-L., Liang, B.C., Biswas, D.K., Morrison, M.J., and McLaughlin, N.B. (2012). "The carbon footprint of maize production as affected by nitrogen fertilizer and maize-legume rotations.", *Nutrient Cycling in Agroecosystems*, 94(1), pp. 15-31. doi: 10.1007/s10705-012-9522-0

Shi, X.H., Yang, X.M., Drury, C.F., Reynolds, W.D., McLaughlin, N.B., and Zhang, X.-P. (2012). "Impact of ridge tillage on soil organic carbon and selected physical properties of a clay loam in southwestern Ontario.", *Soil & Tillage Research*, 120, pp. 1-7. doi: 10.1016/j.still.2012.01.003

Drury, C.F., Reynolds, W.D., Yang, X.M., McLaughlin, N.B., Welacky, T.W., Calder, W., and Grant, C.A. (2012). "Nitrogen source, application time and tillage effects on soil nitrous oxide emissions and corn grain yields.", *Soil Science Society of America Journal*, 76(4), pp. 1268-1279. doi: 10.2136/sssaj2011.0249

## 2011

Bao, K., Wang, G.P., Lu, X., and McLaughlin, N.B. (2011). "A potential flood hazard caused by Tianchi volcano eruption in Changbai Mountain, Northeast China.", *Journal of Mountain Science*, 8(5), pp. 677-681. doi: 10.1007/s11629-011-2209-1

Shi, X.H., Yang, X.M., Drury, C.F., Reynolds, W.D., McLaughlin, N.B., Welacky, T.W., and Zhang, X.-P. (2011). "Zone Tillage Impact on Organic Carbon of a Clay Loam in Southwestern Ontario.", *Soil Science Society of America Journal*, 75(3), pp. 1083-1089. doi: 10.2136/sssaj2010.0319

Bao, K., Zhao, H., Xing, W., Lu, X., McLaughlin, N.B., and Wang, G.P. (2011). "Carbon Accumulation in Temperate Wetlands of Sanjiang Plain, Northeast China.", *Soil Science Society of America Journal*, 75(6), pp. 2386-2397. doi: 10.2136/sssaj2011.0157

Gregorich, E.G., Lapen, D.R., Ma, B.-L., McLaughlin, N.B., and VandenBygaart, A.J. (2011). "Soil and Crop Response to Varying Levels of Compaction, Nitrogen Fertilization, and Clay Content.", *Soil Science Society of America Journal*, 75(4), pp. 1483-1492. doi: 10.2136/sssaj2010.0395

Jia, S., Wang, Z., Li, X., Zhang, X.-P., and McLaughlin, N.B. (2011). "Effect of nitrogen fertilizer, root branch order and temperature on respiration and tissue N concentration of fine roots in *Larix gmelinii* and *Fraxinus mandshurica*.", *Tree Physiology*, 31(7), pp. 718-726. doi: 10.1093/treephys/tpr057

Liang, A.-Z., McLaughlin, N.B., Zhang, X.-P., Shen, Y., Shi, X.H., and Fan, R.-Q. (2011). "Short-term effects of tillage practices on soil aggregate fractions in a Chinese Mollisol.", *Acta Agriculturae Scandinavica, Section B - Plant Soil Science*, 61(6), pp. 535-542. doi: 10.1080/09064710.2010.515601

## Other Science Related Publications:

### 2014

Drury, C.F., Reynolds, W.D., Tan, C.S., McLaughlin, N.B., Yang, X.M., Calder, W., Oloya, T.O., and Yang, J.Y. (2014). "Long-Term Fertilization and Crop Rotation Impacts on Growing Season Nitrous Oxide Emissions, Nitrogen Uptake and Corn Grain Yields.", *CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014*.

## 2013

McLaughlin, N.B., Drury, C.F., Reynolds, W.D., Yang, X., Tan, C.S., and Yang, J. (2013). "Effect of long term crop rotation and fertilization on mouldboard plough draft in a clay loam soil.", 67th Northeastern Corn Improvement Conference, Lord Elgin Hotel, Ottawa, ON, Canada, February 14-15, 2013. (Presentation)

Drury, C.F., Reynolds, W.D., Yang, X.M., Tan, C.S., and McLaughlin, N.B. (2013). "Agronomic and soil quality benefits of cover crops.", Middle West Cover Crop Council Meeting - Making Sense with Cover Crops Workshop, London, ON, Canada, February 28 - March 1, 2013. (Workshop)

## 2012

Shi, X.H., Zhang, X.-P., Yang, X.M., Drury, C.F., McLaughlin, N.B., Liang, A.-Z., Fan, R.-Q., and Jia, S. (2012). "Contribution of winter soil respiration to annual soil CO<sub>2</sub> emission in a Mollisol under different tillage practices in northeast China [Global Biogeochemical Cycles 26(3) (Erratum)].", *Global Biogeochemical Cycles*, 26(3), pp. 1.

Zhan, L.-L., Meng, Q.-J., Pan, F.J., McLaughlin, N.B., Han, X.-H., Pei, X.-C., Han, X.Z., Wang, L.-F., and Zhao, D. (2012). "Effect of land use and fertilization on soil microbial abundance and diversity in the black soil region in Northeast China.", 2012 International Conference on Biomedical Engineering and Biotechnology, Macau, China, May 28-30, 2012, pp. 1383-1388.

Yang, X.M., Drury, C.F., Reynolds, W.D., McLaughlin, N.B., and Yang, J.Y. (2012). "Impacts of Fifty-Years of Crop Rotation and Fertilization on SOC and N of a Brookston Clay Loam in Southwestern Ontario.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012, pp. 127.

Drury, C.F., Reynolds, W.D., Tan, C.S., McLaughlin, N.B., Yang, X.M., and Calder, W. (2012). "Long-Term Effects of Fertilization and Crop Rotation on Nitrous Oxide Emissions From Soils.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012, pp. 72.

## 2011

Drury, C.F., Reynolds, W.D., Yang, X.M., Welacky, T.W., McLaughlin, N.B., Calder, W., and Grant, C.A. (2011). "Tillage and N source effects on nitrous oxide emissions from soils.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Shi, X.H., Yang, X.M., Drury, C.F., Reynolds, W.D., McLaughlin, N.B., and Zhang, X.-P. (2011). "Impact of Ridge Tillage on Organic Carbon Sequestration in a Clay Loam Soil in Southwestern Ontario.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.



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## Research Publications:

2015

Hosseini, M., McNairn, H., Merzouki, A., and Pacheco, A. (2015). "Estimation of Leaf Area Index (LAI) in corn and soybeans using multi-polarization C- and L-band radar data.", *Remote Sensing of Environment*, 170, pp. 77-89. doi : 10.1016/j.rse.2015.09.002

Kross, A., Lapen, D.R., McNairn, H., Sunohara, M.D., Champagne, C., and Wilkes, G.A. (2015). "Satellite and in situ derived corn and soybean biomass and leaf area index: response to controlled tile drainage under varying weather condition.", *Agricultural Water Management*, 160, pp. 118-131. doi : 10.1016/j.agwat.2015.06.007

Colliander, A., Jackson, T.J., McNairn, H., Chazanoff, S., Dinardo, S., Latham, B., O'Dwyer, I., Chun, W., Yueh, S., and Njoku, E. (2015). "Comparison of Airborne Passive and Active L-Band System (PALS) Brightness Temperature Measurements to SMOS Observations During the SMAP Validation Experiment 2012 (SMAPVEX12).", *IEEE Geoscience and Remote Sensing Letters*, 12(4: Article number 6937136), pp. 801-805. doi: 10.1109/LGRS.2014.2362889

RoTimi Ojo, E., Bullock, P.R., L'Heureux, J., Powers, J., McNairn, H., and Pacheco, A. (2015). "Calibration and Evaluation of a Frequency Domain Reflectometry Sensor for Real-Time Soil Moisture Monitoring.", *Vadose Zone Journal*, 14(3), pp. 12 pages. doi : 10.2136/vzj2014.08.0114

Merzouki, A. and McNairn, H. (2015). "A Hybrid (Multi-Angle and Multipolarization) Approach to Soil Moisture Retrieval Using the Integral Equation Model: Preparing for the RADARSAT Constellation Mission.", *Canadian Journal of Remote Sensing*, pp. 1-14. doi : 10.1080/07038992.2015.1104629

Kross, A., McNairn, H., Lapen, D.R., Sunohara, M., and Champagne, C. (2015). "Assessment of RapidEye vegetation indices for estimation of leaf area index and biomass in corn and soybean crops.", *International Journal of Applied Earth Observation and Geoinformation*, 34(1), pp. 235-248. doi: 10.1016/j.jag.2014.08.002

Adams, J.R., McNairn, H., Berg, A.A., and Champagne, C. (2015). "Evaluation of near-surface soil moisture data from an AAFC monitoring network in Manitoba, Canada: Implications for L-band satellite validation.", *Journal of Hydrology*, 521, pp. 582-592. doi : 10.1016/j.jhydrol.2014.10.024

McNairn, H., Jackson, T.J., Wiseman, G., Bélair, S., Berg, A.A., Bullock, P.R., Colliander, A., Cosh, M.H., Kim, S.-B., Magagi, R., Moghaddam, M., Njoku, E., Adams, J.R., Homaayouni, S., Ojo, E., Rowlandson, T., Shang, J., Goita, K., and Hosseini, M. (2015). "The Soil Moisture Active Passive Validation Experiment 2012 (SMAPVEX12): Pre-launch Calibration and Validation of the SMAP Soil Moisture Algorithms.", *IEEE Transactions on Geoscience and Remote Sensing*, 53(5: Article number 6955796), pp. 2784-2801. doi: 10.1109/TGRS.2014.2364913

2014

Jiao, X., Kovacs, J.M., Shang, J., McNairn, H., Walters, D., Ma, B.-L., and Geng, X.Y. (2014). "Object-oriented crop mapping and monitoring using multi-temporal polarimetric RADARSAT-2 data.", *ISPRS Journal of Photogrammetry and Remote Sensing*, 96, pp. 38-46. doi : 10.1016/j.isprsjprs.2014.06.014

McNairn, H., Kross, A., Lapen, D.R., Caves, R., and Shang, J. (2014). "Early Season Monitoring of Corn and Soybeans with TerraSAR-X and RADARSAT-2.", *International Journal of Applied Earth Observation and Geoinformation*, 28(1), pp. 252-259. doi : 10.1016/j.jag.2013.12.015

Manns, H.R., Berg, A.A., Bullock, P.R., and McNairn, H. (2014). "Impact of soil surface characteristics on soil water content variability in agricultural fields.", *Hydrological Processes*, 28(14), pp. 4340-4351. doi : 10.1002/hyp.10216

Champagne, C., McNairn, H., Daneshfar, B., and Shang, J. (2014). "A bootstrap method for assessing classification accuracy and confidence for agricultural land use mapping in Canada.", *International Journal of Applied Earth Observation and Geoinformation*, 29(1), pp. 44-52. doi : 10.1016/j.jag.2013.12.016

Wiseman, G., McNairn, H., Homaayouni, S., and Shang, J. (2014). "RADARSAT-2 Polarimetric SAR Response to Crop Biomass for Agricultural Production Monitoring.", *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 7(11), pp. 4461-4471. doi: 10.1109/JSTARS.2014.2322311

2013

Magagi, R., Berg, A.A., Goïta, K., Bélair, S., Jackson, T.J., Toth, B.M., Walker, A.S., McNaim, H., O'Neill, P.E., Moghaddam, M., Gherboudj, I., Colliander, A., Cosh, M.H., Burgin, M., Fisher, J.B., Kim, S.-B., Mladenova, I., Djamaï, N., Rousseau, L.-P.B., Bélanger, J., Shang, J., and Merzouki, A. (2013). "Canadian experiment for soil moisture in 2010 (CanEx-SM10): Overview and preliminary results.", *IEEE Geoscience and Remote Sensing Letters*, 51(1), pp. 347-363. doi : 10.1109/tgrs.2012.2198920

Liu, Chen, Shang, J., Vachon, P.W., and McNaim, H. (2013). "Multiyear crop monitoring using polarimetric RADARSAT -2 data.", *IEEE Transactions on Geoscience and Remote Sensing*, 51(4), pp. 2227-2240. doi : 10.1109/TGRS.2012.2208649

Adams, J.R., Rowlandson, T., McKeown, S.J., Berg, A.A., McNaim, H., and Sweeney, S.J. (2013). "Evaluating the Cloude -Pottier and Freeman-Durden scattering decompositions for distinguishing between unharvested and post-harvest agricultural fields", *Canadian Journal of Remote Sensing*, 39(4), pp. 318-327. doi : 10.5589/m13-040

Adams, J.R., Berg, A.A., and McNaim, H. (2013). "Field level soil moisture variability at 6 cm and 3 cm sampling depths: Implications for Microwave Sensor Validation", *Vadose Zone Journal*, 12(3). doi : 10.2136/vzj2012.0070

Rowlandson, T., Berg, A.A., Bullock, P.R., Ojo, E., McNaim, H., Wiseman, G., and Cosh, M.H. (2013). "Evaluation of several calibration procedures for a portable soil moisture sensor.", *Journal of Hydrology*, 498, pp. 335-344. doi : 10.1016/j.jhydrol.2013.05.021

Adams, J.R., Berg, A.A., McNaim, H., and Merzouki, A. (2013). "Sensitivity of C-band SAR polarimetric variables to unvegetated agricultural fields.", *Canadian Journal of Remote Sensing*, 39(1), pp. 1-16. doi : 10.5589/m13-003

2012

Deschamps, B., McNaim, H., Shang, J., and Jiao, X. (2012). "Towards operational radar-only crop type classification: comparison of a traditional decision tree with a random forest classifier.", *Canadian Journal of Remote Sensing*, 38(1), pp. 60-68. doi : 10.5589/m12-012

McNaim, H., Merzouki, A., Pacheco, A., and Fitzmaurice, J. (2012). "Monitoring Soil Moisture to Support Risk Reduction for the Agriculture Sector Using RADARSAT -2.", *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 5(3), pp. 824-834. doi : 10.1109/JSTARS.2012.2192416

Champagne, C., Berg, A.A., McNaim, H., Drewitt, G.B., and Huffman, E.C. (2012). "Evaluation of Soil Moisture Extremes for Agricultural Productivity in the Canadian Prairies.", *Agricultural and Forest Meteorology*, 165, pp. 1-11. doi : 10.1016/j.agrformet.2012.06.003

2011

Jiao, X., McNaim, H., Shang, J., Pattey, E., Liu, J., and Champagne, C. (2011). "The sensitivity of RADARSAT-2 polarimetric SAR data to corn and soybean Leaf Area Index.", *Canadian Journal of Remote Sensing*, 37(1), pp. 69-81. doi : 10.5589/m11-023

Champagne, C., McNaim, H., and Berg, A.A. (2011). "Monitoring agricultural soil moisture extremes in Canada using passive microwave remote sensing.", *Remote Sensing of Environment*, 115(10), pp. 2434-2444. doi : 10.1016/j.rse.2011.04.030

Pei, Z., Zhang, S., Guo, L., McNaim, H., Shang, J., and Jiao, X. (2011). "Rice identification and change detection using TerraSAR-X data.", *Canadian Journal of Remote Sensing*, 37(1), pp. 151-156. doi : 10.5589/m11-025

McNaim, H. and Pacheco, A. (2011). "Monitoring soil moisture to support risk reduction for the agriculture sector using RADARSAT-2.", *International Geoscience and Remote Sensing Symposium (IGARSS)*, 2011 (Article No. 6050007), pp. 3618-3621. doi : 10.1109/IGARSS.2011.6050007

Merzouki, A., McNaim, H., and Pacheco, A. (2011). "Mapping soil moisture using RADARSAT-2 data and local autocorrelation statistics.", *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 4(1), pp. 128-137. doi : 10.1109/JSTARS.2011.2116769

Merzouki, A., McNaim, H., and Pacheco, A. (2011). "Potential of mapping soil moisture by combining radar backscatter modeling and PolSAR decomposition.", *International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 4419-4422. doi : 10.1109/igarss.2010.5652116

Shang, J., McNaim, H., Deschamps, J., and Jiao, X. (2011). "In-season crop inventory using multi-angle and multi-pass RADARSAT-2 SAR data over the Canadian prairies.", *Proceedings of SPIE - The International Society for Optical Engineering*, 8156 (Article No. 815604). doi : 10.1117/12.894211

## Other Science Related Publications:

2014

- McNair, H., Powers, J., Shang, J., Merzouki, A., Pacheco, A., Fiset, T., Wiseman, G., and Homayouni, S. (2014). "RADARSAT-2 to support risk reduction for the agriculture sector.", Joint 2014 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2014) and the 35th Canadian Symposium on Remote Sensing (CSRS 2014), Quebec Convention Centre, Quebec City, Canada, July 13-18, 2014.
- Pattey, E., Jégo, G., VanderZaag, A.C., Liu, J., Qian, B., Smith, W.N., Geng, X.Y., Baret, F., Beaudoin, N., Desjardins, R.L., Fernandes, R., Jarvis, I.E., Huffman, E.C., Lacaze, R., and McNair, H. (2014). "JECAM CFIA -Ottawa.", JECAM/GEOGLAM Science Meeting, Ottawa, Canada, July 21-23, 2014, Oral presentation.
- Champagne, C., Rowlandson, T., Berg, A.A., Burns, T., L'Heureux, J., Adams, J.K., McNair, H., and Toth, B.M. (2014). "Evaluation of L-Band Passive Microwave Soil Moisture for Canada.", Joint 2014 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2014) and the 35th Canadian Symposium on Remote Sensing (CSRS 2014), Quebec Convention Centre, Quebec City, Canada, July 13-18, 2014.
- Charbonneau, F.J., Brisco, B., van der Sanden, J.J., Toutin, T., Touzi, R., Chen, H., Liu, C., McNair, H., Shang, J., Buckley, J.R., Arkett, M., and Poitevin, J. (2014). "RCM compact polarimetry applications development overview.", Joint 2014 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2014) and the 35th Canadian Symposium on Remote Sensing (CSRS 2014), Quebec Convention Centre, Quebec City, Canada, July 13-18, 2014.
- Kim, S.-B., Huang, H.-C., Tsang, L., Jackson, T.J., McNair, H., and van Zyl, J. (2014). "Soil moisture retrieval using L-band time-series SAR data from the SMAPVEX12 experiment.", Joint 2014 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2014) and the 35th Canadian Symposium on Remote Sensing (CSRS 2014), Quebec Convention Centre, Quebec City, Canada, July 13-18, 2014.
- Charbonneau, F.J., Zidane, S.-E., Decker, V., and McNair, H. (2014). "RCM compact polarimetry surface model.", Joint 2014 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2014) and the 35th Canadian Symposium on Remote Sensing (CSRS 2014), Quebec Convention Centre, Quebec City, Canada, July 13-18, 2014.
- Li, Y., Liu, T., McNair, H., Shang, J., and Touzi, R. (2014). "RADARSAT-2 PolInSAR coherence optimization for agriculture crop change detection.", Joint 2014 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2014) and the 35th Canadian Symposium on Remote Sensing (CSRS 2014), Quebec Convention Centre, Quebec City, Canada, July 13-18, 2014.
- Niazmardi, S., Homayouni, S., McNair, H., Shang, J., and Safari, A. (2014). "Multiple kernels learning for classification of agricultural time series data.", 3rd International Conference on Agro-Geoinformatics, Beijing, China, August 11-14, 2014, Article number 6910640.
- Yekkehkhany, B., Homayouni, S., McNair, H., and Safari, A. (2014). "Multi-temporal full polarimetry L-band SAR data classification for agriculture land cover mapping.", Joint 2014 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2014) and the 35th Canadian Symposium on Remote Sensing (CSRS 2014), Quebec Convention Centre, Quebec City, Canada, July 13-18, 2014.
- McNair, H., Wiseman, G., Powers, J., Merzouki, A., and Shang, J. (2014). "Assessment of disease risk in canola using multi-frequency SAR: preliminary results.", EUSAR 2014 – 10th European Conference on Synthetic Aperture Radar, Berlin, Germany, June 2-6, 2014.
- Shang, J., Huffman, E.C., Liu, J., Ma, B.-L., Zhao, T., Qian, B., McNair, H., Geng, X.Y., Lantz, N., and Wang, J. (2014). "Using Earth Observation to Monitor Corn Growth in Eastern Canada.", 68th North Eastern Corn Improvement Conference, Wooster, Ohio, USA, February 13-14, 2014.
- Kim, S.-B., Huang, H.-C., Tsang, L., Jackson, T.J., McNair, H., and van Zyl, J. (2014). "Surface layer soil moisture retrieval using L-band time-series SAR data and inversion of forward models.", EUSAR 2014 – 10th European Conference on Synthetic Aperture Radar, Berlin, Germany, June 2-6, 2014.
- Champagne, C., Kerr, Y.H., Mahmoodi, A.B., Richaume, P., Mialon, A., McNair, H., Pacheco, A., Bélair, S., and Carrera, M. (2014). "Enhancements of SMOS level 2 soil moisture products over Canada.", Joint 2014 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2014) and the 35th Canadian Symposium on Remote Sensing (CSRS 2014), Quebec Convention Centre, Quebec City, Canada, July 13-18, 2014, pp. 2435-2438.

2013

- Shang, J., McNair, H., Champagne, C., and Jiao, X. (2013). "Radar's potential to estimate crop bio-physical parameters and beyond.", Remote sensing: Beyond images Workshop, Mexico City, México, December 14-15, 2014.

2012

- Colliander, A., Yueha, S., Chazanoffa, S., Dinardoa, S., O'Dwyera, I., Jackson, T.J., McNair, H., Bullock, P., Wiseman, G., Berg, A.A., Magagi, R., and Njoku, E. (2012). "Airborne Active and Passive L-band Measurements using PALS Instrument in SMAPVEX12 Soil Moisture Field Campaign.", SPIE Asia-Pacific Remote Sensing 2012, Kyoto, Japan, October 29 - November 1, 2012.

Shang, J., McNaim, H., Charbonneau, F.J., Chen, Z., and Jiao, X. (2012). "Sensitivity analysis of compact polarimetry parameters to crop growth using simulated RADARSAT-2 SAR data.", IEEE International Geoscience & Remote Sensing Symposium (IGARSS 2012), Munich, Germany, July 22-27, 2012, pp. 1825-1828.

McNaim, H., Shang, J., Jiao, X., and Deschamps, B. (2012). "Establishing Crop Productivity Using RADARSAT -2.", The XII Congress of the International Society for Photogrammetry and Remote Sensing, Melbourne, Australia, August 25 – September 1, 2012.

Shang, J., McNaim, H., Fernandes, R., Schulthess, U., and Storie, J. (2012). "Estimation of Crop Ground Cover and Leaf Area Index (LAI) of Wheat Using RapidEye Satellite Data: Preliminary Study.", First International Conference on Agro-Geoinformatics, Shanghai, China, August 2-4, 2012.

## 2011

Guo, L., Pei, Z., Zhang, S., Wang, Q., McNaim, H., Shang, J., and Jiao, X. (2011). "Rice identification using TerraSAR-X data.", Proceedings of SPIE - The International Society for Optical Engineering, 8203(Article No. 82030J).

McNaim, H., Merzouki, A., and Pacheco, A. (2011). "Monitoring soil moisture to support risk reduction for the agriculture sector using RADARSAT-2.", IEEE International Geoscience & Remote Sensing Symposium (IGARSS 2011), Vancouver, BC, Canada, July 24-29, 2011.

McNaim, H., Brisco, B., and Parihar, J.S. (2011). "Toward the use of multiparametric synthetic aperture radar for agriculture monitoring (Introduction).", Canadian Journal of Remote Sensing, 37(1), pp. 3-5.

Liu, C., Shang, J., Vachon, P.W., and McNaim, H. (2011). "Crop Change Assessment Using Polarimetric RADARSAT-2 Data.", The 5th International Workshop on Science and Applications of SAR Polarimetry and Polarimetric Interferometry, Frascati, Italy, Jan 24-28, 2011.

Pacheco, A. and McNaim, H. (2011). "Mapping Crop Residue Cover Over Regional Agricultural Landscapes in Canada.", International Symposium on Remote Sensing of Environment, Sydney, Australia, April 10-15, 2011.

Shang, J., McNaim, H., Deschamps, B., Jiao, X., and Champagne, C. (2011). "Contribution of TerraSAR-X Data to In-Season Crop Mapping in Canada.", 3rd TanDEM-X Science Team Meeting, Oberpfaffenhofen, Germany, Feb 17-18, 2011.

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## Research Publications:

2015

Vahmani, P., Meadus, W.J., Turner, T.D., Duff, P., Rolland, D.C., Mapiye, C., and Dugan, M.E.R (2015). "Individual trans 18:1 Isomers are Metabolised Differently and Have Distinct Effects on Lipogenesis in 3T3-L1 Adipocytes.", *Lipids*, 50(2), pp. 195-204. doi: 10.1007/s11745-014-3982-8

Turner, T.D., Meadus, W.J., Mapiye, C., Vahmani, P., López-Campos, Ó., Duff, P., Rolland, D.C., Church, J.S., and Dugan, M.E.R (2015). "Isolation of  $\alpha$ -linolenic acid biohydrogenation products by combined silver ion solid phase extraction and semi-preparative high performance liquid chromatography.", *Journal of Chromatography B*, 980, pp. 34-40. doi : 10.1016/j.jchromb.2014.11.038

Vahmani, P., Meadus, W.J., Mapiye, C., Duff, P., Rolland, D.C., and Dugan, M.E.R (2015). "Double Bond Position Plays an Important Role in Delta-9 Desaturation and Lipogenic Properties of Trans 18:1 Isomers in Mouse Adipocytes.", *Lipids*, 50(12), pp. 1253-1258. doi : 10.1007/s11745-015-4080-2

2014

Meadus, W.J., Duff, P., McDonal, T., and Caine, W.R. (2014). "Pigs fed Camelina meal increase hepatic gene expression of cytochrome 8b1, aldehyde dehydrogenase, and thiosulfate transferase.", *Journal of Animal Science and Biotechnology*, 5(1: Article 1). doi : 10.1186/2049-1891-5-1

2013

Meadus, W.J., Turner, T.D., Dugan, M.E.R, Aalhus, J.L., Duff, P., Rolland, D.C., Uttaro, B., and Gibson, L. (2013). "Fortification of pork loins with docosahexaenoic acid (DHA) and its effect on flavour.", *Journal of Animal Science and Biotechnology*, 4(1: Article number 46), pp. 1-9. doi : 10.1186/2049-1891-4-46

2012

Mir, P.S., He, M.L., Travis, G.R., Entz, T., McAllister, T.A., Marchand, S., Schaefer, A.L., Meadus, W.J., Lepage, P., Okine, E.K., and Dodson, M.V. (2012). "Periodic 48h feed withdrawal improves glucose tolerance in growing pigs by enhancing adipogenesis and lipogenesis.", *Nutrition & Metabolism*, 9, pp. 10-22. doi : 10.1186/1743-7075-9-10

2011

Gill, C.O., Saucier, L., and Meadus, W.J. (2011). "Mycobacterium avium subsp. paratuberculosis in Dairy Products, Meat, and Drinking Water.", *Journal of Food Protection*, 74(3), pp. 480-499. doi : 10.4315/0362-028X.JFP-10-301

Meadus, W.J., Duff, P., Rolland, D.C., Aalhus, J.L., Uttaro, B., and Dugan, M.E.R (2011). "Feeding docosahexaenoic acid to pigs reduces blood triglycerides and induces gene expression for fat oxidation.", *Canadian Journal of Animal Science*, 91(4), pp. 601-612. doi : 10.4141/cjas2011-055

## Other Science Related Publications:

2015

Vahmani, P., Meadus, W.J., Uttaro, B., López-Campos, Ó., Mapiye, C., Rolland, D.C., Caine, W.R., Aalhus, J.L., and Dugan, M.E.R (2015). "Effects of feeding beef fat from different body locations, and with different enrichments of biohydrogenation products on barrow performance, meat quality and body composition.", Banff Pork Seminar, Banff, Canada, January, 2015. (Presentation)

Vahmani, P., Meadus, W.J., Mapiye, C., Duff, P., Rolland, D.C., and Dugan, M.E.R (2015). "Delta-9 Desaturation Rate of Individual Trans 18:1 Isomers in 3T3-L1 Cells depends on the Location of Trans Double Bond.", Eurofed Lipid, Florence, Italy, September, 2015. (Abstract)

Vahmani, P., Meadus, W.J., Mapiye, C., Pachio, M., Duff, P., Rolland, D.C., and Dugan, M.E.R (2015). "Effects of trans 18:1 from conventional versus flax/hay fed cattle on transcriptional networks (global gene expression) in HepG2 cells.", International Conference on Lipid Science & Technology, San Francisco, USA, November 30-December 02, 2015. (Abstract)

2014

Vahmani, P., Turner, T.D., Duff, P., Rolland, D.C., Mapiye, C., Meadus, W.J., and Dugan, M.E.R (2014). "Individual trans monounsaturated fatty acids have distinct effects on lipogenesis in 3T3-L1 adipocytes.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014. (Abstract)

2013

Meadus, W.J., Duff, P., McDonald, T., and Caine, W.R. (2013). "Pigs Fed Camelina Meal Increases Liver Expression of Drug Metabolism Enzymes Cyp8b, Aldh and Tst", 59th International Congress of Meat Science and Technology (ICoMST2013), Izmir, Turkey, August 18-23, 2013, Poster ID: S4-3. (Poster)

Turner, T.D., Meadus, W.J., Duff, P., Rolland, D.C., Mapiye, C., Church, J., and Dugan, M.E.R (2013). "Effects of c9,t11 - and t10,c12- conjugated linoleic acid on 3T3-L1 adipose cell culture: novel fatty acid metabolites and lipogenic gene expression.", International Conference on Animal Dairy Science, Las Vegas, USA, July 2013.

Turner, T.D., Meadus, W.J., Duff, P., Rolland, D.C., Mapiye, C., Church, J., and Dugan, M.E.R (2013). "Metabolism of c9,t11 - and t10,c12- CLA in 3T3-L1 adipose cell culture: novel metabolites.", ASAS/ASN Joint Innovate 2013 Meeting, Braselton, GA, USA, September 2013.

Meadus, W.J., Turner, T.D., Dugan, M.E.R, Aalhus, J.L., Duff, P., Rolland, D., Uttaro, B., and Gibson, L.L. (2013). "Injection of pork loins with the long chain fatty acid, docosahexaenoic acid (DHA) and its effect on flavour.", 59th International Congress of Meat Science and Technology (ICoMST2013), Izmir, Turkey, August 18-23, 2013.

Meadus, W.J., Turner, T.D., Dugan, M.E.R, Aalhus, J.L., Duff, P., Rolland, D., Uttaro, B., and Gibson, L.L. (2013). "Injection of Pork Loins with The Long Chain Fatty Acid Docosahexaenoic Acid (dha) and Its Effect on Flavour", 59th International Congress of Meat Science and Technology (ICoMST2013), Izmir, Turkey, August 18-23, 2013, Poster ID: S10B-9. (Poster)

2012

Meadus, W.J., Duff, P., McDonald, T., and Caine, W.R. (2012). "Pigs fed camelina meal increases liver CYP8B1 expression.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, #W208. (Poster)

Xi, K., Zantinge, J.L., Meadus, W.J., and Nyachiro, J.M. (2012). "Determining *Rhynchosporium secalis* virulence in relation to barley cultivar resistance and identifying related pathogen DNA sequences.", 11th International Barley Genetics Symposium (IBGS), Hangzhou, China, April 15-20, 2012.

Meadus, W.J., Dugan, M.E.R, Aalhus, J.L., Duff, P., and Rolland, D. (2012). "Fortification of pork chops with omega-3 oil derived from microalgae *Schizochytrium*.", BIT's 1st Annual International Congress of Marine Algae (AICMA2012), Dalian, China, September 20-23, 2012.

Xi, K., Zantinge, J.L., Meadus, W.J., Nyachiro, J.M., and Turkington, T.K. (2012). "Barley cultivar resistance in relation to *Rhynchosporium secalis* virulence in Alberta.", 7th Canadian Barley Symposium, Calgary, AB, Canada, July 8-10, 2012.

2011

Meadus, W.J. (2011). "DHA Reduces Triglycerides and Stimulates Fat Metabolism in Pigs.", 60th Annual Meeting of the CSAS/SCSA, Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011. (Presentation)

Meadus, W.J., Dugan, M.E.R, Uttaro, B., Aalhus, J.L., Rolland, D., and Duff, P. (2011). "Feeding Docosahexaenoic acid in microalgae biomass to pigs reduces triglycerides and induces fat oxidation in liver, adipose and muscle.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011. (Poster)

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## Research Publications:

2015

Saberianfar, R., Joensuu, J.J., Conley, A.J., and Menassa, R. (2015). "Protein body formation in leaves of *Nicotiana benthamiana*: a concentration dependent mechanism influenced by the presence of fusion tags.", *Plant Biotechnology Journal*, 13(7), pp. 927-937. doi : 10.1111/pbi.12329

Sattarzadeh, A., Saberianfar, R., Zipfel, W.R., Menassa, R., and Hanson, M.R. (2015). "Green to red photoconversion of GFP for protein tracking in vivo.", *Scientific Reports*, 5(Article number: 11771), pp. 1-8. doi : 10.1038/srep11771

Duwadi, K., Chen, L., Menassa, R., and Dhaubhadel, S. (2015). "Identification, characterization and down-regulation of cysteine protease genes in tobacco for use in recombinant protein production.", *PLoS ONE*, 10(7: Article number e0130556), pp. 1-19. doi : 10.1371/journal.pone.0130556

MacDonald, J., Doshi, K., Dussault, M., Hall, J.C., Holbrook, L., Jones, G., Kaldis, A., Klima, C.L., MacDonald, P., McAllister, T.A., McLean, M.D, Potter, A., Richman, A.S., Shearer, H., Yarosh, O., Yoo, H.S., Topp, E., and Menassa, R. (2015). "Bringing plant-based veterinary vaccines to market: Managing regulatory and commercial hurdles.", *Biotechnology Advances*. doi : 10.1016/j.biotechadv.2015.07.007

2014

Kolotilin, I., Topp, E., Cox, E., Devriendt, B., Conrad, U., Joensuu, J.J., Stöger, E., Warzecha, H., McAllister, T.A., Potter, A., McLean, M.D, Hall, J.C., and Menassa, R. (2014). "Plant-based solutions for veterinary immunotherapeutics and prophylactics.", *Veterinary Research*, 45(1: Article number 117), pp. 1-12. doi : 10.1186/s13567-014-0117-4

Pereira, E.O., Kolotilin, I., Conley, A.J., and Menassa, R. (2014). "Production and characterization of in planta transiently produced polygalacturonase from *Aspergillus niger* and its fusions with hydrophobin or ELP tags", *BMC Biotechnology*, 14(59), pp. 11 pages. doi : 10.1186/1472-6750-14-59

Gutiérrez, S.P. and Menassa, R. (2014). "Protein body-inducing fusions for recombinant protein production in plants.", in Hefferon, K. (ed.) - *Plant-derived Pharmaceuticals: Principles and Applications for Developing Countries*, CABI Publishing, pp. 9-19.

2013

Chen, L., Dempsey, B.R., Gyenis, L., Menassa, R., Brandle, J.E., and Dhaubhadel, S. (2013). "Identification of the factors that control synthesis and accumulation of a therapeutic protein, human immune-regulatory interleukin-10, in *Arabidopsis thaliana*.", *Plant Biotechnology Journal*, 11(5), pp. 546-554. doi : 10.1111/pbi.12042

Kaldis, A., Ahmad, A., Reid, A., McGarvey, B.D., Brandle, J.E., Ma, S., Jevnikar, A.M., Kohalmi, S.E., and Menassa, R. (2013). "High-level production of human interleukin-10 fusions in tobacco cell suspension cultures.", *Plant Biotechnology Journal*, 11(5), pp. 535-545. doi : 10.1111/pbi.12041

Gutiérrez, S.P., Saberianfar, R., Kohalmi, S.E., and Menassa, R. (2013). "Protein body formation in stable transgenic tobacco expressing elastin-like polypeptide and hydrophobin fusion proteins.", *BMC Biotechnology*, 13(40), pp. 1-10. doi : 10.1186/1472-6750-13-40

Feeney, M., Frigerio, L., Cui, Y., and Menassa, R. (2013). "Following Vegetative to Embryonic Cellular Changes in Leaves of *Arabidopsis thaliana* Over-Expressing LEAFY COTYLEDON2.", *Plant Physiology*, 162(4), pp. 1881-1896. doi : 10.1104/pp.113.220996

Kolotilin, I., Kaldis, A., Pereira, E.O., Laberge, S., and Menassa, R. (2013). "Optimization of transplastomic production of hemicellulases in tobacco: effects of expression cassette configuration and tobacco cultivar used as production platform on recombinant.", *Biotechnology for Biofuels*, 6(65), pp. 1-15.

Pereira, E.O., Tsang, A., McAllister, T.A., and Menassa, R. (2013). "The production and characterization of a new active lipase from *Acremonium alcalophilum* using a plant bioreactor.", *Biotechnology for Biofuels*, 6(111). doi : 10.1186/1754-6834-6-111

Feeney, M., Frigerio, L., Kohalmi, S.E., Cui, Y., and Menassa, R. (2013). "Reprogramming cells to study vacuolar development.", *Frontiers in Plant Science*, 4(493). doi : 10.3389/fpls.2013.00493

2012

Joensuu, J.J., Conley, A.J., Linder, M.B., and Menassa, R. (2012). "Bioseparation of Recombinant Proteins from Plant Extract with Hydrophobin Fusion Technology.", *Methods in Molecular Biology* (Clifton, N.J.), 824, pp. 527-534. doi : 10.1007/978-1-61779-433-9\_28

Menassa, R., Ahmad, A., and Joensuu, J.J. (2012). "Transient Expression Using Agroinfiltration and Its Applications in Molecular Farming.", in Wang, A. and Ma, S. (eds.) - *Molecular Farming in Plants: Recent Advances and Future Prospects*, Springer Berlin / Heidelberg, Chapter 9, pp. 183-198.

Kolotilin, I., Kaldis, A., Devriendt, B., Joensuu, J.J., Cox, E., and Menassa, R. (2012). "Production of a Subunit Vaccine Candidate against Porcine Post-Weaning Diarrhea in High-Biomass Transplastomic Tobacco.", *PLoS ONE*, 7(8, Article No. e42405). doi : 10.1371/journal.pone.0042405

2011

Conley, A.J., Joensuu, J.J., Richman, A.S., and Menassa, R. (2011). "Protein body-inducing fusions for high-level production and purification of recombinant proteins in plants.", *Plant Biotechnology Journal*, 9(4), pp. 419-433. doi : 10.1111/j.1467-7652.2011.00596.x

Conley, A.J., Zhu, H., Le, L.C., Jevnikar, A.M., Lee, B.-H., Brandle, J.E., and Menassa, R. (2011). "Recombinant protein production in a variety of Nicotiana hosts: a comparative analysis.", *Plant Biotechnology Journal*, 9(4), pp. 434-444. doi : 10.1111/j.1467-7652.2010.00563.x

Tremblay, R., Feng, M., Menassa, R., Hüner, N.P.A., Jevnikar, A.M., and Ma, S. (2011). "High-yield expression of recombinant soybean agglutinin in plants using transient and stable systems.", *Transgenic Research*, 20(2), pp. 345-356. doi : 10.1007/s11248-010-9419-0

Li, X.-L., Gao, P., Cui, D., Wu, L., Parkin, I.A.P., Saberianfar, R., Menassa, R., Pan, H.-Y., Westcott, N.D., and Gruber, M.Y. (2011). "The Arabidopsis *tt19-4* mutant differentially accumulates proanthocyanidin and anthocyanin through a 3' amino acid substitution in glutathione S-transferase.", *Plant, Cell & Environment*, 34(3), pp. 374-388. doi: 10.1111/j.1365-3040.2010.02249.x

Bross, C.D., Corea, O.R.A., Kaldis, A., Menassa, R., Bernards, M.A., and Kohalmi, S.E. (2011). "Complementation of the *pha2* yeast mutant suggests functional differences for arogenate dehydratases from Arabidopsis thaliana.", *Plant Physiology and Biochemistry*, 49(8), pp. 882-890. doi : 10.1016/j.plaphy.2011.02.010

## Other Science Related Publications:

2015

Menassa, R. (2015). "Producing veterinary vaccines for bacterial diseases in transplastomic plants.", 2015 Chloroplast Biotechnology Gordon Research Conference, Ventura Beach, California, USA.

Menassa, R. (2015). "Production and testing of plant-made subunit vaccine candidates for porcine epidemic diarrhea and enterotoxigenic *E. coli*.", *Plant-Based Vaccines, Antibodies and Biologicals 2015*, Lausanne, June 8-10, 2015.

Kolotilin, I., Topp, E., Cox, E., Devriendt, B., Conrad, U., Joensuu, J.J., Stöger, E., Warzecha, H., McAllister, T.A., McLean, M.D., Hall, J.C., and Menassa, R. (2015). "Plant-based solutions for veterinary immunotherapeutics and prophylactics.", *BMC Veterinary Research*, 45(1), pp. 375. (Abstract)

Menassa, R. (2015). "Protein body biogenesis and utility in recombinant protein production in *Nicotiana benthamiana*.", *Recombinant Protein Production 8*, Palma, Mallorca, Spain, April 22-24, 2015.

2014

Leuthreau, A., Miletic, S., Kaldis, A., MacDonald, J.D., and Menassa, R. (2014). "Plant-made vaccines as an alternative to antibiotic treatments: Transient expression in *Nicotiana benthamiana* and generation of stable transplastomic *Nicotiana tabacum*.", 9th Canadian Plant Biotechnology Conference, Montreal, QC, Canada, May 12-15, 2014. (Poster)

Duwadi, K., Chen, L., Menassa, R., and Dhaubhadel, S. (2014). "Silencing of selected cysteine protease genes improves recombinant protein accumulation in transgenic tobacco plants.", 9th Canadian Plant Biotechnology Conference, Montreal, QC, Canada, May 12-15, 2014.

Menassa, R. (2014). "The production and characterization of a new active lipase from *Acremonium alcalophilum* using a plant bioreactor.", *PEGS Boston*, Boston, USA.

Miletic, S., Kaldis, A., MacDonald, J.D., Leuthreau, A., and Menassa, R. (2014). "A plant-made vaccine to protect cattle against Shiga toxin-producing *Escherichia coli*.", 9th Canadian Plant Biotechnology Conference, Montreal, QC, Canada, May 12-15, 2014.



Saberianfar, R., Joensuu, J.J., and Menassa, R. (2014). "Role of elastin-like polypeptide and hydrophobin for protein body formation in *Nicotiana benthamiana* leaves.", 9th Canadian Plant Biotechnology Conference, Montreal, QC, Canada, May 12-15, 2014.

Menassa, R. (2014). "Transplastomic plants for high level production of pharmaceuticals and industrial enzymes.", 9th Canadian Plant Biotechnology Conference, Montreal, QC, Canada, May 12-15, 2014.

Feeney, M., Menassa, R., and Frigerio, L. (2014). "On the Heels of the Elusive Protein Storage Vacuole: Developing Strategies to Study Vacuole Biogenesis in *Arabidopsis thaliana*.", 25th International Conference on Arabidopsis Research, Vancouver, BC, Canada, July 28-August 1, 2014. (Poster)

Tran, H.-H., Chen, H., Wang, H., Menassa, R., Hüner, N.P.A., and Wang, A.M. (2014). "Developing a Bean pod mottle virus-based expression system for the expression of proteins of interest in plants.", 33rd Annual Meeting of American Society for Virology, Fort Collins, USA, June 21-25, 2014.

Menassa, R. (2014). "Protein body inducing fusions for high level accumulation and purification of recombinant proteins in plants.", PepTalk, the Protein Science Peek, Palm Springs, California, USA.

## 2013

MacDonald, J.D., Kolotilin, I., and Menassa, R. (2013). "Engineering Tobacco Chloroplasts and Mitochondria Using Cell Penetrating Peptides.", 3rd International Symposium on Chloroplast Genomics and Genetic Engineering (ISCGGE), Rutgers University, New Brunswick, NJ, USA, May 8-11, 2013. (Poster)

Kolotilin, I., Kaldis, A., and Menassa, R. (2013). "Diverse Effects of Chloroplast Expression Cassette Configuration on Transplastomic Production of Hemicellulases in Tobacco", 3rd International Symposium on Chloroplast Genomics and Genetic Engineering (ISCGGE), Rutgers University, New Brunswick, NJ, USA, May 8-11, 2013, Oral presentation.

Kolotilin, I., Kaldis, A., Pereira, E.O., Laberge, S., and Menassa, R. (2013). "Diverse Effects of Chloroplast Expression Cassette Configuration on Transplastomic Production of Hemicellulases in Tobacco.", 3rd International Symposium on Chloroplast Genomics and Genetic Engineering, Rutgers University, New Brunswick, NJ, USA, May 8-11, 2013, L33, P603, Published in: *Biotechnology for Biofuels*. 6(1):65.

Scott, I.M., Menassa, R., and Kolotilin, I. (2013). "Environment risk assessment of transgenic *Nicotiana tabacum*: Assessing non-target effects of bioreactor crops.", Entomological Society of America – Entomology 2013. (Poster)

Menassa, R. (2013). "Fusion proteins and transplastomic plants for the production of vaccines in leaf biomass.", Plant-made vaccines as an alternative to antibiotics: countering antibiotic resistance and ensuring human food safety workshop, London, Ontario, Canada.

Saberianfar, R., Joensuu, J.J., and Menassa, R. (2013). "Investigation of the role of elastin-like polypeptides, hydrophobin fusion tags and recombinant protein accumulation levels as critical elements of protein body biogenesis in *Nicotiana benthamiana* leaves.", Plant-Based Vaccines, Antibodies and Biologics, University of Verona, Verona, Italy, June 5-7, 2013, Oral presentation.

Menassa, R., Kolotilin, I., Kaldis, A., Devriendt, B., Joensuu, J.J., and Cox, E. (2013). "Production of a subunit vaccine candidate against porcine post-weaning diarrhea in high-biomass transplastomic tobacco.", Plant-Based Vaccines, Antibodies and Biologics, Verona, Italy, Oral presentation.

Menassa, R. (2013). "Production of a Subunit Vaccine Candidate against Porcine Post-Weaning Diarrhea in High-Biomass Transplastomic Tobacco.", 3rd International Symposium on Chloroplast Genomics and Genetic Engineering (ISCGGE), Rutgers University, New Brunswick, NJ, USA, May 8-11, 2013, Invited Oral presentation.

## 2012

Pereira, E.O., Tsang, A., McAllister, T.A., and Menassa, R. (2012). "The expression and characterization of new active lipase from *Acremonium alcalophilum* using tobacco plants as bioreactor.", 8th Canadian Plant Biotechnology Conference, University of Guelph, Guelph, ON, Canada, May 14-17, 2012.

Menassa, R. (2012). "Protein fusions for high level accumulation and purification of plant-made recombinant proteins.", Queen's University, Department of Biology, Kingston, ON, Canada, November 9, 2012. (Presentation)

Saberianfar, R., Gutierrez, S., Joensuu, J.J., Kohalmi, S.E., and Menassa, R. (2012). "Characterizing the critical elements of protein body biogenesis by transient expression of elastin-like polypeptide and hydrophobin fusion tags in *N. benthamiana* leaves.", 8th Canadian Plant Biotechnology Conference, University of Guelph, Guelph, ON, Canada, May 14-17, 2012.

Kolotilin, I., Kaldis, A., Devriendt, B., Joensuu, J.J., Cox, E., and Menassa, R. (2012). "Production of a subunit vaccine candidate against porcine post weaning diarrhea in high biomass transplastomic tobacco.", 8th Canadian Plant Biotechnology Conference, University of Guelph, Guelph, ON, Canada, May 14-17, 2012. (Poster)

Zhu, H., Brandle, J.E., and Menassa, R. (2012). "Characterization and Evaluation of a Recombinant Hyperthermostable  $\alpha$ -Amylase Expressed in Tobacco.", 8th Canadian Plant Biotechnology Conference, University of Guelph, Guelph, ON, Canada, May 14-17, 2012. (Poster)

Chen, L., Kaldis, A., Menassa, R., and Dhaubhadel, S. (2012). "Identification and Characterization of a Cysteine Protease Gene in Tobacco for Use in Recombinant Protein Production.", 51st Phytochemical Society of North America (PSNA) Annual Meeting, University of Western Ontario, London, ON, Canada, August 11-15, 2012.

Pereira, E.O., Kolotilin, I., and Menassa, R. (2012). "Heterologous expression of enzymatic cocktail components for biomass deconstruction.", Plant Cell Walls Gordon Research Conference, Colby College, Waterville, ME, USA, August 4-5, 2012. (Poster)

## 2011

Saberianfar, R., Gutierrez, S., Kohalmi, S.E., Joensuu, J.J., Conley, A.J., and Menassa, R. (2011). "Protein body induction by elastin-like polypeptide and hydrophobin, a new approach to high-level recombinant protein production.", 8th Canadian Plant Genomics Workshop, Niagara Falls, ON, Canada, August 22-25, 2011.

Zhu, H., Reynolds, B.L., Brandle, J.E., and Menassa, R. (2011). "Expression of  $\alpha$ -amylase, a starch degrading enzyme, in tobacco.", 8th Canadian Plant Genomics Workshop, Niagara Falls, ON, Canada, August 22-25, 2011.

Gutierrez, S., Saberianfar, R., and Menassa, R. (2011). "Protein Bodies formation in stable transgenic plants of *Nicotiana tabacum* expressing elastin-like polypeptide and hydrophobin fusions.", 8th Canadian Plant Genomics Workshop, Niagara Falls, ON, Canada, August 22-25, 2011.

Kaldis, A., Brandle, J.E., and Menassa, R. (2011). "BY-2 cells as a production platform for intracellular recombinant proteins.", 8th Canadian Plant Genomics Workshop, Niagara Falls, ON, Canada, August 22-25, 2011.

Saberianfar, R., Joensuu, J.J., Conley, A.J., and Menassa, R. (2011). "Elastin-like polypeptide and hydrophobin induced protein bodies share a similar sequestration mechanism from the endoplasmic reticulum, useful for high-level recombinant protein production.", 2nd Annual Biology Graduate Research Forum, University of Western Ontario, London, ON, Canada, October 22, 2011, P19, pp. 17.

Menassa, R. (2011). "Developing novel bioproducts: plant-made pharmaceuticals and industrial enzymes.", Department of Biology, McGill University, Montréal, QC, Canada, April 4, 2011. (Presentation)

Menassa, R. (2011). "Protein fusions for high level accumulation and purification of plant-made recombinant proteins.", Biotechnology Havana 2011, Havana, Cuba, November 28-December 3, 2011.

Pereira, E.O., Kolotilin, I., and Menassa, R. (2011). "Production and characterization of polygalacturanase from *Aspergillus niger* and its fusions with hydrophobin and ELP tag using *Nicotiana benthamiana* as bioreactor.", 1st Brazilian BioEnergy Science and Technology Conference, Campos do Jordão, São Paulo, SP, Brazil, August 14-18, 2011.

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## Research Publications:

2015

Hiebert, C.W., Spielmeier, W., McCartney, C., Kassa, M.T., Fetch Jr., T.G., You, F.M., Menzies, J.G., Humphreys, D.G., and McCallum, B.D. (2015). "Stem rust resistance: two approaches.", in Ogihara, Y. et al. (eds.) - Proceedings of the 12th International Wheat Genetics Symposium, Springer, Chapter 20, pp. 183-191.

Kassa, M.T., Menzies, J.G., and McCartney, C.A. (2015). "Mapping of a resistance gene to loose smut (*Ustilago tritici*) from the Canadian wheat breeding line BW278.", *Molecular Breeding*, 35(9: Article number 180), pp. 1-8. doi : 10.1007/s11032-015-0369-3

Vivancos, J., Labbé, C., Menzies, J.G., and Bélanger, R.R. (2015). "Silicon-mediated resistance of *Arabidopsis* against powdery mildew involves mechanisms other than the salicylic acid (SA)-dependent defence pathway.", *Molecular Plant Pathology*, 16(6), pp. 572-582. doi: 10.1111/mp.12213

Brown, P.D., Randhawa, H.S., Fetch, J.M., Fox, S.L., Humphreys, D.G., Meiklejohn, M., Green, D.A., Wise, I.L., Fetch Jr., T.G., Gilbert, J., McCallum, B.D., and Menzies, J.G. (2015). "AAC Foray red spring wheat.", *Canadian Journal of Plant Science*, 95(4), pp. 799-803. doi: 10.4141/cjps-2015-007

Brown, P.D., Randhawa, H.S., Fetch, J.M., Meiklejohn, M., Fox, S.L., Humphreys, D.G., Green, D.A., Wise, I.L., Fetch Jr., T.G., Gilbert, J., McCallum, B.D., and Menzies, J.G. (2015). "AAC Tenacious red spring wheat.", *Canadian Journal of Plant Science*, 95(4), pp. 805-810. doi: 10.4141/cjps-2015-011

Menzies, J.G. and Turkington, T.K. (2015). "An overview of the ergot (*Claviceps purpurea*) issue in western Canada: challenges and solutions.", *Canadian Journal of Plant Pathology*, 37(1), pp. 40-51. doi: 10.1080/07060661.2014.986527

2014

Humphreys, D.G., Townley-Smith, T.F., Lukow, O.M., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Tkachuk, V.L., Brown, P.D., and Fox, S.L. (2014). "Peace hard red spring wheat.", *Canadian Journal of Plant Science*, 94(7), pp. 1297-1302. doi: 10.4141/CJPS2013-286

Knox, R.E., Campbell, H.L., Clarke, F.R., Menzies, J.G., Popovic, Z., Procnier, J.D., Clarke, J.M., DePauw, R.M., Cuthbert, R.D., and Somers, D.J. (2014). "Quantitative trait loci for resistance in wheat (*Triticum aestivum*) to *Ustilago tritici*.", *Canadian Journal of Plant Pathology*, 36(2), pp. 187-201. doi: 10.1080/07060661.2014.905497

Menzies, J.G., Thomas, P.L., and Woods, S.M. (2014). "Incidence and severity of loose smut and surface-borne smuts of barley on the Canadian prairies from 1972 to 2009.", *Canadian Journal of Plant Pathology*, 36(3), pp. 300-310. doi: 10.1080/07060661.2014.927791

Guérin, V., Lebreton, A., Cogliati, E.E., Hartley, S.E., Belzile, F.J., Menzies, J.G., and Bélanger, R.R. (2014). "A zoospore inoculation method with *Phytophthora sojae* to assess the prophylactic role of silicon on soybean cultivars.", *Plant Disease*, 98(12), pp. 1632-1638. doi: 10.1094/PDIS-01-14-0102-RE

Gnanesh, B.N., McCartney, C.A., Eckstein, P.E., Mitchell Fetch, J.W., Menzies, J.G., and Beattie, A.D. (2014). "Genetic analysis and molecular mapping of a seedling crown rust resistance gene in oat.", *Theoretical and Applied Genetics (TAG)*, 128(2), pp. 247-258. doi: 10.1007/s00122-014-2425-5

Cabral, A.L., Gnanesh, B.N., Mitchell Fetch, J.W., McCartney, C.A., Fetch Jr., T.G., Park, R.F., Menzies, J.G., McCallum, B.D., Nanaiah, G.K., and Goyal, A. (2014). "Oat Fungal Diseases and the Application of Molecular Marker Technology for Their Control.", in Goyal, A. and Manoharachary, C. - *Future Challenges in Crop Protection Against Fungal Pathogens*, *Fungal Biology*, Springer Science + Business Media, pp. 343-358.

Lin, Y., Gnanesh, B.N., Chong, J., Chen, G., Beattie, A.D., Mitchell Fetch, J.W., Kutcher, H.R., Eckstein, P.E., Menzies, J.G., Jackson, E.W., and McCartney, C.A. (2014). "A major quantitative trait locus conferring adult plant partial resistance to crown rust in oat.", *BMC Plant Biology*, 14(250), pp. 11 pages. doi: 10.1186/s12870-014-0250-2

Kassa, M.T., Menzies, J.G., and McCartney, C.A. (2014). "Mapping of the loose smut resistance gene Ut6 in wheat (*Triticum aestivum* L.).", *Molecular Breeding*, 33(3), pp. 569-576. doi: 10.1007/s11032-013-9973-2

Legge, W.G., Tucker, J.R., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Tekauz, A., Turkington, T.K., and Savard, M.E. (2014). "AAC Synergy barley.", *Canadian Journal of Plant Science*, 94(4), pp. 797-803. doi: 10.4141/cjps2013-307

## 2013

Mitchell Fetch, J.W., Tekauz, A., Brown, P.D., Ames, N.P., Chong, J., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Townley-Smith, L., Stadnyk, K.D., and Green, D.A. (2013). "Stride oat", *Canadian Journal of Plant Science*. doi : 10.4141/cjps2012-325

Humphreys, D.G., Townley-Smith, T.F., Czarniecki, E.M., Lukow, O.M., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Brown, P.D., and Fox, S.L. (2013). "Snowstar hard white spring wheat.", *Canadian Journal of Plant Science*, 93(1), pp. 143-148. doi : 10.4141/cjps2012-146

Gaudet, D.A., Puchalski, B., Despains, T., McCartney, C.A., Menzies, J.G., and Graf, R.J. (2013). "Seeding date and location affect winter wheat infection by common bunt (*Tilletia tritici* and *T. laevis*) in western Canada.", *Canadian Journal of Plant Science*, 93(3), pp. 483-489. doi : 10.4141/cjps2012-176

Legge, W.G., Tucker, J.R., Bizimungu, B., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Tekauz, A., Turkington, T.K., Savard, M.E., and Choo, T.-M. (2013). "Cerveza barley.", *Canadian Journal of Plant Science*, 93(3), pp. 557-564. doi : 10.4141/cjps2012-299

Legge, W.G., Tucker, J.R., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Tekauz, A., Turkington, T.K., and Savard, M.E. (2013). "Major barley.", *Canadian Journal of Plant Science*, 93(2), pp. 291-297. doi : 10.4141/cjps2012-248

Fox, S.L., Wise, I.L., Smith, M.A.H., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Fernandez, M.R., Despains, T., Lukow, O.M., and Niziol, D. (2013). "Shaw hard red spring wheat.", *Canadian Journal of Plant Science*, 93(2), pp. 299-305. doi : 10.4141/cjps2012-137

Fox, S.L., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Fernandez, M.R., Despains, T., and Niziol, D. (2013). "Cardale hard red spring wheat.", *Canadian Journal of Plant Science*, 93(2), pp. 307-313. doi : 10.4141/cjps2012-236

Thomas, J.B., Fox, S.L., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Wise, I.L., Smith, M.A.H., Despains, T., Niziol, D., Humphreys, D.G., and Brown, P.D. (2013). "Vesper hard red spring wheat.", *Canadian Journal of Plant Science*, 93(2), pp. 315-321. doi : 10.4141/cjps2012-233

Gnanesh, B.N., Mitchell Fetch, J.W., Menzies, J.G., Beattie, A.D., Eckstein, P.E., and McCartney, C.A. (2013). "Chromosome location and allele-specific PCR markers for marker-assisted selection of the oat crown rust resistance gene *Pc91*.", *Molecular Breeding*, 32(3), pp. 679-686. doi : 10.1007/s11032-013-9900-6

Legge, W.G., Tucker, J.R., Bizimungu, B., Tekauz, A., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Turkington, T.K., Martin, R.A., Choo, T.-M., Vigier, B.J., Blackwell, B.A., and Savard, M.E. (2013). "Taylor barley.", *Canadian Journal of Plant Science*, 93(5), pp. 969-977. doi : 10.4141/cjps2013-126

Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Menzies, J.G., Pozniak, C.J., Sharpe, A.G., Fobert, P., Rezac, N., and others (2013). "Fine mapping of the wheat leaf rust resistance gene *Lr16*.", *International Wheat Genetics Symposium, Yokohama, Japan, September 8-14, 2013*.

## 2012

Arsenault-Labrecque, G., Menzies, J.G., and Bélanger, R.R. (2012). "Effect of Silicon Absorption on Soybean Resistance to *Phakopsora pachyrhizi* in Different Cultivars.", *Plant Disease*, 96(1), pp. 37-42. doi : 10.1094/PDIS-05-11-0376

Gaudet, D.A. and Menzies, J.G. (2012). "Common Bunt of Wheat: an Old Foe Remains a Current Threat.", in Sharma, I. (ed.) - *Disease Resistance in Wheat*. CABI Plant Protection Series, CABI Publishing, Wallingford, UK, Chapter 11, pp. 220-235.

Knox, R.E. and Menzies, J.G. (2012). "Resistance in Wheat to Loose Smut.", in Sharma, I. (ed.) - *Disease Resistance in Wheat*. CABI Plant Protection Series, CABI Publishing, Wallingford, UK, Chapter 9, pp. 160-189.

Fox, S.L., Lamb, R.J., McKenzie, R.I.H., Wise, I.L., Smith, M.A.H., Humphreys, D.G., Brown, P.D., Townley-Smith, T.F., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Fernandez, M.R., Despains, T., Lukow, O.M., and Niziol, D. (2012). "Registration of 'Fieldstar' Hard Red Spring Wheat.", *Journal of Plant Registrations*, 6(2), pp. 161-168. doi : 10.3198/jpr2011.06.0329crc

## 2011

Fetch Jr., T.G., McCallum, B.D., Menzies, J.G., Rashid, K.Y., and Tenuta, A.U. (2011). "Rust diseases in Canada.", *Prairie Soils and Crops*, 4, pp. 87-96.

Legge, W.G., Tucker, J.R., Bizimungu, B., Tekauz, A., Noll, J.S., Fetch Jr., T.G., Menzies, J.G., Haber, S.M., Savard, M.E., Vigier, B.J., Choo, T.-M., Martin, R.A., Turkington, T.K., Rosnagel, B.G., and Harvey, B.L. (2011). "Norman barley.", *Canadian Journal of Plant Science*, 91(6), pp. 1105-1113. doi : 10.4141/cjps2010-020

Mitchell Fetch, J.W., Brown, P.D., Ames, N.P., Chong, J., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., and Stadnyk, K.D. (2011). "Summit oat.", *Canadian Journal of Plant Science*, 91(4), pp. 787-791. doi: 10.4141/CJPS10158

Mitchell Fetch, J.W., Brown, P.D., Ames, N.P., Chong, J., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Townley-Smith, L., and Stadnyk, K.D. (2011). "Stainless oat.", *Canadian Journal of Plant Science*, 91(2), pp. 357-361. doi: 10.4141/CJPS10159

## Other Science Related Publications:

2015

Kassa, M.T., Hiebert, C.W., You, F.M., Fobert, P., Jordan, M.C., Sharpe, A.G., Pozniak, C.J., Fetch Jr., T.G., Zegeye, T., Menzies, J.G., and McCartney, C. (2015). "Genetic mapping and marker development for high-throughput marker-assisted breeding for Ug99 stem rust resistance gene SrCad/Sr42.", *Botany 2015 Joint Conference: Science and plants for people*, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015.

Kassa, M.T., You, F.M., Hiebert, C.W., McCallum, B.D., Cabral, A.L., Panwar, V., Pozniak, C.J., Fetch Jr., T.G., Zegeye, T., Menzies, J.G., Humphreys, D.G., Fobert, P., Sharpe, A.G., Jordan, M.C., and McCartney, C.A. (2015). "Targeting high impact wheat resistance genes for leaf rust, Ug99 stem rust and wheat midge.", *Canadian Wheat Alliance Annual Science and Business Meeting (Invited)*, Saskatoon, SK, Canada, July 14-16, 2015. (Presentation)

McCartney, C.A., Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Panwar, V., Pozniak, C.J., Menzies, J.G., Humphreys, D.G., Fobert, P., Sharpe, A.G., and Jordan, M.C. (2015). "Progress towards sequencing the leaf rust resistance gene Lr16.", *International Wheat Conference 2015*, Sydney, Australia, September 20-25, 2015.

2014

Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Panwar, V., Menzies, J.G., Pozniak, C.J., Sharpe, A.G., Fobert, P., Jordan, M.C., and McCartney, C.A. (2014). "Fine Mapping of the Wheat Leaf Rust Resistance Gene Lr16.", *XXII Plant & Animal Genome Conference*, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014.

Gnanesh, B.N., McCartney, C.A., Lin, Y., Beattie, A.D., Chong, J., Mitchell Fetch, J.W., Kutcher, H.R., Eckstein, P.E., Jackson, E.W., Menzies, J.G., and Parkin, I.A.P. (2014). "A major QTL for Adult Plant Crown Rust Resistance in Oat.", *XXII Plant & Animal Genome Conference*, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014. (Poster)

Menzies, J.G., Xue, A.G., Gruenke, J., Dueck, R., Saramaga, C., Popovic, Z., and Thomson, S. (2014). "Crown rust of oat in Manitoba, Saskatchewan and eastern Canada in 2013.", *Canadian Plant Disease Survey*, 94, pp. 132-134.

2013

Hiebert, C.W., Spielmeyer, W., McCartney, C.A., Kassa, M.T., Fetch Jr., T.G., You, F.M., Menzies, J.G., Humphreys, D.G., and McCallum, B.D. (2013). "Stem rust resistance - two approaches.", *12th International Wheat Genetics Symposium (IWGS)*, Yokohama, Japan, September 8-14, 2013, Invited presentation.

McCartney, C.A., Kassa, M.T., Cabral, A.L., Hiebert, C.W., You, F.M., Jordan, M.C., Menzies, J.G., Humphreys, D.G., Fellers, J.P., Rezac, N., Fobert, P., Sharpe, A.G., Pozniak, C.J., and McCallum, B.D. (2013). "Molecular Analysis of the Lr16 Locus.", *North American Cereal Rust Workers Meeting*, Winnipeg, MB, Canada, March 20, 2013.

McCartney, C.A., Lin, Y., Gnanesh, B.N., Beattie, A.D., Chong, J., Mitchell Fetch, J.W., Kutcher, H.R., Eckstein, P.E., Jackson, E.W., Menzies, J.G., and Parkin, I.A.P. (2013). "Mapping Adult Plant Crown Rust Resistance in Oat.", *Canadian Phytopathological Society Annual Meeting*, Edmonton, AB, Canada, June 16-19, 2013. (Poster)

McCartney, C.A., Gaudet, D.A., Knox, R.E., and Menzies, J.G. (2013). "QTL Analysis of Common Bunt Resistance in the 'Kenyon/86ISMN 2137 Mapping Population.", *XXI Plant and Animal Genome Conference*, San Diego, CA, USA, January 12-16, 2013.

Knox, R.E., Menzies, J.G., and Singh, A.K. (2013). "DNA markers associated with ergot resistance in durum wheat.", *2nd Conference of Cereal Biotechnology and Breeding*, Budapest, Hungary, November 5-7, 2013. (Abstract)

Menzies, J.G., Xue, A.G., Gruenke, J., Dueck, R., Saramaga, C., Popovic, Z., and Stern, A. (2013). "Crown rust of oat in Manitoba, Saskatchewan and Ontario in 2010.", *Canadian Plant Disease Survey*, 93, pp. 112-113.

Menzies, J.G., Xue, A.G., Gruenke, J., Dueck, R., Saramaga, C., Popovic, Z., and Thomson, S. (2013). "Crown rust of oat in Manitoba, Saskatchewan and Eastern Canada in 2011.", *Canadian Plant Disease Survey*, 93, pp. 114-115.

Kassa, M.T., Hiebert, C.W., You, F.M., Jordan, M.C., Fobert, P., Sharpe, A.G., Pozniak, C.J., Zegeye, T., Fetch Jr., T.G., Menzies, J.G., Humphreys, D.G., and McCartney, C.A. (2013). "Molecular Diagnosis of SrCad and Sr42 resistance genes.", *North American Cereal Rust Workers Meeting*, Winnipeg, MB, Canada, March 20, 2013.

Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Menzies, J.G., Pozniak, C.J., Sharpe, A.G., Fobert, P., Jordan, M.C., and McCartney, C.A. (2013). "Fine mapping of the wheat leaf rust resistance gene Lr16.", 12th International Wheat Genetics Symposium (IWGS), Yokohama, Japan, September 8-14, 2013. (Poster)

## 2012

Gnanesh, B.N., McCartney, C.A., Mitchell Fetch, J.W., Menzies, J.G., Beattie, A.D., and Eckstein, P.E. (2012). "Development and application of KASPar markers for marker-assisted selection of the Pc91 oat crown rust resistance gene.", Canadian Phytopathological Society (CPS) 2012 Annual Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, O-30. (Presentation)

Knox, R.E., Hucl, P.J., Cuthbert, R.D., Singh, A.K., Clarke, F.R., DePauw, R.M., Pozniak, C.J., Fox, S.L., Humphreys, D.G., Clarke, J.M., Randhawa, H.S., Spaner, D.M., McCartney, C., Gaudet, D.A., Menzies, J.G., Gilbert, J.R., Fetch Jr., T.G., McCallum, B.D., and Brûlé-Babel, A.L. (2012). "Phenomix.", Canadian Triticum Advancement through Genomics (CTAG) annual meeting 2014, Saskatoon, SK, Canada.

Gnanesh, B.N., McCartney, C.A., Mitchell Fetch, J.W., Menzies, J.G., Beattie, A.D., and Eckstein, P.E. (2012). "Validation and deployment of breeder-friendly markers for oat crown rust resistance gene Pc91.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

Menzies, J.G., Popovic, Z., Saramaga, C., Dueck, R., Gruenke, J., and Thomson, S. (2012). "Cereal smut surveys, 2011.", Canadian Plant Disease Survey, 92, pp. 76.

Humphreys, D.G., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Townley-Smith, T.F., and Lukow, O.M. (2012). "Development of hard white spring wheat for Western Canada.", 2012 American Society of Agronomy, Cincinnati, OH, USA. (Poster)

## 2011

Fox, S.L., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Wise, I.L., Smith, M.A.H., Thomas, J.B., Hiebert, C.W., McCartney, C.A., Lukow, O.M., and Niziol, D. (2011). "Breeding for Canada's premier wheat marker class: Canadian Western Red Spring.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Menzies, J.G., Popovic, Z., Saramaga, C., and Stern, A. (2011). "Cereal smut surveys, 2010.", Canadian Plant Disease Survey, 91, pp. 74.

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## Research Publications:

2013

Koeck, A., Miglior, F., Jamrozik, J., Kelton, D.F., and Schenkel, F.S. (2013). "Genetic associations of ketosis and displaced abomasum with milk production traits in early first lactation of Canadian Holsteins.", *Journal of Dairy Science (JDS)*. doi : 10.3168/jds.2012-6408

Almeida, J.B.M., Ferreira, A., Wilton, J.W., and Miglior, F. (2013). "Estimating total economic merit for the Portuguese Holstein cattle population under new economic conditions.", *Italian Journal of Animal Science*, 12(4), pp. 528-534. doi : 10.4081/ijas.2013.e86

Melka, M.G., Sargolzaei, M., Miglior, F., and Schenkel, F.S. (2013). "Genetic diversity of Guernsey population using pedigree data and gene-dropping simulations.", *Animal*, 7(2), pp. 192-201. doi : 10.1017/s1751731112001723

Chapinal, N., Koeck, A., Sewalem, A., Kelton, D.F., Mason, S., Cramer, G., and Miglior, F. (2013). "Genetic parameters for hoof lesions and their relationship with feet and leg traits in Canadian Holstein cows.", *Journal of Dairy Science (JDS)*, 96(4), pp. 2596-2604. doi : 10.3168/jds.2012-6071

McCorquodale, C.E., Sewalem, A., Miglior, F., Kelton, D.F., Robinson, A., Koeck, A., and Leslie, K.E. (2013). "Analysis of health and survival in a population of Ontario Holstein heifer calves.", *Journal of Dairy Science (JDS)*, 96(3), pp. 1880-1885. doi : 10.3168/jds.2012-5735

Loker, S.F., Bastin, C., Miglior, F., Sewalem, A., Schaeffer, L.R., Jamrozik, J., and Osborne, V.R. (2013). "Development of a genetic evaluation for body condition score for Canadian Holsteins.", *Journal of Dairy Science (JDS)*, 96(6), pp. 3994-4004. doi : 10.3168/jds.2012-6148

Thompson-Crispi, K.A., Miglior, F., and Mallard, B.A. (2013). "Genetic parameters for natural antibodies and associations with specific antibody and mastitis in Canadian Holsteins.", *Journal of Dairy Science (JDS)*, 96(6), pp. 3965-3972. doi : 10.3168/jds.2012-5919

Melka, M.G., Stachowicz, K., Miglior, F., and Schenkel, F.S. (2013). "Analyses of genetic diversity in five Canadian dairy breeds using pedigree data.", *Journal of Animal Breeding and Genetics*, pp. 1-11. doi : 10.1111/jbg.12050

2012

Koeck, A., Miglior, F., Kelton, D.F., and Schenkel, F.S. (2012). "Genetic association of body condition score with disease resistance in first lactation Canadian Holsteins.", *Canadian Journal of Animal Science*, 92(3), pp. 285-289. doi : 10.4141/CJAS2012-047

Koeck, A., Miglior, F., Kelton, D.F., and Schenkel, F.S. (2012). "Alternative somatic cell count traits to improve mastitis resistance in Canadian Holstein.", *Journal of Dairy Science (JDS)*, 95(1), pp. 432-439. doi : 10.3168/jds.2011-4731

Loker, S.F., Bastin, C., Miglior, F., Sewalem, A., Schaeffer, L.R., Jamrozik, J., Ali, A., and Osborne, V.R. (2012). "Genetic and environmental relationships between body condition score and milk production traits in Canadian Holsteins.", *Journal of Dairy Science (JDS)*, 95(1), pp. 410-419. doi : 10.3168/jds.2011-4497

Neuenschwander, T., Miglior, F., Jamrozik, J., Berke, O., Kelton, D.F., and Schaeffer, L.R. (2012). "Genetic parameters for producer-recorded health data in Canadian Holstein cattle.", *Animal*, 6(4), pp. 571-578. doi : 10.1017/S1751731111002059

Thompson-Crispi, K.A., Sewalem, A., Miglior, F., and Mallard, B.A. (2012). "Genetic parameters of adaptive immune response traits in Canadian Holsteins.", *Journal of Dairy Science (JDS)*, 95(1), pp. 401-409. doi : 10.3168/jds.2011-4452

Loker, S.F., Miglior, F., Koeck, A., Neuenschwander, T., Bastin, C., Jamrozik, J., Schaeffer, L.R., and Kelton, D.F. (2012). "Relationship between body condition score and health traits in first-lactation Canadian Holsteins.", *Journal of Dairy Science (JDS)*, 95(11), pp. 6770-6780. doi : 10.3168/jds.2012-5612

Thompson-Crispi, K.A., Miglior, F., and Mallard, B.A. (2012). "Incidence Rates of Clinical Mastitis among Canadian Holsteins Classified as High, Average and Low Immune Responders.", *Clinical and Vaccine Immunology*, 20(1), pp. 106-112. doi : 10.1128/cvi.00494-12



Chapinal, N., Sewalem, A., and Miglior, F. (2012). "Estimation of genetic parameters for gait in Canadian Holstein cows.", *Journal of Dairy Science (JDS)*, 95(12), pp. 7372-7376. doi : 10.3168/jds.2012-5846

Koeck, A., Miglior, F., Kelton, D.F., and Schenkel, F.S. (2012). "Health recording in Canadian Holsteins: Data and genetic parameters.", *Journal of Dairy Science (JDS)*, 95(7), pp. 4099-4108. doi : 10.3168/jds.2011-5127

Koeck, A., Miglior, F., Kelton, D.F., and Schenkel, F.S. (2012). "Genetic parameters for mastitis and its predictors in Canadian Holsteins.", *Journal of Dairy Science (JDS)*, 95(12), pp. 7363-7366. doi : 10.3168/jds.2012-5648

Thompson-Crispi, K.A., Hine, B.C., Quinton, M., Miglior, F., and Mallard, B.A. (2012). "Association of disease incidence and adaptive immune response in Holstein dairy cows.", *Journal of Dairy Science (JDS)*, 95(7), pp. 3888-3893. doi : 10.3168/jds.2011-5201

## 2011

Sewalem, A., Miglior, F., and Kistemaker, G.J. (2011). "Genetic parameters of milking temperament and milking speed in Canadian Holsteins.", *Journal of Dairy Science (JDS)*, 94(1), pp. 512-516. doi: 10.3168/jds.2010-3479

Henderson, L., Miglior, F., Sewalem, A., Kelton, D.F., Robinson, A., and Leslie, K.E. (2011). "Estimation of genetic parameters for measures of calf survival in a population of Holstein heifer calves from a heifer-raising facility in New York State.", *Journal of Dairy Science (JDS)*, 94(1), pp. 461-470. doi : 10.3168/jds.2010-3243

Henderson, L., Miglior, F., Sewalem, A., Wormuth, J., Kelton, D.F., Robinson, A., and Leslie, K.E. (2011). "Genetic parameters for measures of calf health in a population of Holstein calves in New York State.", *Journal of Dairy Science (JDS)*, 94(12), pp. 6181-6187. doi : 10.3168/jds.2011-4347

Stachowicz, K., Sargolzaei, M., Miglior, F., and Schenkel, F.S. (2011). "Rates of inbreeding and genetic diversity in Canadian Holstein and Jersey cattle.", *Journal of Dairy Science (JDS)*, 94(10), pp. 5160-5175. doi : 10.3168/jds.2010-3308

Loker, S.F., Bastin, C., Miglior, F., Sewalem, A., Schaeffer, L.R., Jamrozik, J., and Osborne, V.R. (2011). "Estimates of genetic parameters of body condition score in the first 3 lactations using a random regression animal model.", *Journal of Dairy Science (JDS)*, 94(7), pp. 3693-3699. doi : 10.3168/jds.2010-4122

## Other Science Related Publications:

### 2015

Constant, E., Ibeagha-Awemu, E.M., Miglior, F., Robitaille, G., and Bissonnette, N. (2015). "Improving the genotyping-by-sequencing (GBS) approach for the identification of SNPs associated with Johne's disease.", *ADSA-ASAS JAM (Joint Annual Meeting) 2015, Orlando, Florida, USA, July 12-16, 2015, 2-15, Poster Session.*

### 2013

Jamrozik, J., Koeck, A., Kistemaker, G.J., and Miglior, F. (2013). "Estimates of genetic parameters for mastitis resistance model using Canadian Holstein data.", *Dairy Cattle Breeding and Genetics Committee (DCBGC) 2013, Guelph, ON, Canada, February 13, 2013.*

Miglior, F., Koeck, A., Kelton, D.F., and Schenkel, F.S. (2013). "Comparison of different methods to validate a dataset with producer-recorded health events.", *24th International Conference on Antimicrobial Research (ICAR 2013) and Health Data Conference, Aarhus, Denmark, May 30-31, 2013. (Presentation)*

Koeck, A., Miglior, F., Loker, S.F., Kelton, D.F., and Schenkel, F.S. (2013). "Genetic relationships of mastitis, cystic ovaries and lameness with milk yield and somatic cell score in first lactation Canadian Holsteins.", *Dairy Cattle Breeding and Genetics Committee (DCBGC) 2013, Guelph, ON, Canada, February 13, 2013.*

Miglior, F., Koeck, A., Jamrozik, J., Kelton, D.F., Loker, S.F., Stachowicz, K., and Schenkel, F.S. (2013). "Genetic evaluation for resistance to metabolic disorders in Canadian Holsteins - first results.", *20th Advancement of Animal Breeding and Genetics Meeting (AAABG 2013), Napier, New Zealand, October 20-23, 2013.*

Koeck, A., Miglior, F., Chapinal, N., Kelton, D.F., and Schenkel, F.S. (2013). "Genetic associations between lameness and feet and leg conformation traits in Holsteins.", *Dairy Cattle Breeding and Genetics Committee (DCBGC) 2013, Guelph, ON, Canada, February 13, 2013.*

### 2012

Koeck, A., Miglior, F., Kelton, D.F., and Schenkel, F.S. (2012). "Genetic evaluation for mastitis resistance in Canadian Holsteins - first results.", *Genetic Evaluation Board (GEB) Open Industry Session 2012, Saint-Hyacinthe, QC, Canada, March 20, 2012.*

Miglior, F. (2012). "Genetic improvement: a major component of increased dairy farm profitability.", *Dairy Cattle Breeding and Genetics Committee (DCBGC) 2012, Guelph, ON, Canada, September 18, 2012.*

Manafiazar, G., Miglior, F., Crews, Jr., D.H., and Wang, Z. (2012). "Phenotypic and genetic correlations among feed efficiency, production and selected confirmation traits in dairy cattle - research progress report.", Dairy Cattle Breeding and Genetics Committee (DCBGC) 2012, Guelph, ON, Canada, September 18, 2012.

Chapinal, N., Koeck, A., Sewalem, A., Kelton, D.F., Mason, S., Cramer, G., and Miglior, F. (2012). "Genetic parameters for hoof lesions in Canadian Holstein cows estimated from hoof trimming records.", Dairy Cattle Breeding and Genetics Committee (DCBGC) 2012, Guelph, ON, Canada, September 18, 2012.

Thompson-Crispi, K.A., Miglior, F., and Mallard, B.A. (2012). "Genetic parameters for natural antibodies and associations with specific antibody and mastitis in Canadian Holsteins.", Dairy Cattle Breeding and Genetics Committee (DCBGC) 2012, Guelph, ON, Canada, September 18, 2012.

Thompson-Crispi, K.A., Ventura, R., Abo-Ismael, M., Schenkel, F.S., Miglior, F., and Mallard, B.A. (2012). "A genome-wide association study for immune response traits in Canadian Holsteins: an update.", Dairy Cattle Breeding and Genetics Committee (DCBGC) 2012, Guelph, ON, Canada, September 18, 2012.

Koeck, A., Miglior, F., Kelton, D.F., and Schenkel, F.S. (2012). "Update on genetic evaluation for mastitis resistance.", Dairy Cattle Breeding and Genetics Committee (DCBGC) 2012, Guelph, ON, Canada, September 18, 2012.

Miglior, F., Koeck, A., Kelton, D.F., and Schenkel, F.S. (2012). "Development of a genetic evaluation for mastitis resistance for Canadian dairy cattle.", 38th ICAR Biennial Session and INTERBULL Meeting, Cork, Ireland, May 28-June 1, 2012.

Koeck, A., Miglior, F., Kelton, D.F., and Schenkel, F.S. (2012). "Genetic relationships of mastitis, cystic ovaries and lameness with milk yield and somatic cell score in first lactation Canadian Holstein cows.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012.

Koeck, A., Miglior, F., Kelton, D.F., and Schenkel, F.S. (2012). "Genetic relationships between mastitis, other diseases, and predictors of mastitis in Canadian dairy cattle", 4th International Conference Quantitative Genetics (ICQG), Edinburgh, Scotland, UK, June 17-22, 2012. (Poster)

Miglior, F. (2012). "Genetic evaluation for resistance to metabolic disorders in Canadian Holsteins - first results.", Dairy Cattle Breeding and Genetics Committee (DCBGC) 2012, Guelph, ON, Canada, September 18, 2012.

## 2011

Koeck, A., Miglior, F., Kelton, D.F., and Schenkel, F.S. (2011). "Genetic association between body condition score and disease resistance in first lactation Canadian Holsteins.", Genetic Evaluation Board (GEB) Open Industry Session, Guelph, ON, Canada, October 12, 2011.

Koeck, A., Miglior, F., Kelton, D.F., and Schenkel, F.S. (2011). "Multiple-trait model for mastitis resistance in Canadian Holsteins. A preliminary investigation.", Genetic Evaluation Board (GEB) Open Industry Session, Guelph, ON, Canada, October 12, 2011.

Koeck, A., Miglior, F., and Schenkel, F.S. (2011). "Breeding for health using producer recorded data in Canadian Holsteins.", Genetic Evaluation Board (GEB) Open Industry Session, Guelph, ON, Canada, October 12, 2011.

Chapinal, N., Miglior, F., Sewalem, A., de Passillé, A.M.B., Rushen, J.P., von Keyserlingk, M.A.G., and Weary, D.M. (2011). "Estimation of genetic parameters for gait in Canadian Holstein cows.", 2011 Joint Annual Meeting of the ADSA-ASAS, New Orleans, LA, USA, July 10-14, 2011. (Presentation)

Koeck, A., Miglior, F., Kelton, D.F., and Schenkel, F.S. (2011). "Investigation of alternative somatic cell count traits as mastitis indicators in Canadian Holsteins.", Genetic Evaluation Board (GEB) Open Industry Session, Saint-Hyacinthe, QC, Canada, April 19, 2011.

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## Research Publications:

2015

Miller, J.J. and Chanasyk, D.S. (2015). "Unsaturated water flux at mid and lower slope positions within an inclined landscape of the dark brown soil zone in southern Alberta.", *Canadian Journal of Soil Science*, 95(1), pp. 27-36. doi: 10.4141/CJSS-2014-058

Miller, J.J., Curtis, T.W., Chanasyk, D.S., and Reedyk, S. (2015). "Influence of mowing and narrow grass buffer widths on reductions in sediment, nutrients, and bacteria in surface runoff.", *Canadian Journal of Soil Science*, 95(2), pp. 139-151. doi: 10.4141/CJSS-2014-082

Miller, J.J., Beasley, B.W., Drury, C.F., Lamey, F.J., and Hao, X. (2015). "Influence of long-term manure application on mineral composition of irrigated barley silage.", *Canadian Journal of Plant Science*, 95(4), pp. 759-770. doi: 10.4141/cjps-2014-329

Miller, J.J., Beasley, B.W., Drury, C.F., Lamey, F.J., and Hao, X. (2015). "Influence of Long-Term (9 yr) Composted and Stockpiled Feedlot Manure Application on Selected Soil Physical Properties of a Clay Loam Soil in Southern Alberta.", *Compost Science & Utilization*, 23(1), pp. 1-10. doi: 10.1080/1065657X.2014.963741

Miller, J.J., Beasley, B.W., Drury, C.F., Lamey, F.J., and Hao, X. (2015). "Influence of Long-Term Application of Manure Type and Bedding on Yield, Protein, Fiber, and Energy Value of Irrigated Feed Barley.", *Agronomy Journal*, 107(1), pp. 121-128. doi: 10.2134/agnonj14.0321

2014

Lamey, F.J., Olson, A.F., Miller, J.J., and Tovell, B.C. (2014). "Soluble salts, copper, zinc, and solids constituents in surface runoff from cattle manure compost windrows.", *Canadian Journal of Soil Science*, 94(4), pp. 515-527. doi: 10.4141/CJSS2013-114

Miller, J.J., Beasley, B.W., Drury, C.F., Hao, X., and Lamey, F.J. (2014). "Soil properties following long-term application of stockpiled feedlot manure containing straw or wood-chip bedding to barley silage production.", *Canadian Journal of Soil Science*, 94(3), pp. 389-402. doi: 10.4141/CJSS2013-087

Smith, E.G., Hao, X., and Miller, J.J. (2014). "Economics of Utilizing Biodigested Beef Feedlot Manure to Manage Nutrient Application to Cropland.", *International Journal of Renewable Energy & Biofuels*, 2014(Article ID 371507). doi: 10.5171/2014.371507

Lamey, F.J., Olson, A.F., Miller, J.J., and Tovell, B.C. (2014). "Nitrogen and Phosphorus in Runoff from Cattle Manure Compost Windrows of Different Maturities.", *Journal of Environmental Quality*, 43(2), pp. 671-680. doi: 10.2134/jeq2013.06.0230

Khan, I.U.H., Gannon, V.P.J., Jokinen, C.C., Kent, R., Koning, W., Lapen, D.R., Medeiros, D.T., Miller, J.J., Neumann, N.F., Phillips, R., Schreier, H., Topp, E., van Bochove, É., Wilkes, G.A., and Edge, T.A. (2014). "A National Investigation of the Prevalence and Diversity of Thermophilic *Campylobacter* Species in Agricultural Watersheds in Canada", *Water Research*, 61, pp. 243-252. doi: 10.1016/j.watres.2014.05.027

Miller, J.J., Battigelli, J.P., and Willms, W.D. (2014). "Grazing protection influences soil mesofauna in ungrazed and grazed riparian and upland pastures.", *Rangeland Ecology & Management*, 67(4), pp. 429-434. doi: 10.2111/REM-D-14-00004.1

Miller, J.J., Beasley, B.W., Drury, C.F., Lamey, F.J., and Hao, X. (2014). "Nitrogen budgets following land application of composted or stockpiled feedlot manure containing wood-chips or straw bedding to barley silage for 12 years.", *Compost Science & Utilization*, 22(2), pp. 57-67. doi: 10.1080/1065657X.2014.895453

Miller, J.J., Curtis, T.W., Chanasyk, D.S., and Willms, W.D. (2014). "Influence of streambank fencing and river access for cattle on riparian zone soils adjacent to the Lower Little Bow River in southern Alberta, Canada.", *Canadian Journal of Soil Science*, 94(2), pp. 209-222. doi: 10.4141/CJSS2013-0981

Sharifi, M., Zebarth, B.J., Miller, J.J., Burton, D.L., and Grant, C.A. (2014). "Soil nitrogen mineralization in a soil with long-term history of fresh and composted manure containing straw or wood-chip bedding.", *Nutrient Cycling in Agroecosystems*, 99(1-3), pp. 63-78. doi: 10.1007/s10705-014-9618-9

2013

Miller, J.J., Beasley, B.W., and Drury, C.F. (2013). "Transport of Metals (Al, Fe) and Trace Elements (Cu, Mo, Ni, and Zn) through Intact Soil Cores Amended with Fresh or Composted Beef Cattle Manure for Nine Years.", *Compost Science & Utilization*, 21(2), pp. 99-109. doi : 10.1080/1065657X.2013.836067

Miller, J.J., Beasley, B.W., and Drury, C.F. (2013). "Transport of Residual Soluble Salts and Total Sulfur through Intact Soil Cores Amended with Fresh or Composted Beef Cattle Feedlot Manure for Nine Years.", *Compost Science & Utilization*, 21, pp. 22-33. doi : 10.1080/1065657X.2013.785195

Miller, J.J., Beasley, B.W., Drury, C.F., Hao, X., and Lamey, F.J. (2013). "Transport of Residual Nitrogen and Carbon through Intact Soil Cores Amended with Stockpiled Feedlot Manure with Wood-Chip or Straw Bedding.", *Journal of Environmental Quality*, 42(6), pp. 1881-1888. doi : 10.2134/jeq2013.02.0061

Miller, J.J., Curtis, T.W., Bremer, E., Chanasyk, D.S., and Willms, W.D. (2013). "Evaluation of selected soil properties for indicating cattle activity at off-stream watering and river access sites in southern Alberta.", *Canadian Journal of Soil Science*, 93(3), pp. 343-358. doi : doi:10.4141/CJSS2012-074

Rahbeh, M., Chanasyk, D.S., and Miller, J.J. (2013). "Modelling the effect of irrigation on the hydrological output from a small prairie watershed.", *Canadian Water Resources Journal*, 38(4), pp. 280-295. doi : 10.1080/07011784.2013.849856

Miller, J.J., Curtis, T.W., and Chanasyk, D.S. (2013). "Comparison of runoff quantity and quality under annual cropping and forages.", *Water Quality Research Journal of Canada*, 48(1), pp. 40-54. doi : 10.2166/wqrc.2013.013

2012

Jokinen, C.C., Edge, T.A., Koning, W., Laing, C.R., Lapen, D.R., Miller, J.J., Mutschall, S.K., Scott, A., Taboada, E.N., Thomas, J.E., Topp, E., Wilkes, G.A., and Gannon, V.P.J. (2012). "Spatial and Temporal Drivers of Zoonotic Pathogen Contamination of an Agricultural Watershed.", *Journal of Environmental Quality*, 41(1), pp. 242-252. doi : 10.2134/jeq2011.0203

Edge, T.A., El-Shaarawi, A., Gannon, V.P.J., Jokinen, C.C., Kent, R., Khan, I.U.H., Koning, W., Lapen, D.R., Miller, J.J., Neumann, N.F., Phillips, R., Robertson, W.J., Schreier, H., Scott, A., Shtepani, I., Topp, E., Wilkes, G.A., and van Bochove, É. (2012). "Investigation of an *Escherichia coli* Environmental Benchmark for Waterborne Pathogens in Agricultural Watersheds in Canada.", *Journal of Environmental Quality*, 41(1), pp. 21-30. doi : 10.2134/jeq2010.0253

Miller, J.J., Beasley, B.W., Drury, C.F., and Zebarth, B.J. (2012). "Denitrification during the growing season as influenced by long-term application of composted versus fresh feedlot manure.", *Canadian Journal of Soil Science*, 92(6), pp. 865-882. doi : 10.4141/CJSS2011-107

Miller, J.J., Bremer, E., Beasley, B.W., Drury, C.F., Zebarth, B.J., and Lamey, F.J. (2012). "Long-term effect of fresh and composted cattle manure on the size and nutrient composition of dry-sieved soil aggregates.", *Canadian Journal of Soil Science*, 92(4), pp. 673-683. doi : 10.4141/CJSS2011-056

2011

Jokinen, C.C., Edge, T.A., Ho, S., Koning, W., Laing, C.R., Mauro, W., Medeiros, D.T., Miller, J.J., Robertson, W.M., Taboada, E.N., Thomas, J.E., Topp, E., Ziebell, K.A., and Gannon, V.P.J. (2011). "Molecular subtypes of *Campylobacter* spp., *Salmonella enterica*, and *Escherichia coli* O157:H7 isolated from faecal and surface water samples in the Oldman River watershed, Alberta, Canada.", *Water Research*, 45(3), pp. 1247-1257. doi : 10.1016/j.watres.2010.10.001

Miller, J.J., Beasley, B.W., Drury, C.F., and Zebarth, B.J. (2011). "Transport of residual nutrients through intact soil cores amended with fresh or composted beef cattle manure for nine years.", *Compost Science & Utilization*, 19(4), pp. 267-278.

Miller, J.J., Beasley, B.W., Drury, C.F., and Zebarth, B.J. (2011). "Accumulation and redistribution of residual chloride, nitrate, and soil test P in soil profiles amended with fresh and composted cattle manure containing straw or wood-chip bedding.", *Canadian Journal of Soil Science*, 91(6), pp. 969-984. doi : 10.4141/cjss2011-048

Rahbeh, M., Chanasyk, D.S., and Miller, J.J. (2011). "Two-way calibration-validation of SWAT model for a small prairie watershed with short observed record.", *Canadian Water Resources Journal*, 36(3), pp. 247-270. doi : 10.4296/cwrj3603884

Miller, J.J. and Brierley, J.A. (2011). "Solonchets soils of Canada: Genesis, distribution, and classification.", *Canadian Journal of Soil Science*, 91(5), pp. 889-902. doi : 10.4141/cjss10040

Miller, J.J., Chanasyk, D.S., Curtis, T.W., and Olson, B.M. (2011). "Phosphorus and nitrogen in runoff after phosphorus- or nitrogen-based manure applications.", *Journal of Environmental Quality*, 40(3), pp. 949-958. doi : 10.2134/jeq2010.0279

Lyautey, E., Wilkes, G.A., Miller, J.J., van Bochove, É., Schreier, H., Koning, W., Edge, T.A., Lapen, D.R., and Topp, E. (2011). "Variation of an indicator of *Escherichia coli* persistence from surface waters of mixed-use watersheds, and relationship with population density and other factors.", *Annales de Limnologie - International Journal of Limnology*, 47(1), pp. 1-9. doi : 10.1051/limn/2010033

Miller, J.J., Chanasyk, D.S., Curtis, T.W., Entz, T., and Willms, W.D. (2011). "Environmental quality of Lower Little Bow River and riparian zone along an unfenced reach with off-stream watering.", *Agricultural Water Management*, 98(10), pp. 1505-1515. doi : 10.1016/j.agwat.2011.05.006

## Other Science Related Publications:

### 2014

Miller, J.J., Beasley, B.W., Drury, C.F., Zebarth, B.J., Bremer, E., Hao, X., and Lamey, F.J. (2014). "Influence of long-term composted or stockpiled feedlot manure application on crop and soil.", Canadian Geophysical Union-Canadian Society of Soil Science (CGU/CSSS) Joint Annual Meeting, Banff, AB, Canada, May 4-8, 2014. (Abstract)

Foroud, N.A. and Miller, J.J. (2014). "NMR resolutions of agricultural traits: From soil chemistry to crop health.", A Symposium Celebrating NMR Spectroscopy and Fluorine Chemistry at the University of Lethbridge, Lethbridge, AB, Canada, December 5, 2014. (Presentation)

Miller, J.J., Beasley, B.W., Hao, X., Lamey, F.J., and Drury, C.F. (2014). "Transport of chemicals through intact soil cores amended with composted or stockpiled feedlot manure with wood-chip or straw bedding.", 51st Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 12-14, 2014, pp. 31. (Abstract)

Lamey, F.J., Olson, A.F., Miller, J.J., and Tovell, B.C. (2014). "Soluble salts, copper and zinc in simulated rain runoff from beef cattle manure compost windrows.", 51st Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 12-14, 2014, pp. 29. (Abstract)

Lamey, F.J. and Miller, J.J. (2014). "Researcher perfects compost recipe.", *Western Producer*, 2014 (December 25), pp. 10-11.

### 2013

Miller, J.J., Beasley, B.W., Lamey, F.J., Drury, C.F., Zebarth, B.J., and Bremer, E. (2013). "Long-term effect of fresh and composted cattle manure on the size and nutrient composition of dry-sieved soil aggregates.", 50th Annual Alberta Soil Science Workshop, Lethbridge, AB, Canada, February 19-21, 2013. (Abstract)

Olson, A.F., Lamey, F.J., Miller, J.J., and Tovell, B.C. (2013). "Properties of simulated rain runoff from compost windrows.", 50th Annual Alberta Soil Science Workshop, Lethbridge, AB, Canada, February 19-21, 2013. (Abstract)

### 2012

Miller, J.J. (2012). "Watershed Evaluation of Beneficial Management Practices (WEBs project) in the Lower Little Bow River Basin of Southern Alberta.", Agricultural Issues class, University of Lethbridge, Lethbridge, AB, Canada, March 21, 2012. (Presentation)

Miller, J.J., Chanasyk, D.S., Curtis, T.W., Olson, B.M., Lastuka, D., Lewis, M., Petry, S., Rogness, D., Ross, C.M., Schmitt, K., Smith, E.G., and Willms, W.D. (2012). "Influence of P- and N-based Manure Application on Runoff Quality.", 64th Annual International Conference of the Soil and Water Conservation Society (SWCS), Dearborn, MI, USA, July 11-15, 2009, Poster #41, pp. 68. (Poster)

Miller, J.J., Chanasyk, D.S., Curtis, T.W., Lastuka, D., Rogness, D., Ross, C.M., Schmitt, K., Smith, E.G., and Willms, W.D. (2012). "Watershed Evaluation of Beneficial Management Practices (WEBs project) in the Lower Little Bow River Basin of Southern Alberta.", 49th Annual Alberta Soil Science Workshop, Ramada Inn, Edmonton, AB, Canada, February 14-16, 2012. (Poster)

Miller, J.J. (2012). "Watershed Evaluation of Beneficial Management Practices (WEBs project) in the Lower Little Bow River Basin of Southern Alberta.", WEBs Annual Workshop, Ottawa, ON, Canada, January 30-31, 2012. (Presentation)

Miller, J.J., Bremer, E., Beasley, B.W., Drury, C.F., Zebarth, B.J., and Lamey, F.J. (2012). "Long-term effect of fresh and composted cattle manure on the size and nutrient composition of dry-sieved soil aggregates.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012, pp. 110. (Abstract)

Miller, J.J. (2012). "Watershed evaluation of BMPs in the WEBs LLB watershed in southern Alberta.", Lethbridge Research Center open house, Lethbridge, AB, Canada, July 20, 2012. (Presentation)

2011

Miller, J.J. (2011). "Watershed Evaluation of Beneficial Management Practices (WEBs project) in the Lower Little Bow River Basin of Southern Alberta.", Annual Field Tour of WEBs Watershed, County of Lethbridge, Lethbridge, AB, Canada, October 19, 2011. (Presentation)

Lamey, F.J., Willms, W.D., Smith, E.G., Janzen, H.H., Ellert, B.H., and Miller, J.J. (2011). "Other long-term experiments at Lethbridge Research Centre.", Historical Rotations Workshop, Lethbridge, AB, Canada, June 21-22, 2011. (Presentation)

Miller, J.J., Bremer, E., Beasley, B.W., Drury, C.F., Zebarth, B.J., and Lamey, F.J. (2011). "Macroaggregate characteristics in soil amended with fresh or composted cattle manure containing straw or wood-chip bedding.", 48th Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 15-17, 2011.

Jokinen, C.C., Mutschall, S.K., Ross, S.L., Buchanan, C., Kindt, A., Koning, W., Miller, J.J., Edge, T.A., Topp, E., Thomas, J.E., Gannon, V.P.J., and Taboada, E.N. (2011). "Application of comparative genomics-based genotyping to the molecular epidemiology of *Campylobacter jejuni* from the Oldman River watershed in southern Alberta, Canada.", 15th Annual Federal Food Safety and Nutrition Research Meeting (FFSNRM), Ottawa, ON, Canada, December 6, 2011. (Presentation)

Miller, J.J. (2011). "Watershed evaluation of BMPs in the WEBs LLB watershed in southern Alberta.", County of Lethbridge Agricultural Service Board meeting, Lethbridge, AB, Canada, April 20, 2011. (Presentation)

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## Research Publications:

2016

Liu, H., Gong, J., Chabot, D., Miller, S.S., Miller, S.S., Cui, S.W., Ma, J., Zhong, F., and Wang, Q. (2016). "Incorporation of polysaccharides into sodium caseinate-low melting point fat microparticles improves probiotic bacteria survival during simulated gastrointestinal digestion and storage.", *Food Hydrocolloids*, 54(Part B), pp. 328-337. doi : 10.1016/j.foodhyd.2015.10.016

Wcislo, R., Miller, S.S., and Dzwiniel, W. (2016). "PAM: Particle Automata Model in simulation of *Fusarium graminearum* pathogen expansion.", *Journal of Theoretical Biology*, 389, pp. 110-122. doi : 10.1016/j.jtbi.2015.10.018

2015

Yang, Y., Cui, S.W., Gong, J., Miller, S.S., Wang, Q., and Hua, Y.F. (2015). "Stability of citral in oil-in-water emulsions protected by a soy protein-polysaccharide Maillard reaction product.", *Food Research International*, 69, pp. 357-363. doi : 10.1016/j.foodres.2015.01.006

Karunakaran, C., Christensen, C.R., Gaillard, C., Lahlali, R.L., Blair, L.M., Perumal, V., Miller, S.S., and Hitchcock, A.P. (2015). "Introduction of soft X-ray spectromicroscopy as an advanced technique for plant biopolymers research.", *PLoS ONE*, 10(3: Article number e0122959). doi : 10.1371/journal.pone.0122959

Liu, H., Gong, J., Chabot, D., Miller, S.S., Cui, S.W., Ma, J., Zhong, F., and Wang, Q. (2015). "Protection of heat-sensitive probiotic bacteria during spray-drying by sodium caseinate stabilized fat particles.", *Food Hydrocolloids*, 51, pp. 459-467. doi : 10.1016/j.foodhyd.2015.05.015

Lévesque-Lemay, M., Chabot, D., Hubbard, K., Chan, J., Miller, S.S., Miller, S.S., and Robert, L.S. (2015). "Tapetal oleosins play an essential role in tapetosome formation and protein relocation to the pollen coat.", *New Phytologist*. doi : 10.1111/nph.13611

2014

Izydorczyk, M.S., Miller, S.S., and Beattie, A.D. (2014). "Milling Food Barley: Production of functional fractions enriched with  $\beta$ -glucans and other dietary fiber components.", *Cereal Foods World*, 59(6), pp. 277-285. doi : 10.1094/CFW-59-6-0277

Chahal, A., Monreal, C.M., Bissett, J.D., Rowland, O., Smith, M.L., and Miller, S.S. (2014). "Metabolism of n-C10:0 and n-C11:0 fatty acids by *Trichoderma koningii*, *Penicillium janthinellum* and their mixed culture: I. Biomass and CO<sub>2</sub> production, and allocation of intracellular lipids.", *Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Wastes*, 49(12), pp. 945-954. doi : 10.1080/03601234.2014.951581

2011

Abdel-Aal, E-S.M., Hucl, P.J., Miller, S.S., and Patterson, C.A. (2011). "Microstructure and nutrient composition of hairless canary seed and its potential as a blending flour for food use.", *Food Chemistry*, 125(2), pp. 410-416. doi : 10.1016/j.foodchem.2010.09.021

Miller, S.S., Watson, E.M., Lazebnik, J., Gulden, S.M., Balcerzak, M., Fedak, G., and Ouellet, T. (2011). "Characterization of an alien source of resistance to *Fusarium* head blight transferred to Chinese Spring wheat.", *Botany*, 89(5), pp. 301-311. doi : 10.1139/B11-017

## Other Science Related Publications:

2015

Wang, Q., Liu, H., Gong, J., Chabot, D., Miller, S.S., Miller, S.S., Cui, S.W., and Zhong, F. (2015). "A novel encapsulation method to protect probiotic bacteria during spray drying", 23th International Conference on Bioencapsulation, Delft, The Netherlands, September 2-4, 2015. (Poster)

Miller, S.S., Miller, S.S., DeLorme, T., and Watson, E.M. (2015). "Phytochemical response to Fusarium in Chinese Spring wheat and a line containing a chromosome fragment from *Thinopyrum*.", American Association of Cereal Chemists Annual Meeting, Minneapolis, Minnesota, USA, October 18-21, 2015. (Poster)

Miller, S.S., Miller, S.S., Kaka, A., Wight, C.P., and Tinker, N.A. (2015). "Phenotypic variation in *Avena* species.", American Association of Cereal Chemists Annual Meeting, Minneapolis, Minnesota, USA, October 18-21, 2015. (Poster)

Tosh, S.M. and Miller, S.S. (2015). "Oats.", in Caballero, B., Finglas, P. and Toldrá, F. (eds.) - Encyclopedia of Food and Health, Elsevier.

## 2014

Lu, D., Crowley, J.J., Li, C., Coros, M., DePauw, M., Plastow, G., Moore, S.S., Miller, S.S., Miller, S.S., and Stothard, P. (2014). "Genomic Inbreeding Coefficients in a Sample of Canadian Beef Cattle Breeds.", 10th World Congress on Genetics Applied to Livestock Production (WCGALP), Vancouver, Canada, August 17-22, 2014, Paper 750.

Wight, C.P., McMullen, M.P., Gusmini, G., Lazo, G.R., Miller, S.S., Miller, S.S., Mitchell Fetch, J.W., Jannink, J.-L., Sorrells, M.E., and Tinker, N.A. (2014). "The Oat Newsletter: where we've been and where we're going.", American Oat Workers Conference 2014, Ottawa Marriott Hotel, Ottawa, ON, Canada, July 13-16, 2014, Full presentation published at: [http://aowc.ca/AOWC2014\\_presentations.html](http://aowc.ca/AOWC2014_presentations.html).

## 2012

Miller, S.S., Voldeng, H.D., and Watson, E.M. (2012). "Iron and protein in experimental wheat lines carrying the *Gpc-b1* gene from wild emmer wheat.", 2012 International Annual Meeting of the American Association of Cereal Chemists (AACC), The Westin Diplomat, Hollywood, FL, USA, September 30-October 3, 2012, Published in Supplement Cereal Food World, 57(4) A26. (Presentation)

Bélair, G., Mimee, B., Miller, S.S., and Miller, S.S. (2012). "Découverte de *Pratylenchus alleni* dans le soja au Québec, une manifestation des changements climatiques?", *Phytoprotection*, 93, pp. 19-24. (Abstract)

Gardner, K.M., Wight, C.P., Mitchell Fetch, J.W., Yan, W., Ames, N.P., Rosnagel, B.G., Hermann, M., Molnar, S.J., Frégeau-Reid, J.A., Miller, S.S., Fetch Jr., T.G., Chong, J., Martin, R.A., Tekauz, A., Haber, S.M., Savard, M.E., and Tinker, N.A. (2012). "Prospects of whole genome selection in oat using high throughput genetic markers.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

## 2011

Wood, D.F. and Miller, S.S. (2011). "Correlative microscopy.", 2011 International Annual Meeting of the American Association of Cereal Chemists (AACC): Rice Division Lunch, Palm Springs Convention Center, Palm Springs, CA, USA, October 15-19, 2011.

Wood, D.F. and Miller, S.S. (2011). "Correlative microscopy of agricultural products.", EMBRAPA Instrumentação Agropecuária, São Carlos, SP, Brazil, July 28, 2011.

Miller, S.S. and Fulcher, R.G. (2011). "Microstructure and Chemistry of the Oat Kernel.", in Webster, F.H. and Wood, P.J. (eds.) - *Oats: Chemistry and Technology*. 2nd Edition, American Association of Cereal Chemists (AACC), Chapter 5, pp. 77-94.

Fedak, G., Cao, W., Chi, D., Somers, D.J., Miller, S.S., Ouellet, T., Xue, A.G., Gilbert, J., Savard, M.E., and Voldeng, H.D. (2011). "New sources of resistance to fusarium head blight and their modes of action.", 2011 National Fusarium Head Blight Forum, Hyatt Regency Hotel, St. Louis, MO, USA, December 4-6, 2011, pp. 19.



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## Research Publications:

2015

Khakbazan, M., Henry, R., Huang, J., Mohr, R.M., Peters, R.D., Fillmore, S.A.E., Rodd, A.V., and Mills, A.A.S. (2015). "Economics of organically managed and conventional potato production systems in Atlantic Canada.", *Canadian Journal of Plant Science*, 95(1), pp. 161-174. doi: 10.4141/CJPS-2014-050

2013

Sangha, J.S., Chen, Y.H., Kaur, J., Khan, W., Abduljaleel, Z., Alanazi, M.S., Mills, A.A.S., Adalla, C.B., Bennett, J., Prithiviraj, B., Jahn, G.C., and Leung, H. (2013). "Proteome analysis of rice (*Oryza sativa* L.) mutants reveals differentially induced proteins during brown planthopper (*Nilaparvata lugens*) infestation.", *International Journal of Molecular Sciences*, 14(2), pp. 3921-3945. doi: 10.3390/ijms14023921

2011

Adl, S.M., Girard, V., Breton, G., Mahaming, A.R., Mills, A.A.S., Perichot, V., Trionnaire, M., Vullo, R., and Néraudeau, D. (2011). "Reconstructing the soil food web of a 100 million-year-old forest: The case of the mid-Cretaceous fossils in the amber of Charentes (SW France).", *Soil Biology & Biochemistry*, 43(4), pp. 726-735. doi: 10.1016/j.soilbio.2010.12.003

Mills, A.A.S. and Adl, S.M. (2011). "Changes in nematode abundances and body length in response to management intensive grazing in a low-input temperate pasture.", *Soil Biology & Biochemistry*, 43(1), pp. 150-158. doi: 10.1016/j.soilbio.2010.09.027

Sangha, J.S., Khan, W., Ji, X-H., Zhang, J-Z., Mills, A.A.S., Critchley, A.T., and Prithiviraj, B. (2011). "Carra geenans, Sulphated Polysaccharides of Red Seaweeds, Differentially Affect *Arabidopsis thaliana* Resistance to *Trichoplusia ni* (Cabbage Looper).", *PLoS ONE*, 6(10, Article No. e26834). doi: 10.1371/journal.pone.0026834

## Other Science Related Publications:

2015

Debnath, S.C., Anderson, S., Bishop, G.A., Dixon, P.L., McKenzie, D.-L., Mills, A.A.S., and Siow, Y.L. (2015). Developing innovative technologies to accelerate industry transition from 'wild' to cultivated cool climate berry crop production systems. Project ID: 13-1155; Research Project Annual Report 2014-2015., AAFC Science and Technology Branch. (Report)

Nabuurs, M.H., Boyetchko, S.M., McCallum, J.L., Mills, A.A.S., Zhou, T., and Kirby, C.W. (2015). "Application of Bioautography in the Discovery of Biopesticides from Natural Resources.", 98th Canadian Chemistry Conference and Exhibition, Ottawa, ON, Canada, June 13-17, 2015. (Abstract)

2014

Nyiraneza, J., Mills, A.A.S., Rodd, A.V., Grimmett, M.G., and Jiang, Y. (2014). "The effects of different cover crops and their managements on subsequent potato growth.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014, Abstract/poster.

Debnath, S.C., McKenzie, D.B., Bishop, G.A., Dixon, P.L., Siow, Y.L., and Mills, A.A.S. (2014). "Blueberries: transitioning from wild to cultivated production.", *STB Weekly Science Story*, January 21, 2014. (Newsletter)

Mills, A.A.S., Nyiraneza, J., and Rodd, A.V. (2014). "The impact of underseeding and overseeding cover crops on the agronomic performance of soybean and canola in the Northeast.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014. (Poster)

Mills, A.A.S. (2014). "Atlantic Brew: New Barley and Hop Varieties for Craft Breweries." AAFC-AAC (AgricultureCanadaEng) YouTube Channel. <http://youtu.be/8rMqSA-iIUY>.

Mills, A.A.S. (2014). "Organic Malting Barley Workshop.", Atlantic Canada Organic Regional Network (ACORN) 15th Annual Conference, Halifax, NS, Canada, November 12-14, 2014.

Mills, A.A.S., Choo, T.-M., Izydorczyk, M.S., Durand, J., Kobler, J.F., Martin, R.A., and Sorrells, M.E. (2014). "Evaluation of malting barley quality in Eastern North America as affected by improved cultural practices.", 2014 North American Barley Researchers Workshop, Minneapolis, MN, USA, June 29-July 2, 2014.

Mills, A.A.S. (2014). "The potential for malt barley in the Maritimes. (Maritime Organic Grains Network Newsletter. Atlantic Canada Organic Regional Network ([http://acomorganic.org/media/resources/Vol2\\_Issue1\\_MOGN\\_Newsletter\\_Summer\\_2014\\_online\\_edition.pdf](http://acomorganic.org/media/resources/Vol2_Issue1_MOGN_Newsletter_Summer_2014_online_edition.pdf)))." . (Newsletter)

Debnath, S.C., Anderson, S., Bishop, G.A., Dixon, P.L., McKenzie, D.B., Mills, A.A.S., and Siow, Y.L. (2014). Developing innovative technologies to accelerate industry transition from 'wild' to cultivated cool climate berry crop production systems. Project ID: 13-1155; Research Project Annual Report 2013-2014, AAFC Science and Technology Branch. (Report)

## 2013

Nyiraneza, J., Fuller, K.D., Bizimungu, B., Bishop, G.A., Grimmett, M.G., Rodd, A.V., Jiang, Y., Mills, A.A.S., Gregory, D., Enman, B., and others (2013). "Increasing phosphorus use efficiency in potato production in Atlantic Canada.", Open houses organized by AAFC, Crop and Livestock Research Centre, August 16, 2013. (Presentation)

Rodd, A.V., Nyiraneza, J., Henry, R., Peters, R.D., Grimmett, M.G., and Mills, A.A.S. (2013). "Compost from the sea for agricultural production. Compost council of Canada regional meeting.", Compost matters in Atlantic Canada, Westmorland-Albert Solid Waste Corporation, Moncton, NB, Canada, March 13-14, 2013.

Mills, A.A.S. (2013). "Oilseed crop rotational study with potatoes.", Atlantic Cereal & Oilseed Symposium, Fredericton Inn, Fredericton, NB, Canada, February 13-14, 2013.

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## Research Publications:

2015

Rioux, S., Mimee, B., Gagnon, A.-É., and Hambleton, S. (2015). "First report of stripe rust (*Puccinia striiformis* sp. tritici) on wheat in Quebec, Canada.", *Phytoprotection*, 95(1), pp. 7-9. doi: 10.7202/1028400ar

Mimee, B., Duceppe, M.-O., Véronneau, P.-Y., Lafond-Lapalme, J., Jean, M., Belzile, F.J., and Bélair, G. (2015). "A new method for studying population genetics of cyst nematodes based on Pool-Seq and genomewide allele frequency analysis.", *Molecular Ecology Resources*, 15(6), pp. 1356-1365. doi: 10.1111/1755-0998.12412

2014

Mimee, B., Andersen, R., Bélair, G., Vanasse, A., and Rott, M. (2014). "Impact of quarantine procedures on weed biodiversity and abundance: Implications for the management of the golden potato cyst nematode, *Globodera rostochiensis*.", *Crop Protection*, 55, pp. 21-27. doi: 10.1016/j.cropro.2013.10.003

Mimee, B., Peng, H., Popovic, V., Yu, Q., Duceppe, M.-O., Tetreault, M.P., and Bélair, G. (2014). "First report of soybean cyst nematode (*Heterodera glycines* Ichinohe) on soybean in the province of Quebec, Canada.", *Plant Disease*, 98(3), pp. 429. doi: 10.1094/PDIS-07-13-0782-PDN (Abstract)

2013

Boucher, A.C., Mimee, B., Montarry, J., Bardou-Valette, S., Bélair, G., Moffett, P., and Grenier, É. (2013). "Genetic diversity of the golden potato cyst nematode *Globodera rostochiensis* and determination of the origin of populations in Quebec, Canada.", *Molecular Phylogenetics and Evolution*, 69(1), pp. 75-82. doi: 10.1016/j.ympev.2013.05.020

Bélair, G., Mimee, B., Duceppe, M.-O., and Miller, S.A. (2013). "First report of the root-lesion nematode, *Pratylenchus alleni* associated with damage on soybean in Quebec, Canada.", *Plant Disease*, 97(2), pp. 292. doi: 10.1094/PDIS-03-12-0309-PDN

2011

Mimee, B., Avis, T.J., Boivin, S., Jabaji, S., and Tweddell, R.J. (2011). "Effect of iron and nitrogen on the development of *Helminthosporium solani* and potato silver scurf.", *Canadian Journal of Plant Pathology*, 33(4), pp. 506-511. doi: 10.1080/07060661.2011.610826

## Other Science Related Publications:

2015

Rioux, S., Mimee, B., and Pageau, D. (2015). "Quelles sont les maladies à surveiller en grandes cultures?", Journée d'information grandes cultures: du semis à la récolte. Club agroenvironnemental de la Rive-Nord (CARN) en collaboration avec la Direction régionale de la Capitale-Nationale du MAPAQ, Deschambault, 18 février 2015. (Presentation)

Rioux, S., Mimee, B., and Pageau, D. (2015). "Les maladies à surveiller dans les cultures de céréales, de soya et de canola.", Journée du producteur charlevoisien. Club agroenvironnemental de la Rive-Nord (C.A.R.N.) en collaboration avec la Direction régionale de la Capitale-Nationale du MAPAQ, Baie-Saint-Paul, Canada, 9 avril, 2015. (Presentation)

Lévesque, C.A., Chen, W., Hambleton, S., Seifert, K.A., Adam, Z., Bilodeau, G.J., Cullis, J., Demeke, T., Dumonceaux, T.J., Gagnon, M., Graefenhan, T., Kawchuk, L.M., Khan, I.U.H., Lewis, C.T., Li, X., Links, M.G., Mimee, B., Rott, M., Tambong, J.T., Topp, E., Yu, Q., and Yuan, K. (2015). Project CRTI 09-462RD - Next generation sequencing, direct detection and genotyping of fungi, bacteria and nematodes in the agri-food system. DRDC-RDDC-2015-C148. Final Close-Out Report. (Report)

Mimee, B. and Lafrenière-Landry, M. (2015). "Soya, nématodes, changements climatiques... C'est quoi le problème?!", Conférence donnée dans le cadre du Colloque sur la santé des sols à St-Hyacinthe, QC, Canada.

2014

Mimee, B. and Gagnon, A.-È. (2014). "Nématode à kyste du soya.", Conférences présentées lors des Journées Phytoprotection grandes cultures au CEROM à St-Mathieu-de-Beloeil, QC, Canada.

Phillion, V., Fortin, A.F., Leclerc, D., Joubert, V., Duceppe, M.-O., Toussaint, V., and Mimee, B. (2014). "La détection des bactéries en verger pour prévenir le feu bactérien: les faux négatifs dépriment les plus optimistes.", 106e Réunion annuelle de la SPPQ: Les plantes bio-industrielles: enjeux environnementaux et phytosanitaires, Saint-Mathieu de Beloeil, QC, Canada, June 10-12, 2014.

Mimee, B. (2014). "L'efficacité de méthodes culturales dans la gestion du nématode doré au Québec.", Congrès annuel de la Société de Protection des Plantes du Québec (SPPQ) à St-Marc-sur-Richelieu, QC, Canada. Résumé publié dans Phytoprotection.

Bourgeois, G., Moiroux, J., Gendron-St-Marseille, A.-F., Gagnon, A.-È., Mimee, B., and Brodeur, J. (2014). "Quels enjeux représentent les changements climatiques en lien avec les espèces exotiques envahissantes pour la culture du soya au Québec?", Conférence présentée dans le cadre du Symposium Ouranos à Québec, QC, Canada.

Rioux, S., Labrie, G., Mimee, B., Pageau, D., Gilbert, G., and Colton-Gagnon, K. (2014). "Maladies et insectes en grandes cultures: portrait de la situation 2012-2014.", Journée d'information scientifique Innovagrains-CRAAQ, Boucherville, QC, Canada, 20 novembre 2014.

Mimee, B., Véronneau, P.-Y., Duceppe, M.-O., Jean, M., O'Donoghue, L.S., Belzile, F.J., and Bélair, G. (2014). "Nématodes à kyste : comment la génomique et les nouvelles technologies nous permettront de proposer des outils de gestion adaptés.", Congrès annuel de la Société de Protection des Plantes du Québec (SPPQ) à St-Marc-sur-Richelieu, QC, Canada. Résumé publié dans Phytoprotection.

Moiroux, J., Bourgeois, G., Brodeur, J., Gagnon, A.-È., Gendron-St-Marseille, A.-F., and Mimee, B. (2014). "Quelles espèces exotiques envahissantes menacent la culture du soya au Québec à la faveur des changements climatiques?", Conférence présentée dans le cadre de la Journée d'information scientifique grandes cultures du CRAAQ à Drummondville, QC, Canada.

Gendron-St-Marseille, A.-F., Mimee, B., Bourgeois, G., and Brodeur, J. (2014). "Modélisation bioclimatique de la phénologie du soya et du nématode à kyste dans un contexte de changements climatiques.", Congrès annuel de la Société de Protection des Plantes du Québec (SPPQ) à St-Marc-sur-Richelieu, QC, Canada. Résumé publié dans Phytoprotection.

Mimee, B., Brodeur, J., Bourgeois, G., Moiroux, J., Gendron-St-Marseille, A.-F., and Gagnon, A.-È. (2014). Quels enjeux représentent les changements climatiques en lien avec les espèces exotiques envahissantes pour la culture du soya au Québec? Ouranos#550012-103. Québec, Canada. 51 p. (Report)

Moiroux, J., Bourgeois, G., Brodeur, J., Gagnon, A.-È., Gendron-St-Marseille, A.-F., and Mimee, B. (2014). Quels enjeux représentent les changements climatiques en lien avec les espèces exotiques envahissantes pour la culture du soya au Québec? Feuillet technique. Ouranos. Québec, Canada. 11 p. ([http://www.agrireseau.qc.ca/documents/Document\\_87868.pdf](http://www.agrireseau.qc.ca/documents/Document_87868.pdf)). (Report)

Mimee, B., Véronneau, P.-Y., Duceppe, M.-O., Jean, M., Belzile, F.J., and Bélair, G. (2014). "A new method for studying population genetics of cyst nematodes based on genotyping by sequencing.", 6th International Congress of Nematology, Cape Town, South Africa.

Mimee, B. (2014). "Nématode à kyste du soya.", Conférence donnée dans le cadre de la journée Agri-Vision à Ste-Rosalie, QC, Canada.

Mimee, B. (2014). "Gestion des nématodes à l'ère de la génomique et des changements climatiques.", Conférence donnée dans le cadre des Journées du centre SÈVE à Orford, QC, Canada.

2013

Boucher, A.C., Mimee, B., Montary, J., Bardou-Valette, S., Bélair, G., Moffett, P., Grenier, É., and others (2013). "The golden nematode *Globodera rostochiensis*: inferring the origin of populations introduced in Quebec, Canada through its worldwide genetic structure.", International symposium on crop protection (ISCP), Ghent, Belgium, Proceedings of the 65th International symposium on crop protection ISSN 1379-1176 Ghent University (Abstract).

Rott, M., Mimee, B., Belton, M., and others (2013). "Genomic sequence comparisons between isolates of *Globodera rostochiensis*.", Congrès annuel de l'American Phytopathological Society (APS conjoint MSA), Austin, TX, USA, 10 au 14 août 2013.

Mimee, B., Véronneau, P.-Y., Jean, M., Duceppe, M.-O., Bélair, G., Belzile, F.J., and others (2013). "Can we link the different pathotypes of the golden cyst nematode *Globodera rostochiensis* to genotype using single nucleotide polymorphism (SNP) markers?", Congrès annuel de l'Organization of Nematologists of Tropical America (ONTA), La Serena, Chile, October 20-25, 2013.

Bélair, G., Mimee, B., and others (2013). "Update on the efficacy of various management strategies of *Globodera rostochiensis* in Quebec, Canada.", Congrès annuel de l'Organization of Nematologists of Tropical America (ONTA), La Serena, Chile, October 20-25, 2013.

Toussaint, V., Ciotola, M., Cadieux, M., Racette, G., Duceppe, M.-O., and Mimee, B. (2013). "Identification and temporal distribution of different species of beetles as potential vector-agent of *Erwinia tracheiphila*, the causal agent of bacterial wilt of cucurbits.", American Phytopathological Society (APS) and the Mycological Society of America (MSA) Joint Meeting 2013, Austin, TX, USA, August 10-14, 2013.

Boucher, A.C., Mimee, B., Montary, J., Bardou-Valette, S., Bélair, G., Moffett, P., Grenier, É., and others (2013). "New information on the historical introduction of the golden nematode in North America.", Congrès annuel du Potato Association of America (PAA), Québec, QC, Canada, July 28 - August 1, 2013.

Phillion, V., Fortin, A.F., Leclerc, D., Joubert, V., Duceppe, M.-O., Toussaint, V., Mimee, B., and others (2013). "Use of real-time PCR for *Erwinia amylovora* detection during bloom and potential for integration in fire blight disease forecast in Québec.", 13th International Fire Blight Workshop, Zürich, Switzerland, du 2 au 5 juillet 2013.

Phillion, V., Fortin, A.F., Leclerc, D., Joubert, V., Duceppe, M.-O., Toussaint, V., Mimee, B., and others (2013). "Limits of *Erwinia amylovora* detection during bloom for fire blight disease forecast in Québec.", 10th International Congress of Plant Pathology, Beijing International Convention Center, Beijing, China, August 25-30, 2013.

Mohamed, R.T.E., Tweddell, R.J., Mimee, B., Avis, T.J., and others (2013). "Antagonism of bacteria isolated from composts against *Verticillium dahliae*, causal agent of strawberry *Verticillium* wilt.", CSM, Ottawa, ON, Canada.

Bélair, G., Mimee, B., Andersen, R., Vanasse, A., and others (2013). "Impact des mauvaises herbes dans la gestion du nématode doré au Québec.", Congrès annuel de la Société de Protection des Plantes du Québec (SPPQ), Québec, QC, Canada, du 5 au 6 juin 2013.

## 2012

Mimee, B. and Bélair, G. (2012). "Life cycle of *Globodera rostochiensis* in Québec, Canada.", 51st Annual Meeting Society of Nematologists, Savannah, GA, USA, August 12-15, 2012. (Poster)

Boucher, A.C., Mimee, B., Montary, J., Bélair, G., Moffett, P., and Grenier, É. (2012). "Genetic structure of golden nematode populations from Quebec, Canada, with the use of new microsatellite markers.", 51st Annual Meeting Society of Nematologists, Savannah, GA, USA, August 12-15, 2012. Published in: *Journal of Nematology*, 44 (4), pp. 447-502. (Poster)

Bélair, G., Mimee, B., Miller, S.S., and Miller, S.S. (2012). "Découverte de *Pratylenchus alleni* dans le soya au Québec, une manifestation des changements climatiques?", *Phytoprotection*, 93, pp. 19-24. (Abstract)

Boucher, A.C., Bélair, G., Mimee, B., Moffett, P., and Grenier, É. (2012). "Développement de marqueurs microsatellites et structure génétique des populations de *Globodera rostochiensis* au Québec.", Congrès de la Société de protection des plantes du Québec (SPPQ), Hôtel Plaza Valleyfield, Salaberry-de-valleyfield, QC, Canada, June 5-6, 2012.

Bélair, G. and Mimee, B. (2012). "Field damage caused by *Pratylenchus alleni* on soybean in Quebec, Canada.", *Journal of Nematology*, 44(4), pp. 447-502. (Abstract)

Ali, S., Magne, M., Côté, O., Mimee, B., Bélair, G., Moffett, P., and others (2012). "Effectoromics of the phytopathogenic nematode, *Globodera rostochiensis*.", Congrès annuel de la International Society for Molecular Plant-Microbe Interactions (IS-MPMI), Kyoto, Japan.

## 2011

Mimee, B., Bélair, G., and Boivin, G. (2011). "*Bradynema listronoti*, a new nematode parasite of the carrot weevil *Listronotus oregonensis*.", *Journal of Nematology*, 43(3-4), pp. 223-297. (Abstract)

Bélair, G., Simard, L., and Mimee, B. (2011). "Crop rotation for the management of the golden nematode *Globodera rostochiensis* in Canada.", Society of Nematologists 50th Anniversary Meeting, Corvallis, OR, USA, July 17-20, 2011. (Poster)

Bélair, G., Simard, L., and Mimee, B. (2011). "Crop rotation for the management of the golden nematode *Globodera rostochiensis* in Canada.", Society of Nematologists 50th Anniversary Meeting, Corvallis, OR, USA, July 17-20, 2011, pp. 51.

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## Research Publications:

2015

Yan, W., Frégeau-Reid, J.A., Martin, R.A., Pageau, D., and Mitchell Fetch, J.W. (2015). "How many test locations and replications are needed in crop variety trials in a target region?", *Euphytica*, 202(3), pp. 361-372. doi: 10.1007/s10681-014-1253-7

Fetch Jr., T.G., Mitchell Fetch, J.W., and Xue, A.G. (2015). "Races of *Puccinia graminis* on barley, oat, and wheat in Canada in 2007 and 2008.", *Canadian Journal of Plant Pathology*, 37(3), pp. 331-341. doi: 10.1080/07060661.2015.1066865

2014

Gnanesh, B.N., McCartney, C.A., Eckstein, P.E., Mitchell Fetch, J.W., Menzies, J.G., and Beattie, A.D. (2014). "Genetic analysis and molecular mapping of a seedling crown rust resistance gene in oat.", *Theoretical and Applied Genetics (TAG)*, 128(2), pp. 247-258. doi: 10.1007/s00122-014-2425-5

Yan, W., Frégeau-Reid, J.A., and Mitchell Fetch, J.W. (2014). "Breeding for ideal milling oats.", in Chu, Y. (ed.) - *Oats Nutrition and Technology*, John Wiley & Sons, Ltd.

Cabral, A.L., Gnanesh, B.N., Mitchell Fetch, J.W., McCartney, C.A., Fetch Jr., T.G., Park, R.F., Menzies, J.G., McCallum, B.D., Nanaiah, G.K., and Goyal, A. (2014). "Oat Fungal Diseases and the Application of Molecular Marker Technology for Their Control.", in Goyal, A. and Manoharachary, C. - *Future Challenges in Crop Protection Against Fungal Pathogens*, Fungal Biology, Springer Science + Business Media, pp. 343-358.

Lin, Y., Gnanesh, B.N., Chong, J., Chen, G., Beattie, A.D., Mitchell Fetch, J.W., Kutcher, H.R., Eckstein, P.E., Menzies, J.G., Jackson, E.W., and McCartney, C.A. (2014). "A major quantitative trait locus conferring adult plant partial resistance to crown rust in oat.", *BMC Plant Biology*, 14(250), pp. 11 pages. doi: 10.1186/s12870-014-0250-2

Gnanesh, B.N., Mitchell Fetch, J.W., Zegeye, T., McCartney, C.A., and Fetch Jr., T.G. (2014). "Oat.", in Pratap, A. and Kumar, J. (eds.) - *Alien Gene Transfer in Crop Plants*, Volume 2, Springer Science + Business Media, pp. 51-73.

2013

Oliver, R.E., Tinker, N.A., Lazo, G.R., Chao, S., Jellen, E.N., Carson, M.L., Rines, H.W., Obert, D.E., Lutz, J.D., Shackelford, I., Korol, A., Wight, C.P., Gardner, K.M., Hattori, J., Beattie, A.D., Bjørnstad, A., Bonman, J.M., Jannink, J.-L., Sorrells, M.E., Brown Guedira, G.L., Mitchell Fetch, J.W., Harrison, S.A., Howarth, C.J., Ibrahim, A.A., Kolb, F.L., McMullen, M.S., Murphy, J.P., Ohm, H.W., Rosnagel, B.G., Yan, W., Mićlaus, K.J., Hiller, J., Maughan, P.J., Redman Hultz, R.R., Anderson, J.M., Islamovic, E., and Jackson, E.W. (2013). "SNP discovery and chromosome anchoring provide the first physically-anchored hexaploid oat map and reveal synteny with model species.", *PLoS ONE*, 8(3, Article No. e58068). doi: 10.1371/journal.pone.0058068

Gnanesh, B.N., Mitchell Fetch, J.W., Menzies, J.G., Beattie, A.D., Eckstein, P.E., and McCartney, C.A. (2013). "Chromosome location and allele-specific PCR markers for marker-assisted selection of the oat crown rust resistance gene *Pc91*.", *Molecular Breeding*, 32(3), pp. 679-686. doi: 10.1007/s11032-013-9900-6

Mitchell Fetch, J.W., Tekauz, A., Brown, P.D., Ames, N.P., Chong, J., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Townley-Smith, L., Stadnyk, K.D., and Green, D.A. (2013). "Stride oat.", *Canadian Journal of Plant Science*. doi: 10.4141/cjps2012-325

2011

Mitchell Fetch, J.W., Brown, P.D., Ames, N.P., Chong, J., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., and Stadnyk, K.D. (2011). "Summit oat.", *Canadian Journal of Plant Science*, 91(4), pp. 787-791. doi: 10.4141/CJPS10158

Mitchell Fetch, J.W., Brown, P.D., Ames, N.P., Chong, J., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Townley-Smith, L., and Stadnyk, K.D. (2011). "Stainless oat.", *Canadian Journal of Plant Science*, 91(2), pp. 357-361. doi: 10.4141/CJPS10159

Mitchell Fetch, J.W. and Fetch Jr., T.G. (2011). "Inheritance of resistance to oat stem rust in the cultivars Ronald and AC Gwen.", *Canadian Journal of Plant Science*, 91(2), pp. 419-423. doi: 10.4141/CJPS10146

Chong, J., Gruenke, J., Dueck, R., Mayert, W., Mitchell Fetch, J.W., and McCartney, C.A. (2011). "Virulence of *Puccinia coronata* f. sp. avenae in the eastern prairie region of Canada during 2007-2009.", *Canadian Journal of Plant Pathology*, 33(1), pp. 77-87. doi: 10.1080/07060661.2010.546957

Yan, W., Mitchell Fetch, J.W., Frégeau-Reid, J.A., Rossnagel, B.G., and Ames, N.P. (2011). "Genotype x Location Interaction Patterns and Testing Strategies for Oat in the Canadian Prairies.", *Crop Science*, 51(5), pp. 1903-1914. doi : 10.2135/cropsci2010.09.0548

Fetch Jr., T.G., Mitchell Fetch, J.W., and Xue, A.G. (2011). "Races of *Puccinia graminis* on barley, oat and wheat in Canada in 2006.", *Canadian Journal of Plant Pathology*, 33(1), pp. 54-60. doi : 10.1080/07060661.2011.536650

## Other Science Related Publications:

### 2015

Chaffin, A.S., Huang, Y.F., Smith, S.M., Reid, R.W., Babiker, E., Nanjappa, G., Foresman, B., Blanchard, S., Jay, J., Wight, C.P., Oliver, R., Chao, S., Islamovic, E., Klos, K.E., Kolb, F.L., McCartney, C., Mitchell Fetch, J.W., Bonman, J.M., Brouwer, C., Jellen, E.N., Poland, J., Hsieh, T.-F., Brown, R., Lutz, J.D., Jackson, E.D., Tinker, N.A., and Schlueter, J.A. (2015). "Ode to an Oat: Theme and Variations on a Map.", XXIII Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2015, Abstracts at: <http://pag.confex.com/pag/xxiii/webprogram/Session2675.html>.

Kaur, J., Kumar, S., Fetch Jr., T.G., Burt, A.J., and Mitchell Fetch, J.W. (2015). "Prevalence of Sr2 in Canadian wheat varieties using molecular markers.", Botany 2015 Joint Conference: Science and plants for people, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015.

### 2014

Gnanesh, B.N., McCartney, C.A., Lin, Y., Beattie, A.D., Chong, J., Mitchell Fetch, J.W., Kutcher, H.R., Eckstein, P.E., Jackson, E.W., Menzies, J.G., and Parkin, I.A.P. (2014). "A major QTL for Adult Plant Crown Rust Resistance in Oat.", XXII Plant & Animal Genome Conference, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014. (Poster)

Wight, C.P., McMullen, M.P., Gusmini, G., Lazo, G.R., Miller, S.S., Miller, S.S., Mitchell Fetch, J.W., Jannink, J.-L., Sorrells, M.E., and Tinker, N.A. (2014). "The Oat Newsletter: where we've been and where we're going.", American Oat Workers Conference 2014, Ottawa Marriott Hotel, Ottawa, ON, Canada, July 13-16, 2014, Full presentation published at: [http://aowc.ca/AOWC2014\\_presentations.html](http://aowc.ca/AOWC2014_presentations.html).

Chaffin, A.S., Huang, Y.F., Smith, S.M., Schneider, A., Reid, R.W., Babiker, E., Nanjappa, G., Foresman, B., Blanchard, S., Jay, J., Wight, C.P., Chao, S., Islamovic, E., Klos, K.E., Kolb, F.L., McCartney, C., Mitchell Fetch, J.W., Bonman, J.M., Brouwer, C., Jellen, E.N., Poland, J., Hsieh, T.-F., Brown, R., Lutz, J.D., Jackson, E.D., Oliver, R., Tinker, N.A., and Schlueter, J.A. (2014). "A shiny new state-of-the-art oat consensus map: where to next?", American Oat Workers Conference 2014, Ottawa Marriott Hotel, Ottawa, ON, Canada, July 13-16, 2014.

Marquez, B.K., Wight, C.P., Mitchell Fetch, J.W., Beattie, A.D., Johnson, D.A., Poland, J., and Tinker, N.A. (2014). "Genotyping-by-sequencing facilitates whole genome visualization of Canadian oat cultivars.", American Oat Workers Conference 2014, Ottawa Marriott Hotel, Ottawa, ON, Canada, July 13-16, 2014.

### 2013

McCartney, C.A., Lin, Y., Gnanesh, B.N., Beattie, A.D., Chong, J., Mitchell Fetch, J.W., Kutcher, H.R., Eckstein, P.E., Jackson, E.W., Menzies, J.G., and Parkin, I.A.P. (2013). "Mapping Adult Plant Crown Rust Resistance in Oat.", Canadian Phytopathological Society Annual Meeting, Edmonton, AB, Canada, June 16-19, 2013. (Poster)

### 2012

Gnanesh, B.N., McCartney, C.A., Mitchell Fetch, J.W., Menzies, J.G., Beattie, A.D., and Eckstein, P.E. (2012). "Development and application of KASPar markers for marker-assisted selection of the Pc91 oat crown rust resistance gene.", Canadian Phytopathological Society (CPS) 2012 Annual Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, O-30. (Presentation)

Yan, W., Frégeau-Reid, J.A., Mitchell Fetch, J.W., Pageau, D., Martin, R.A., Rowsell, J., Beattie, A.D., and Cummiskey, A. (2012). "Breeding for an 'ideal' Milling Oat: Challenges and Strategies.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012.

Gnanesh, B.N., McCartney, C.A., Mitchell Fetch, J.W., Menzies, J.G., Beattie, A.D., and Eckstein, P.E. (2012). "Validation and deployment of breeder-friendly markers for oat crown rust resistance gene Pc91.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

Gardner, K.M., Wight, C.P., Mitchell Fetch, J.W., Yan, W., Ames, N.P., Rossnagel, B.G., Herrmann, M., Molnar, S.J., Frégeau-Reid, J.A., Miller, S.S., Fetch Jr., T.G., Chong, J., Martin, R.A., Tekauz, A., Haber, S.M., Savard, M.E., and Tinker, N.A. (2012). "Prospects of whole genome selection in oat using high throughput genetic markers.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

2011

Beattie, A.D., Zhang, X.M., Yajima, W., Dokken-Bouchard, F.L., Tekauz, A., Mitchell Fetch, J.W., Martin, R.A., Yan, W., Scoles, G.J., and Rosnagel, B.G. (2011). "Real-time quantitative PCR in oat FHB resistance breeding.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 67.

Mitchell Fetch, J.W. (2011). "Prairie Oat Breeding Consortium Tour Notes.", Oat Scoop, 2011 (August), pp. 5-6. (Newsletter)



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## Research Publications:

2015

Harker, K.N., O'Donovan, J.T., Smith, E.G., Johnson, E.N., Peng, G., Willenborg, C.J., Gulden, R.H., Mohr, R.M., Gill, K.S., and Grenkow, L.A. (2015). "Seed size and seeding rate effects on canola emergence, development, yield and seed weight.", *Canadian Journal of Plant Science*, 95(1), pp. 1-8. doi: 10.4141/cjps-2014-222

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Dosdall, L.M., Hall, L.M., Kutcher, H.R., Willenborg, C.J., Peng, G., Irvine, R.B., and Mohr, R.M. (2015). "Canola cultivar mixtures and rotations do not mitigate the negative impacts of continuous canola.", *Canadian Journal of Plant Science*, 95(6), pp. 1085-1099. doi: 10.4141/cjps-2015-126

Khakbazan, M., Henry, R., Huang, J., Mohr, R.M., Peters, R.D., Fillmore, S.A.E., Rodd, A.V., and Mills, A.A.S. (2015). "Economics of organically managed and conventional potato production systems in Atlantic Canada.", *Canadian Journal of Plant Science*, 95(1), pp. 161-174. doi: 10.4141/CJPS-2014-050

Turkington, T.K., O'Donovan, J.T., Harker, K.N., Xi, K., Blackshaw, R.E., Johnson, E.N., Peng, G., Kutcher, H.R., May, W.E., Lafond, G.P., Mohr, R.M., Irvine, R.B., and Stevenson, C. (2015). "The impact of fungicide and herbicide timing on foliar disease severity, and barley productivity and quality.", *Canadian Journal of Plant Science*, 95(3), pp. 525-537. doi: 10.4141/CJPS-2014-364

2013

Gao, X., Tenuta, M., Nelson, A.G., Sparling, B., Tomasiwicz, D.J., Mohr, R.M., and Bizimungu, B. (2013). "Effect of nitrogen fertilizer rate on nitrous oxide emission from irrigated potato on a clay loam soil in Manitoba, Canada.", *Canadian Journal of Soil Science*, 93(1), pp. 1-11. doi: 10.4141/cjss2012-057

2012

Mohr, R.M., Irvine, R.B., Khakbazan, M., McLaren, D.L., Monreal, M.A., Moulin, A.P., Tomasiwicz, D.J., Volkmar, K.M., and Derksen, D.A. (2012). "Potato Rotation Study - Carberry, Manitoba (1997-2010).", *Prairie Soils and Crops*, 5, pp. 36-41.

Mohr, R.M. and Tomasiwicz, D.J. (2012). "Effect of rate and timing of potassium chloride application on the yield and quality of potato (*Solanum tuberosum* L. 'Russet Burbank').", *Canadian Journal of Plant Science*, 92(4), pp. 783-794. doi: 10.4141/CJPS2011-195

2011

Gao, X., Mohr, R.M., McLaren, D.L., and Grant, C.A. (2011). "Grain cadmium and zinc concentrations in wheat as affected by genotypic variation and potassium chloride fertilization.", *Field Crops Research*, 122(2), pp. 95-103. doi: 10.1016/j.fcr.2011.03.005

Khakbazan, M., Hamilton, C., Mohr, R.M., and Grant, C.A. (2011). "Water and nutrient crop sufficiency models for potato, wheat, canola, oats, alfalfa, and corn.", *The Americas Journal of Plant Science and Biotechnology*, 5(Spec. Issue 2), pp. 45-60.

Buckley, K.E., Therrien, M.C., and Mohr, R.M. (2011). "Agronomic performance of barley cultivars in response to varying rates of swine slurry.", *Canadian Journal of Plant Science*, 91(1), pp. 69-79. doi: 10.4141/CJPS09032

Mohr, R.M. and Tomasiwicz, D.J. (2011). "Effect of Phosphorus Fertilizer Rate on Irrigated Russet Burbank Potato.", *Communications in Soil Science and Plant Analysis*, 42(18), pp. 2284-2298. doi: 10.1080/00103624.2011.602457

Mohr, R.M., Volkmar, K.M., Derksen, D.A., Irvine, R.B., Khakbazan, M., McLaren, D.L., Monreal, M.A., Moulin, A.P., and Tomasiwicz, D.J. (2011). "Effect of Rotation on Crop Yield and Quality in an Irrigated Potato System.", *American Journal of Potato Research*, 88(4), pp. 346-359. doi: 10.1007/s12230-011-9200-9

Monreal, M.A., Grant, C.A., Irvine, R.B., Mohr, R.M., McLaren, D.L., and Khakbazan, M. (2011). "Crop management effect on arbuscular mycorrhizae and root growth of flax.", *Canadian Journal of Plant Science*, 91(2), pp. 315-324. doi: 10.4141/cjps10136

## Other Science Related Publications:

2015

Turkington, T.K., Xi, K., Peng, G., Martin, R.A., Harker, K.N., O'Donovan, J.T., Beres, B.L., May, W.E., and Mohr, R.M. (2015). "The impact of seed treatment, foliar fungicide timing, and plant growth regulator on barley leaf disease severity and productivity.", *Canadian Journal of Plant Pathology*. (Abstract)

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Johnson, E.N., Kutcher, H.R., Willenborg, C.J., Gan, Y.T., Dosdall, L.M., Hall, L.M., Peng, G., Irvine, R.B., and Mohr, R.M. (2015). "Sustainable canola production increases with cropping system diversity.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. (Poster)

Lay, C-Y., Bell, T., Hamel, C., Harker, K.N., Mohr, R.M., and St-Arnaud, M. (2015). "The effects of agricultural practices on the microbiome of the roots and rhizosphere of canola.", *Canadian Society of Microbiologists Annual Conference*, Regina, Saskatchewan, Canada, June 15-18, 2015. (Abstract)

Turkington, T.K., Xi, K., O'Donovan, J.T., Harker, K.N., Peng, G., Martin, R.C., Beres, B.L., May, W.E., and Mohr, R.M. (2015). "The impact of seed treatment, foliar fungicide timing, and plant growth regulator on leaf-disease severity and productivity of barley.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015, ID: P IPM 42. (Poster)

Turkington, T.K., O'Donovan, J.T., Harker, K.N., Xi, K., Blackshaw, R.E., Johnson, E.N., Peng, G., Kutcher, H.R., May, W.E., Lafond, G.P., Mohr, R.M., and Irvine, R.B. (2015). "The impact of fungicide and herbicide timing on foliar disease severity, and barley productivity and quality.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015, ID: P HERBI 7. (Poster)

2014

Mohr, R.M., Irvine, R.B., Sandercock, M., Finlay, G.J., Linde, C., Chalmers, S., Halabicki, P., Burak, K., Kostuik, J., and Watson, A.K. (2014). "Impacts of row spacing and seeding rate on soybean in Manitoba.", *Canadian Association of Agri-Retailers Conference*, 2015: Edge of an Era, Brandon, MB, Canada, November 18, 2014.

Mohr, R.M., Irvine, R.B., Sandercock, M., Finlay, G.J., Linde, C., Chalmers, S., Halabicki, P., Burak, K., Kostuik, J., and Watson, A.K. (2014). "Effect of row spacing and seeding rate on soybean growth, yield and quality in Manitoba.", *Manitoba Agronomist Conference*, Winnipeg, MB, Canada, December 10-11, 2014. (Poster)

McLaren, D.L., Henriquez, M.A., Conner, R.L., Mohr, R.M., Balasubramanian, P.M., and Chang, K.F. (2014). "The root of the problem: Fusarium and Phytophthora in Manitoba soybean fields.", *Canadian Association of Agri-Retailers (CAAR) Crop Management Forum*, Brandon, MB, Canada, November 18, 2014. (Abstract)

2013

Mohr, R.M., Glenn, A.J., McLaren, D.L., Irvine, R.B., Sandercock, M., Finlay, G.J., Linde, C., Halabicki, P., Kostuik, J., and Chalmers, S. (2013). Effects of row spacing and seeding rate on soybean in Manitoba. *Canada Manitoba Crop Diversification Centre Annual Report 2013*. P. 16-29. <http://www.gov.mb.ca/agriculture/innovation-and-research/diversification-centres/print,index.html>. (Report)

Mohr, R.M., Glenn, A.J., Irvine, R.B., Linde, C., Halabicki, P., Kostuik, J., and Chalmers, S. (2013). Evaluation of soybean cultivar growth rate and maturity under varying environmental and soil conditions in Manitoba. *Canada Manitoba Crop Diversification Centre Annual Report 2013*. P. 11-15. <http://www.gov.mb.ca/agriculture/innovation-and-research/diversification-centres/print,index.htm>. (Report)

Mohr, R.M., Glenn, A.J., McLaren, D.L., Irvine, R.B., Sandercock, M., Finlay, G.J., Linde, C., Halabicki, P., Burak, K., Kostuik, J., and Chalmers, S. (2013). Agronomic management of soybeans in Manitoba. *Westman Agricultural Diversification Organization 2013 Annual Report*. P. 82-113. <http://www.gov.mb.ca/agriculture/innovation-and-research/diversification-centres/print,index.html>. (Report)

Kostuik, J., McEachern, S.F., Melnychenko, A., Stewart, A.J., and Mohr, R.M. (2013). Evaluation of soybean cultivar growth rate and maturity on differing soil types. *Parkland Crop Diversification Foundation 2013 Annual Report*. P. 133-136. <http://www.gov.mb.ca/agriculture/innovation-and-research/diversification-centres/print,index.html>. (Report)

Kostuik, J., McEachern, S.F., Melnychenko, A., Stewart, A.J., and Mohr, R.M. (2013). Interaction of seeding rate and row spacing on soybean production trial. *Parkland Crop Diversification Foundation 2013 Annual Report*. P. 137-140. <http://www.gov.mb.ca/agriculture/innovation-and-research/diversification-centres/print,index.html>. (Report)

Mohr, R.M., Irvine, R.B., Sandercock, M., Linde, C., Chalmers, S., Halabicki, P., Burak, K., Kostuik, J., and Watson, A.K. (2013). "Impacts of row spacing and seeding rate on soybean in Manitoba.", *Special Crops Symposium*, Winnipeg, MB, Canada, February 6, 2013.

Zebarth, B.J., Tai, H.H., Luo, S., Cambouris, A.N., and Mohr, R.M. (2013). "Next generation diagnostics: A new way to optimize crop fertilizer nitrogen management?", 6th International Nitrogen Conference, Kampala, Uganda, November 18-22, 2013.

2011

Gao, X., Mohr, R.M., McLaren, D.L., and Grant, C.A. (2011). "Variation in Cadmium, Iron and Zinc Concentrations in Grain of 13 Bread Wheat Cultivars Grown on Canadian Prairies.", 11th International Conference of Biogeochemistry of Trace Elements, Florence, Italy, July 3-7, 2011. (Abstract)

Buckley, K.E., Mohr, R.M., Coulter, V., Phillips, K., and Westwood, R. (2011). "Nutrient status of potatoes grown on compost amended soils as determined by sap nitrate levels.", 21st Annual National Compost Conference, Charlottetown, PEI, Canada, September 19-21, 2011. (Presentation)

Mohr, R.M. (2011). "Enhancing Nitrogen Management in Irrigated Potato.", 125th Anniversary of the Brandon Research Centre, Brandon, MB, Canada, August 11, 2011. (Poster)

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## Research Publications:

2013

Cober, E.R., Molnar, S.J., Rai, S., Soper, J.F., and Voldeng, H.D. (2013). "Selection for Cold Tolerance during Flowering in Short-Season Soybean.", *Crop Science*. doi : 10.2135/cropsci2011.07.0392

2012

Hizbai, B.T., Gardner, K.M., Wight, C.P., Dhanda, R.K., Molnar, S.J., Frégeau-Reid, J.A., Yan, W., Rossmagel, B.G., Holland, J.B., and Tinker, N.A. (2012). "Quantitative trait loci affecting oil content, oil composition, and other agronomically important traits in oat.", *Plant Genome*, 5(3), pp. 164-175. doi : 10.3835/plantgenome2012.07.0015

Pandurangan, S., Pajak, A., Molnar, S.J., Cober, E.R., Dhaubhadel, S., Hernández-Sebastià, C., Kaiser, W.M., Nelson, R.L., Huber, S.C., and Marsolais, F. (2012). "Relationship between asparagine metabolism and protein concentration in soybean seed.", *Journal of Experimental Botany*, 63(8), pp. 3173-3184. doi : 10.1093/jxb/ers039

Hang Vu, T.T., Lawn, R.J., Bielig, L.M., Molnar, S.J., Xia, L., and Kilian, A. (2012). "Development and initial evaluation of diversity array technology for soybean and mungbean.", *Euphytica*, 186(3), pp. 741-754. doi : 10.1007/s10681-011-0573-0

Luckert, D.E., Toubia-Rahme, H., Steffenson, B.J., Choo, T.-M., and Molnar, S.J. (2012). "Novel Septoria Speckled Leaf Blotch Resistance Loci in a Barley Doubled Haploid Population.", *Phytopathology*, 102(7), pp. 683-691. doi : 10.1094/PHYTO-06-11-0181

Molnar, S.J., Chapados, J.T., Satheeskumar, S., Wight, C.P., Bancroft, B., Orr, W., Luckert, D.E., and Kibite, S. (2012). "Comparative Mapping of the Oat Dw6/dw6 Dwarfing Locus Using NILs and Association with Vacuolar Proton ATPase Subunit H.", *Theoretical and Applied Genetics (TAG)*, 124(6), pp. 1115-1125. doi : 10.1007/s00122-011-1773-7

Molnar, S.J., Charette, M., and Cober, E.R. (2012). "Mapping quantitative trait loci for water uptake in a recombinant inbred line population of natto soybean.", *Canadian Journal of Plant Science*, 92(2), pp. 257-266. doi : 10.4141/CJPS2011-122

2011

Reid, L.M., Xiang, K., Zhu, X., Baum, B.R., and Molnar, S.J. (2011). "Genetic diversity analysis of 119 Canadian maize inbred lines based on pedigree and simple sequence repeat markers.", *Canadian Journal of Plant Science*, 91(4), pp. 651-661. doi : 10.4141/cjps10198

Satheeskumar, S., Sharp, P.J., Lagudah, E.S., McIntosh, R.A., and Molnar, S.J. (2011). "Genetic association of crown rust resistance gene Pc68, storage protein loci, and resistance gene analogues in oats.", *Genome*, 54(6), pp. 484-497. doi : 10.1139/G11-014

## Other Science Related Publications:

2012

Gardner, K.M., Wight, C.P., Mitchell Fetch, J.W., Yan, W., Ames, N.P., Rossmagel, B.G., Hermann, M., Molnar, S.J., Frégeau-Reid, J.A., Miller, S.S., Fetch Jr., T.G., Chong, J., Martin, R.A., Tekauz, A., Haber, S.M., Savard, M.E., and Tinker, N.A. (2012). "Prospects of whole genome selection in oat using high throughput genetic markers.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

Hizbai, B.T., Gardner, K.M., Wight, C.P., Dhanda, R.K., Molnar, S.J., Johnson, D.L., Frégeau-Reid, J.A., Yan, W., Rossmagel, B.G., Burrows, V.D., and Tinker, N.A. (2012). "Mapping of QTLs affecting oil content and composition in oats.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

2011

Molnar, S.J., Tinker, N.A., Kaeppler, H.F., and Rines, H.W. (2011). "Molecular Genetics of Quality in Oats.", in Webster, F.H. and Wood, P.J. (eds.) - Oats: Chemistry and Technology. 2nd Edition, American Association of Cereal Chemists (AACC), Chapter 4, pp. 51-75.

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## Research Publications:

2015

Mercier, S., Villeneuve, S., Mondor, M., Moresoli, C., and Marcos, B. (2015). "Modeling of the water absorption during the steeping of yellow peas.", *Food and Bioproducts Processing: Transactions of the Institution of Chemical Engineers, Part C*, 94, pp. 20-28. doi : 10.1016/j.fbp.2014.12.004

Zareifard, M.R., Mondor, M., Villeneuve, S., and Grabowski, S. (2015). "Ohmic Heating: Principle and Application in Thermal Food Processing.", in Varzakas, T. and Tzia, C. (eds.) - *Hand Book of Food Processing: Food Preservation*, CRC Press, pp. 389-416.

Fustier, P., Achouri, A., Tahérian, A.R., Britten, M., Pelletier, M., Sabik, H., Villeneuve, S., and Mondor, M. (2015). "Protein-protein multilayer oil-in-water emulsions for the microencapsulation of flaxseed oil: Effect of whey and fish gelatin concentration.", *Journal of Agricultural and Food Chemistry*, 63(42), pp. 9239-9250. doi : 10.1021/acs.jafc.5b00858

Masse, L., Mondor, M., and Dubreuil, J. (2015). "Effect of pH level and acid type on total ammoniacal nitrogen (TAN) retention and fouling of reverse osmosis membranes processing swine wastewater.", *Water Quality Research Journal of Canada*, 50(4), pp. 297-304. doi : 10.2166/wqrjc.2015.143

Mercier, S., Mondor, M., Villeneuve, S., Marcos, B., and Moresoli, C. (2015). "Assessment of the oxidative stability of flaxseed-enriched lasagna using the Rancimat method.", *Journal of Food Processing and Preservation*, 39(6), pp. 1729-1734. doi : 10.1111/jfpp.12404

Mercier, S., Marcos, B., Moresoli, C., Mondor, M., and Villeneuve, S. (2015). "Effect of the water content measurements on the estimation and identifiability of water diffusion and convection mass transfer coefficients.", *International Journal of Heat and Mass Transfer*, 90(Article number 12208), pp. 480-490. doi : 10.1016/j.ijheatmasstransfer.2015.06.082

Masse, L., Puig-Bargues, J., Mondor, M., Deschênes, L., and Talbot, G. (2015). "Efficiency of EDTA, SDS and NaOH solutions to clean RO membranes processing swine wastewater.", *Separation Science and Technology*, 50(16), pp. 2509-2517. doi : 10.1080/01496395.2015.1062395

Gerzhova, A., Mondor, M., Benali, M., and Aider, M. (2015). "A comparative study between the electro-activation technique and conventional extraction method on the extractability, composition and physico-chemical properties of canola protein concentrates and isolates.", *Food Bioscience*, 11, pp. 56-71. doi : 10.1016/j.fbio.2015.04.005

Villeneuve, S., Power, K.A., Guévremont, É., Mondor, M., Tsao, R., Wanasundara, P.K.J.P.D., Zarepoor, L., and Mercier, S. (2015). "Effect of a short-time germination process on the nutrient composition, microbial counts and bread-making potential of whole flaxseed.", *Journal of Food Processing and Preservation*, 39(6), pp. 1574-1586. doi : 10.1111/jfpp.12385

Mercier, S., Mondor, M., Moresoli, C., Villeneuve, S., and Marcos, B. (2015). "Drying of durum wheat pasta and enriched pasta: a review of modelling approaches.", *Critical Reviews in Food Science and Nutrition*. doi : 10.1080/10408398.2012.757691

Gerzhova, A., Mondor, M., Benali, M., and Aider, M. (2015). "Study of the functional properties of canola protein concentrates and isolates extracted by electro-activated solutions as a non-invasive extraction method.", *Food Bioscience*, 12, pp. 128-138. doi : 10.1016/j.fbio.2015.10.002

2014

Villeneuve, S. and Mondor, M. (2014). "Processing and bread-making potential of protein isolated from malted yellow pea seeds by ultrafiltration/diafiltration.", *Food Bioscience*, 8, pp. 33-36. doi : 10.1016/j.fbio.2014.10.004

Mercier, S., Villeneuve, S., Moresoli, C., Mondor, M., Marcos, B., and Power, K.A. (2014). "Production of flaxseed-enriched cereal-based products: a review of the processing conditions impacts.", *Comprehensive Reviews in Food Science and Food Safety*, 13(4), pp. 400-412. doi : 10.1111/1541-4337.12075

Masse, L., Mondor, M., Talbot, G., Deschênes, L., Drolet, H., Gagnon, N., St-Germain, F., and Puig-Bargues, J. (2014). "Fouling of reverse osmosis membranes processing swine wastewater pretreated by mechanical separation and aerobic biofiltration.", *Separation Science and Technology*, 49(9), pp. 1298-1308. doi : 10.1080/01496395.2014.881880

Mondor, M., Guévremont, É., and Villeneuve, S. (2014). "Processing, characterization and bread-making potential of malted yellow peas.", *Food Bioscience*, 7, pp. 11-18. doi: 10.1016/j.fbio.2014.05.002

Masse, L., Mondor, M., Puig-Bargues, J., Deschênes, L., and Talbot, G. (2014). "The efficiency of various chemical solutions to clean reverse osmosis membranes processing swine wastewater.", *Water Quality Research Journal of Canada*, 49(4), pp. 295-306. doi: 10.2166/wqrj.2014.008

Mercier, S., Marcos, B., Moresoli, C., Mondor, M., and Villeneuve, S. (2014). "Modeling of internal moisture transport during durum wheat pasta drying.", *Journal of Food Engineering*, 124, pp. 19-27. doi: 10.1016/j.jfoodeng.2013.09.028

## 2013

Masse, L., Mondor, M., and Dubreuil, J. (2013). "Aging of RO membranes processing pretreated liquid manure.", *Transactions of the ASABE*, 56(4), pp. 1571-1578. doi: 10.13031/trans.56.10021

Mercier, S., Moresoli, C., Villeneuve, S., Mondor, M., and Marcos, B. (2013). "Sensitivity analysis of parameters affecting the drying behaviour of durum wheat pasta.", *Journal of Food Engineering*, 118(1), pp. 108-116. doi: 10.1016/j.jfoodeng.2013.03.024

Masse, L., Mondor, M., and Dubreuil, J. (2013). "Membrane filtration of the liquid fraction from a solid-liquid separator for swine manure using a cationic polymer as flocculating agent.", *Environmental Technology*, 34(5), pp. 671-677. doi: 10.1080/09593330.2012.710409

Lai, Y.P., Mondor, M., Moresoli, C., Drolet, H., Gros-Louis, M., Ippersiel, D., Lamarche, F., and Arcand, Y. (2013). "Production of soy protein isolates with low phytic acid content by membrane technologies: Impact of the extraction and ultrafiltration/diafiltration conditions.", *Journal of Food Engineering*, 114(2), pp. 221-227. doi: 10.1016/j.jfoodeng.2012.08.012

Mondor, M. (2013). "Production of value-added soy protein products by membrane-based operations.", in Cassano, A. and Drioli, E. (eds.) - *Integrated Membrane Operations in the Food Production*, de Gruyter, Berlin, New York, USA, Chapter 10, pp. 233-268.

## 2012

Ippersiel, D., Mondor, M., Lamarche, F., Tremblay, F., Dubreuil, J., and Masse, L. (2012). "Nitrogen potential recovery and concentration of ammonia from swine manure using electrodialysis coupled with air stripping.", *Journal of Environmental Management*, 95(Suppl.), pp. S165-S169. doi: 10.1016/j.jenvman.2011.05.026

Mercier, S., Villeneuve, S., Mondor, M., Drolet, H., Ippersiel, D., Lamarche, F., and Des Marchais, L.-P. (2012). "Mixing Properties and Gluten Yield of Dough Enriched with Pea Protein Isolates.", *Journal of Food Research*, 1(1), pp. 13-23. doi: 10.5539/jfr.v1n1p13

Mondor, M., Tuyishime, O., and Drolet, H. (2012). "Production of pea protein concentrates by ultrafiltration: Influence of hollow fibre module.", *Innovative Food Science and Emerging Technologies*, 14, pp. 135-138. doi: 10.1016/j.ifset.2012.02.003

## 2011

Mercier, S., Villeneuve, S., Mondor, M., and Des Marchais, L.-P. (2011). "Evolution of porosity, shrinkage and density of pasta fortified with pea protein concentrate during drying.", *Food Science and Technology - LWT*, 44(4), pp. 883-890. doi: 10.1016/j.lwt.2010.11.032

Lam Quoc, A., Mondor, M., Lamarche, B., and Makhlof, J. (2011). "Optimization of electrodialysis with bipolar membranes applied to cloudy apple juice: Minimization of malic acid and sugar losses.", *Innovative Food Science and Emerging Technologies*, 12(1), pp. 45-49. doi: 10.1016/j.ifset.2010.12.007

Ali, F., Mondor, M., Ippersiel, D., and Lamarche, F. (2011). "Production of low-phytate soy protein isolate by membrane technologies: Impact of salt addition to the extract on the purification process.", *Innovative Food Science and Emerging Technologies*, 12(2), pp. 171-177. doi: 10.1016/j.ifset.2011.01.013

Tahérian, A.R., Mondor, M., Labranche, J., Drolet, H., Ippersiel, D., and Lamarche, F. (2011). "Comparative study of functional properties of commercial and membrane processed yellow pea protein isolates.", *Food Research International*, 44(8), pp. 2505-2514. doi: 10.1016/j.foodres.2011.01.030

Fustier, P., St-Germain, F., Lamarche, F., and Mondor, M. (2011). "Non-enzymatic browning and ascorbic acid degradation of orange juice subjected to electroreduction and electro-oxidation treatments.", *Innovative Food Science and Emerging Technologies*, 12(4), pp. 491-498. doi: 10.1016/j.ifset.2011.07.014

Des Marchais, L.-P., Foisy, M., Mercier, S., Villeneuve, S., and Mondor, M. (2011). "Bread-making potential of pea protein isolate produced by a novel ultrafiltration/diafiltration process.", *Procedia Food Science*, 1, pp. 1425-1430. doi: 10.1016/j.profoo.2011.09.211

## Other Science Related Publications:

2015

Gherzova, A., Mondor, M., Benali, M., and Aider, M. (2015). "The effect of electro-activated solutions on physico-chemical, structural, and electrophoretic properties of canola protein concentrates and isolates.", International Congress on Engineering and Food, Engineering Challenges: bridging science and food innovations, Québec city, Canada, June 14-18, 2015. (Poster)

Gherzova, A., Mondor, M., Benali, M., and Aider, M. (2015). "Use of electro-activated solutions for protein and dry matter extraction from canola meal.", Annual Meeting of the Institute of Food Technologists (IFT 15), Chicago, IL, USA, June 11-14, 2015. (Poster)

Gherzova, A., Mondor, M., Benali, M., and Aider, M. (2015). "The effect of electro-activated solutions on physico-chemical, structural, and electrophoretic properties of canola protein concentrates and isolates.", Annual Meeting of the Institute of Food Technologists (IFT 15), Chicago, IL, USA, June 11-14, 2015. (Poster)

Gherzova, A., Mondor, M., Benali, M., and Aider, M. (2015). "Impact of electro-activated solutions and experimental conditions on the extractability of dry matter and proteins from canola meal.", International Congress on Engineering and Food, Engineering Challenges: bridging science and food innovations, Québec city, Canada, June 14-18, 2015. (Poster)

Khuong, N.T., Mondor, M., and Ratti, C. (2015). "The influence of glass transition on the shrinkage during convective drying of water-agar-maltodextrin model.", International Congress on Engineering and Food, Engineering Challenges: bridging science and food innovations, Québec city, Canada, June 14-18, 2015. (Poster)

Mercier, S., Marcos, B., Moresoli, C., Mondor, M., and Villeneuve, S. (2015). "Effect of the water content measurement (internal or global) on the identifiability of a food product diffusion and convective mass transfer coefficients.", International Congress on Engineering and Food, Engineering Challenges: bridging science and food innovations, Québec city, Canada, June 14-18, 2015. (Poster)

Mercier, S., Marcos, B., Moresoli, C., Mondor, M., and Villeneuve, S. (2015). "Identifiabilité des paramètres d'un modèle de séchage.", Actes du colloque: XII<sup>ème</sup> Colloque Interuniversitaire Franco-Québécois sur la Thermique des Systèmes, Sherbrooke, Québec, Canada, 8-10 juin 2015, Oral présentation, pp. 1-6. (Poster)

Mercier, S., Marcos, B., Moresoli, C., Mondor, M., and Villeneuve, S. (2015). "Identifiabilité structurelle et pratique des paramètres d'un modèle de séchage.", Rencontre annuelle du Centre de recherche en efficacité énergétique des procédés industriels de l'Université de Sherbrooke (CREEPIUS), Sherbrooke, Québec, Canada, January 8, 2015. (Presentation)

Mondor, M. (2015). "Recent developments in the use of membrane technologies for the production of new health ingredients/food products.", International Congress on Engineering and Food, Engineering Challenges: bridging science and food innovations, Québec city, Canada, June 14-18, 2015, Oral presentation.

Zareifard, M.R., Thevenin, V., Mondor, M., and Clément, A. (2015). "Auto-fluorescence application in membrane fouling assessment using optical fibre probe.", International Congress on Engineering and Food, Engineering Challenges: bridging science and food innovations, Québec city, Canada, June 14-18, 2015. (Poster)

Villeneuve, S., Mondor, M., DesMarchais, L.-P., Gros-Louis, M., and Lévesque, V. (2015). "Thermophysical properties of freshly harvested labrador tea leaves.", International Congress on Engineering and Food, Engineering Challenges: bridging science and food innovations, Québec city, Canada, June 14-18, 2015. (Poster)

2014

Mondor, M. (2014). "Applications actuelles et futures des technologies membranaires, Atelier de la Fondation Initia.", Le présent et l'avenir des procédés en transformation alimentaire, Centre de Recherche et de Développement sur les Aliments, St-Hyacinthe, Québec, Canada, mai 2014. (Presentation)

Gherzova, A., Mondor, M., Benali, M., and Aider, M. (2014). "Properties of electro-activated solutions and the impact of production conditions on the extractability of dry matter and proteins from canola meal.", 17th World Congress of Food Science & Technology (IUFOST 2014), Montréal, Québec, Canada, August 17-21, 2014. (Poster)

Khuong, N.T., Mondor, M., and Ratti, C. (2014). "Glass transition and water profile during convective drying of foodstuffs undergoing shrinkage.", 17th World Congress of Food Science & Technology (IUFOST 2014), Montréal, Québec, Canada, August 17-21, 2014. (Poster)

Mercier, S., Marcos, B., Moresoli, C., Mondor, M., and Villeneuve, S. (2014). "Effect of sample size on the estimation and identifiability of water mass transfer coefficients for pasta drying.", 17th World Congress of Food Science & Technology (IUFOST 2014), Montréal, Québec, Canada, August 17-21, 2014. (Poster)

Camilleri-Rumbau, M.S., Masse, L., Dubreuil, J., Norddahl, B., Christensen, K.V., and Mondor, M. (2014). "Cleaning strategies for reverse osmosis membranes processing swine wastewater.", 15th Aachener Membran Kolloquium, November 12-13, 2014, Oral presentation and the article published in Proceedings. 1 ed. Aachen: Druckerei & Verlagshaus Mainz, Vol. 1, Ch. S 5 Water Treatment I, p. 81-86 p. L 5.3. ISBN (print): 978-3-95886-005-6, pp. 81-86.



Mercier, S., Villeneuve, S., Mondor, M., Moresoli, C., and Marcos, B. (2014). "Reducing food product development cost using meta-analysis and modeling.", 17th World Congress of Food Science & Technology (IUFOST 2014), Montréal, Québec, Canada, August 17-21, 2014, Oral presentation.

Mercier, S., Mondor, M., Villeneuve, S., Marcos, B., and Moresoli, C. (2014). "Quantification of the oxidative stability of flaxseed-enriched lasagna pasta according to the processing conditions.", 28th EFFoST International Conference, Uppsala, Sweden, 25-28 November, 2014. (Poster)

Mercier, S., Marcos, B., Moresoli, C., Mondor, M., and Villeneuve, S. (2014). "Development of a mechanistic pasta drying model for an accurate prediction of internal moisture profiles and pasta quality.", 28th EFFoST International Conference, Uppsala, Sweden, 25-28 November, 2014, Oral presentation.

## 2013

Mercier, S., Villeneuve, S., Mondor, M., Moresoli, C., and Marcos, B. (2013). "Evaluation of the oxidative stability of flaxseed-enriched pasta lipids under Rancimat test.", 15th CSChE Quebec-Ontario Biotechnology Meeting, Université Laval, Québec, Canada, May 30-31.

Masse, L., Puig-Bargues, J., Mondor, M., Deschênes, L., and Talbot, G. (2013). "The efficiency of EDTA+SDS solutions to clean RO membranes processing swine wastewater.", 7th IWA Specialised Membrane Technology Conference and Exhibition for Water and Wastewater Treatment and Reuse, Westin Harbour Castle, Toronto, Toronto, Canada, August 25-29, Session 08C Abstract #401.

Mondor, M. (2013). "Ingénierie des ingrédients à valeur ajoutée : valeur nutritionnelle vs valeur technologique, Atelier de la Fondation Initia : « De l'ingrédient novateur au produit à valeur ajoutée », published in Centre de Recherche et de Développement sur les Aliments, St-Hyacinthe, Québec.

## 2012

Mercier, S., Mondor, M., Drolet, H., and Villeneuve, S. (2012). "Oxidative study of freeze-dried flaxseed oil-in-water emulsions prepared by a new premix membrane emulsification technique.", 11th Conference of Food Engineering (CoFE 2012), National Conference Center, Leesburg, VA, USA, April 2-4, 2012. (Poster)

Mondor, M., Ippersiel, D., and Lamarche, F. (2012). "Electrodialysis in food processing.", in Boye, J.I. and Arcand, Y. (eds.) - Green Technologies in Food Production and Processing (Food Engineering Series), Springer, Chapter 12, pp. 295-326.

Mondor, M., Tahérian, A.R., Villeneuve, S., Drolet, H., Ippersiel, D., DesMarchais, L.-P., and Lamarche, F. (2012). "Development of value-added pea protein isolate by membrane technology and its potential uses for functional food formulation.", 11th Conference of Food Engineering (CoFE 2012), National Conference Center, Leesburg, VA, USA, April 2-4, 2012. (Poster)

Mondor, M., Lamarche, F., Tahérian, A.R., Ippersiel, D., Drolet, H., Villeneuve, S., and DesMarchais, L.-P. (2012). "Production of new health ingredients/ food products by membrane technologies.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012. (Presentation)

Lai, Y.P., Mondor, M., Moresoli, C., Drolet, H., Gros-Louis, M., Ippersiel, D., and Lamarche, F. (2012). "Production of soy protein isolates with low phytic acid content by membrane technologies: Impact of the extraction and ultrafiltration/diafiltration conditions.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012. (Poster)

Tahérian, A.R., Defosse, S., Mondor, M., DesMarchais, L.-P., Drolet, H., Villeneuve, S., and Sabik, H. (2012). "A study on properties of pea protein-polysaccharides structured flaxseed oil-in-water emulsions using layer by layer deposition technique.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012. (Poster)

Mercier, S., Mondor, M., Moresoli, C., Villeneuve, S., and Marcos, B. (2012). "Impact of pasta effective moisture diffusion coefficient on predicted drying behaviour.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012. (Poster)

Tahérian, A.R., Mondor, M., and Lamarche, F. (2012). "Enhancing nutritional value and functional properties of yellow pea protein via membrane processing.", in Comstock, A.M. and Lothrop, B.E. (eds.) - Peas: Cultivation, Varieties and Nutritional Uses. Series: Food Science and Technology, Nova Science Publishers Inc.

Power, K.A., Villeneuve, S., Mondor, M., Fustier, P., Arcand, Y., Lamarche, F., Britten, M., Cui, S.W., Tsao, R., Fofana, B., and Wanasundara, J.P.D. (2012). "Recent progress on the incorporation of flaxseed into cereal based matrices: delivery of bioactives to target sites and a comprehensive assessment of their biological effects.", 64th Flax Institute of the United States, Doublewood Inn, Fargo, ND, USA, March 29-30, 2012. (Presentation)

2011

Villeneuve, S., Mondor, M., and Arcand, Y. (2011). "An Engineering approach for the incorporation and delivery of bioactive compounds through food matrices.", Plant Bioactives Research in Canada. Canada-United Kingdom Gut and Health Workshop, AAFC-FRDC / AAC-CRDA, Saint-Hyacinthe, QC, Canada, February 24-25, 2011.

Villeneuve, S., DesMarchais, L.-P., Foisy, M., Mercier, S., and Mondor, M. (2011). "Bread-making potential of pea protein isolate produced by a novel ultrafiltration/diafiltration process.", 11th International Congress on Engineering and Food (ICEF11): Food Process Engineering in a Changing World, Athens, Greece, May 22-26, 2011, FPE162, Volume III, p. 2033-2034.

Tahérian, A.R., Mondor, M., Faure, M., Drolet, H., Ippersiel, D., and Lamarche, F. (2011). "A comparative study on physical characteristics of commercial or membrane processed pea protein isolates and maltodextrine stabilized fish-oil-in water emulsions. A comparative study on physical characteristics of commercial or membrane processed pea protein isolates and maltodextrine stabilized fish-oil-in water emulsions.", 11th Annual Meeting of the Institute of Food Technologists (IFT), New Orleans, LA, USA, June 11-14, 2011.

Mondor, M. (2011). "Applications novatrices des technologies membranaires.", Expo-Québec, Québec City, QC, Canada, August 17-28, 2011.

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## Research Publications:

2015

Mastronardi, E., Tsaie, P., Zhang, X., Monreal, C.M., and DeRosa, M.C. (2015). "Strategic role of nanotechnology in fertilizers: Potential and limitations.", in Rai, M., Ribeiro, C., Mattoso, L. and Duran, N. (eds.) - *Nanotechnologies in Food and Agriculture*, Springer, pp. 25-67.

González, M.E., Cea, M., Medina, J., González, A., Díez, M.C., Cartes, P., Monreal, C.M., and Navia, R. (2015). "Evaluation of biodegradable polymers as encapsulating agents for the development of a urea controlled-release fertilizer using biochar as support material.", *Science of the Total Environment*, 505, pp. 446-453. doi: 10.1016/j.scitotenv.2014.10.014

Tolonen, E., Hallett, W.L.H., and Monreal, C.M. (2015). "Droplet evaporation behaviour of a liquid fuel from chicken litter.", *Fuel*, 139, pp. 26-34. doi: 10.1016/j.fuel.2014.08.017

2014

Matus, F., Monreal, C.M., Lefebvre, M., Wu, S.S., Desjardins, R.L., and DeRosa, M.C. (2014). "Producing isotopically enriched plant, soil solution and rhizosphere soil materials over a few hours.", *Communications in Soil Science and Plant Analysis*, 45(7), pp. 865-880. doi: 10.1080/00103624.2013.875190

Monreal, C.M., Chahal, A., Rowland, O., Smith, M.L., and Schnitzer, M.I. (2014). "Metabolism of nC11 fatty acid fed to *Trichoderma koningii* and *Penicillium janthinellum* II: Production of intracellular and extracellular lipids.", *Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Wastes*, 49(12), pp. 955-965. doi: 10.1080/03601234.2014.951583

Chahal, A., Monreal, C.M., Bissett, J.D., Rowland, O., Smith, M.L., and Miller, S.S. (2014). "Metabolism of n-C10:0 and n-C11:0 fatty acids by *Trichoderma koningii*, *Penicillium janthinellum* and their mixed culture: I. Biomass and CO<sub>2</sub> production, and allocation of intracellular lipids.", *Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Wastes*, 49(12), pp. 945-954. doi: 10.1080/03601234.2014.951581

2011

Schnitzer, M.I. and Monreal, C.M. (2011). "Quo vadis Soil Organic Matter Research? A Biological Link to the Chemistry of Humification.", *Advances in Agronomy (Book series)*, 113, pp. 139-213. doi: 10.1016/B978-0-12-386473-4.00008-7

Monreal, C.M. and Schnitzer, M.I. (2011). "Production of a refined biooil derived by fast pyrolysis of chicken manure with chemical and physical characteristics close to those of fossil fuels.", *Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Wastes*, 46(7), pp. 630-637. doi: 10.1080/03601234.2011.594377

McRae, G. and Monreal, C.M. (2011). "LC-MS/MS quantitative analysis of reducing carbohydrates in soil solutions extracted from crop rhizospheres.", *Analytical and Bioanalytical Chemistry*, 400(7), pp. 2205-2215. doi: 10.1007/s00216-011-4940-4

Hossain, Z., Schnitzer, M.I., Monreal, C.M., and Mayer, P. (2011). "Separation and identification of heterocyclic nitrogen compounds in biooil derived by fast pyrolysis of chicken manure.", *Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Wastes*, 46(1), pp. 51-61. doi: 10.1080/03601234.2010.515506

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## Research Publications:

2015

Khakbazan, M., Huang, J., Monreal, M.A., Grant, C.A., and Glenn, A.J. (2015). "Agricultural Practices to Improve Energy Input and Resource Efficiency in Cropping Systems.", in Lac, S., McHenry, M. and Kulshreshtha, S. (eds.) - Agriculture Management for Climate Change, Nova Publishers, Chapter 3, pp. 31-42.

Khakbazan, M., Huang, J., Monreal, M.A., Grant, C.A., Glenn, A.J., and Berry, N. (2015). "Agricultural Practices to Reduce Greenhouse Gas Emissions in Cropping Systems.", in Lac, S., McHenry, M. and Kulshreshtha, S. (eds.) - Agriculture Management for Climate Change, Nova Publishers, Chapter 4, pp. 43-54.

2012

Mohr, R.M., Irvine, R.B., Khakbazan, M., McLaren, D.L., Monreal, M.A., Moulin, A.P., Tomasiwicz, D.J., Volkmar, K.M., and Derksen, D.A. (2012). "Potato Rotation Study - Carberry, Manitoba (1997-2010).", *Prairie Soils and Crops*, 5, pp. 36-41.

2011

Monreal, M.A., Grant, C.A., Irvine, R.B., Mohr, R.M., McLaren, D.L., and Khakbazan, M. (2011). "Crop management effect on arbuscular mycorrhizae and root growth of flax.", *Canadian Journal of Plant Science*, 91(2), pp. 315-324. doi : 10.4141/cjps10136

Mohr, R.M., Volkmar, K.M., Derksen, D.A., Irvine, R.B., Khakbazan, M., McLaren, D.L., Monreal, M.A., Moulin, A.P., and Tomasiwicz, D.J. (2011). "Effect of Rotation on Crop Yield and Quality in an Irrigated Potato System.", *American Journal of Potato Research*, 88(4), pp. 346-359. doi : 10.1007/s12230-011-9200-9

# Morrison, Malcolm J., Ph.D.

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## Research Publications:

2015

Diochon, A., Gregorich, E.G., Kellman, L.M., Morrison, M.J., and Ma, B.-L. (2015). "Greater C inputs accelerate loss of C in cropping systems with low N input.", *Plant and Soil*, pp. 1-13. doi: 10.1007/s11104-015-2718-8

Morrison, M.J., Cober, E.R., Frégeau-Reid, J.A., and Séguin, P. (2015). "Changes in Lutein and Tocopherol Concentrations in Soybean Cultivars Released Across Seven Decades in the Short-Season Region.", *Crop Science*, 55(1). doi: 10.2135/cropsci2014.04.0294

Cober, E.R. and Morrison, M.J. (2015). "Genetic improvement estimates, from cultivar x crop management trials, are larger in high-yield cropping environments.", *Crop Science*, 55(4), pp. 1425-1434. doi: 10.2135/cropsci2014.09.0609

Reid, L.M., Morrison, M.J., Zhu, X., Jindal, K.K., and Ma, B.-L. (2015). "High stalk sugar corn - A potential biofuel crop for Canada.", *Agronomy*, 107(2), pp. 475-485. doi: 10.2134/agronj14.0271

2014

Reid, L.M., Morrison, M.J., Zhu, X., Wu, J.-H., Woldemariam, T., Voloaca, C., and Xiang, K. (2014). "Selecting maize for rapid kernel drydown: timing of moisture measurement and relationship to corn heat units, rainfall and solar radiation.", *Maydica*, 59(1), pp. 9-15.

Cober, E.R., Curtis, D.F., Stewart, D.W., and Morrison, M.J. (2014). "Quantifying the Effects of Photoperiod, Temperature and Daily Irradiance on Flowering Time of Soybean Isolines.", *Plants*, 3(4), pp. 476-497. doi: 10.3390/plants3040476

Gillespie, A.W., Diochon, A., Ma, B.-L., Morrison, M.J., Kellman, L.M., Walley, F.L., Regier, T.Z., Chevrier, D., Dynes, J.J., and Gregorich, E.G. (2014). "Nitrogen input quality changes the biochemical composition of soil organic matter stabilized in the fine fraction - a long-term study.", *Biogeochemistry*, 117(2-3), pp. 337-350. doi: 10.1007/s10533-013-9871-z

2013

Zhang, J.X., Xue, A.G., Cober, E.R., Morrison, M.J., Zhang, H.J., Zhang, S.Z., and Gregorich, E.G. (2013). "Prevalence, pathogenicity and cultivar resistance of *Fusarium* and *Rhizoctonia* species causing soybean root rot.", *Canadian Journal of Plant Science*, 93(2), pp. 221-236. doi: 10.4141/CJPS2012-223

Liang, A.-Z., McLaughlin, N.B., Ma, B.-L., Gregorich, E.G., Morrison, M.J., Burt, S.D., Patterson, B.S., and Evenson, L.I. (2013). "Changes in mouldboard plough draught and tractor fuel consumption on continuous corn after 18 years of organic and inorganic N amendments.", *Energy*, 52, pp. 89-95. doi: 10.1016/j.energy.2012.10.064

Morrison, M.J., Frégeau-Reid, J.A., and Cober, E.R. (2013). "Seed protein, soaking duration and soaking temperature effects on gamma-aminobutyric acid concentration in short-season soybean.", *Crop Science*, 53(6), pp. 2563-2568. doi: 10.2135/cropsci2013.02.0088

2012

Ma, B.-L., Liang, B.C., Biswas, D.K., Morrison, M.J., and McLaughlin, N.B. (2012). "The carbon footprint of maize production as affected by nitrogen fertilizer and maize-legume rotations.", *Nutrient Cycling in Agroecosystems*, 94(1), pp. 15-31. doi: 10.1007/s10705-012-9522-0

Morrison, M.J., Frégeau-Reid, J.A., and Cober, E.R. (2012). "Genotype and environment influence gamma aminobutyric acid concentration in short-season soybean.", *Canadian Journal of Plant Science*, 92(6), pp. 1093-1100. doi: 10.4141/CJPS2011-271

Kirkegaard, J.A., Sprague, S.J., Lilley, J.M., McCormick, J.I., and Morrison, M.J. (2012). "Physiological response of spring canola (*Brassica napus*) to defoliation in diverse environments.", *Field Crops Research*, 125(18), pp. 61-68. doi: 10.1016/j.fcr.2011.08.013

2011

Zhang, J.X., Xue, A.G., Morrison, M.J., and Meng, Y. (2011). "Impact of time between the field application of *Bacillus subtilis* strains SB01 and SB24 and the inoculation with *Sclerotinia sclerotiorum* on the suppression of *Sclerotinia* stem rot in soybean.", *European Journal of Plant Pathology*, 131(1), pp. 95-102. doi: 10.1007/s10658-011-9790-6

Cober, E.R. and Morrison, M.J. (2011). "Short-season soybean genetic improvement evaluated in weed-free and weedy conditions.", *Crop Science*, 51(6), pp. 2582-2588. doi: 10.2135/cropsci2010.12.0673

## **Other Science Related Publications:**

2015

Morrison, M.J., Blackshaw, R.E., O'Donovan, J.T., Harker, K.N., and Holzapfel, C.B. (2015). "Innovations underpinning yield improvements in the Canadian canola industry.", *Crop Updates*, Perth, Australia, February 24-25, 2015.

2013

Morrison, M.J. (2013). "Abiotic stress adaptation, agronomy and physiology in northern areas at the Challenges in crop production for Northern Agriculture Symposium.", Joint Canadian Society of Agronomy/American Society of Agronomy meetings, Tampa, Florida, USA, November 3-6, 2013. (Presentation)

Morrison, M.J. (2013). "Can heat stress limit canola yields in Saskatchewan?", *Saskatchewan Agronomy Research Update*, Web Broadcast, Saskatchewan, Canada, Dec 12, 2013. (Presentation)

2012

Morrison, M.J., Cober, E.R., and Frégeau-Reid, J.A. (2012). "There Are Genotypic Differences for Gamma Aminobutyric Acid (GABA) Concentration in Short-Season Soybean.", 2012 ASA, CSSA, and SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012, Abstract 376-5. (Presentation)

Morrison, M.J., McAndrew, D., and Cober, E.R. (2012). "Climate and photoperiod influence soybean cultivar adaptation in Manitoba and Ontario.", *Plant Canada 2012* (joint meeting of the Canadian Society of Agronomy (CSA), Canadian Society for Horticultural Science (CSHS), Certified Crop Advisors (CCA), North American Fruit Explorers (NAFEX)): Adapting Crops to Change, University of Saskatchewan, Saskatoon, SK, Canada, July 16-19, 2012, D1.1. (Presentation)

2011

Hugh, J.B., Harker, K.N., Légère, A., Morrison, M.J., Séguin-Swartz, G.T., and Falk, K.C. (2011). "GM Canola: The Canadian Experience.", *Farm Policy Journal*, 8(1), pp. 43-49.

Frégeau-Reid, J.A., Morrison, M.J., and Cober, E.R. (2011). "Genotype and environment influence GABA concentration in short-season soybean.", *Plant Canada 2011*, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

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## Research Publications:

2014

Moulin, A.P., Glenn, A.J., Tenuta, M., Lobb, D.A., Dunmola, A.S., and Yapa, P. (2014). "Alternative transformations of nitrous oxide soil flux data to normal distributions.", *Canadian Journal of Soil Science*, 94(1), pp. 105-108. doi: 10.4141/CJSS2013-008

2012

Mohr, R.M., Irvine, R.B., Khakbazan, M., McLaren, D.L., Monreal, M.A., Moulin, A.P., Tomasiwicz, D.J., Volkmar, K.M., and Derksen, D.A. (2012). "Potato Rotation Study - Carberry, Manitoba (1997-2010).", *Prairie Soils and Crops*, 5, pp. 36-41.

Moulin, A.P., Cohen, Y.S., Alchanatis, V., Tremblay, N., and Volkmar, K.M. (2012). "Yield response of potatoes to variable nitrogen management by landform element and in relation to petiole nitrogen - A case study.", *Canadian Journal of Plant Science*, 92(4), pp. 771-781. doi: 10.4141/CJPS2011-005

2011

Mohr, R.M., Volkmar, K.M., Derksen, D.A., Irvine, R.B., Khakbazan, M., McLaren, D.L., Monreal, M.A., Moulin, A.P., and Tomasiwicz, D.J. (2011). "Effect of Rotation on Crop Yield and Quality in an Irrigated Potato System.", *American Journal of Potato Research*, 88(4), pp. 346-359. doi: 10.1007/s12230-011-9200-9

Li, S., MacMillan, R.A., Lobb, D.A., McConkey, B.G., Moulin, A.P., and Fraser, W. (2011). "Lidar DEM error analyses and topographic depression identification in a hummocky landscape in the prairie region of Canada.", *Geomorphology*, 129(3-4), pp. 263-275. doi: 10.1016/j.geomorph.2011.02.020

Moulin, A.P., Buckley, K.E., and Volkmar, K.M. (2011). "Soil quality as affected by amendments in bean-potato rotations.", *Canadian Journal of Soil Science*, 91(4), pp. 533-542. doi: 10.4141/cjss10011

Moulin, A.P., Tenuta, M., Lobb, D.A., Dunmola, A.S., and Yapa, P. (2011). "Probability distribution functions for short-term daily nitrous oxide fluxes in a prairie pothole agricultural landscape in western Canada.", *Canadian Journal of Soil Science*, 91(2), pp. 303-307. doi: 10.4141/cjss10070

Li, S., Lobb, D.A., McConkey, B.G., MacMillan, R.A., Moulin, A.P., and Fraser, W. (2011). "Extracting topographic characteristics of landform typical of Canadian agricultural landscapes for agri-environmental modeling. 1. Methodology.", *Canadian Journal of Soil Science*, 91(2), pp. 251-266. doi: 10.4141/cjss10080

## Other Science Related Publications:

2015

Roy, A., Glenn, A.J., Moulin, A.P., and Wilson, H.F. (2015). "Soil nitrous oxide emissions from cropland with different management.", 2015 Canadian Land Reclamation Association/Manitoba Soil Science Society Joint Meeting, Winnipeg, Manitoba, Canada, June 15-18, 2015.

Roy, A., Glenn, A.J., Moulin, A.P., and Wilson, H.F. (2015). "Soil nitrous oxide emissions from cropland in southern Manitoba.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015, Presentation.

Moulin, A.P. (2015). "Statistical variability of soil test NO<sub>3</sub>-N, implications for precision agriculture.", Canadian Land Reclamation Association/Manitoba Soil Science Society Annual General Meetings, Winnipeg, MB, Canada, June 16-17, 2015.

Moulin, A.P., Wilson, H.F., and Geng, X. (2015). "Statistical variability of soil test NO<sub>3</sub>-N and the management zone concept.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

Glenn, A.J., Roy, A., Moulin, A.P., and Wilson, H.F. (2015). "Nitrous Oxide Emissions from Cropland Soils with Different Management Regimes in Manitoba, Canada.", American Geophysical Union Annual Meeting, Montreal, QC, Canada, May 3-7, 2015. (Poster)

## 2014

Johnson, E.N., Leeson, J.Y., Lemke, R.L., Olfert, O.O., and Moulin, A.P. (2014). "Effect of Cropping Diversity and Input System on Weed Populations in an 18-Year Cropping System Study.", 10th European Weed Research WRS Workshop on Physical and Cultural Weed Control, Alnarp, Sweden, March 16-19, 2014. (Abstract)

Glenn, A.J. and Moulin, A.P. (2014). "Nitrous oxide flux from a clay loam under mature no-till and variable rate N fertilizer management in western Manitoba.", 57th Annual Manitoba Soil Science Society Conference, Winnipeg, Manitoba, Canada, February 6-7, 2014. (Poster)

## 2013

Moulin, A.P., Glenn, A.J., Tenuta, M., Lobb, D.A., Dunmola, A.S., and Yapa, P. (2013). "Alternative statistical distributions and transformation of nitrous oxide soil flux data.", Joint meeting of the Canadian Society of Soil Science, Manitoba Soil Science Society, and Canadian Society of Agricultural and Forest Meteorology, Winnipeg, Manitoba, Canada, July 22-25, 2013.

Moulin, A.P., Glenn, A.J., Tenuta, M., Lobb, D.A., Dunmola, A.S., and Yapa, P. (2013). "Alternative statistical distributions and transformation of nitrous oxide soil flux data.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013, Presentation.



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## Research Publications:

2015

Mukker, J.K., Singh, R.S.P., Muir, A.D., Krol, E.S., and Alcorn, J. (2015). "Comparative pharmacokinetics of purified flaxseed and associated mammalian lignans in male Wistar rats.", *British Journal of Nutrition*, 113(5), pp. 749-757. doi : 10.1017/S0007114514004371

2014

Mukker, J.K., Michel, D., Muir, A.D., Krol, E.S., and Alcorn, J. (2014). "Permeability and conjugative metabolism of flaxseed lignans by caco-2 human intestinal cells.", *Journal of Natural Products*, 77(1), pp. 29-34. doi : 10.1021/np4004905

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## Research Publications:

2015

Lu, D., Tabil, L.G., Wang, D., Li, X., and Mupondwa, E.K. (2015). "Comparison of pretreatment methods for wheat straw densification by life cycle assessment study.", *Transactions of the ASABE*, 58(2), pp. 453-464. doi : 10.13031/trans.58.10510

Mupondwa, E.K., Li, X., Boyetchko, S.M., Hynes, R.K., and Geissler, H.J. (2015). "Technoeconomic analysis of large scale production of pre-emergent *Pseudomonas fluorescens* microbial bioherbicide in Canada.", *Bioresource Technology*, 175, pp. 517-528. doi : 10.1016/j.biortech.2014.10.130

2014

Li, X. and Mupondwa, E.K. (2014). "Life cycle assessment of camelina oil derived biodiesel and jetfuel in the Canadian Prairies.", *Science of the Total Environment*, 481(1), pp. 17-26. doi : 10.1016/j.scitotenv.2014.02.003

Mupondwa, E.K., Wanasundara, P.K.J.P.D., and Li, X. (2014). "Technoeconomic and life cycle analysis of commercial production of high-value canola protein fractions and co-products using aqueous extraction technology.", 105th Annual meeting and expo of American Oil Chemists' Society, San Antonio, USA, May 4-7, 2014, Oral presentation. (Abstract)

2012

Mupondwa, E.K., Li, X., Tabil, L.G., Phani, A., Sokhansanj, S., Stumborg, M., Gruber, M.Y., and Laberge, S. (2012). "Technoeconomic analysis of wheat straw densification in the Canadian Prairie Province of Manitoba.", *Bioresource Technology*, 110, pp. 355-363. doi : 10.1016/j.biortech.2012.01.100

Li, X., Mupondwa, E.K., Panigrahi, S., Tabil, L.G., and Adapa, P.K. (2012). "Life cycle assessment of densified wheat straw pellets in the Canadian Prairies.", *International Journal of Life Cycle Assessment*, 17(4), pp. 420-431. doi : 10.1007/s11367-011-0374-7

## Other Science Related Publications:

2015

Mupondwa, E.K., Li, X., Wanasundara, J.P.D., and Tabil, L.G. (2015). "Technoeconomic analysis of bio-ethanol and co-product production from Triticale feedstocks in Western Canada.", 106th Annual Meeting and Expo of American Oil Chemists' Society, Orlando, FL, USA, May 3-6, 2015.

Wanasundara, J.P.D., McIntosh, T.C., and Mupondwa, E.K. (2015). "Recovering canola protein and other products.", 106th Annual Meeting and Expo of American Oil Chemists' Society, Orlando, FL, USA, May 3-6, 2015, Oral presentation.

2011

Mupondwa, E.K. (2011). "Economics of biopesticides.", 4th International Biofumigation & Biopesticides Symposium, Sheraton Cavalier Hotel, Saskatoon, SK, Canada, October 18-21, 2011.

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## Research Publications:

2015

Nie, X., Liang, Z., Nie, B.-H., Murphy, A.M., and Singh, M. (2015). "Studies on varietal response to different strains of Potato virus Y (PVY) reveal hypersensitive resistance in Exploits to PVYO and extreme resistance in F87084 to all tested strains.", *American Journal of Potato Research*, 92(1), pp. 23-31. doi: 10.1007/s12230-014-9407-7

2014

Pushpa, D., Kalenahalli, N., Gunnaiah, Y., Kushalappa, A.C., and Murphy, A.M. (2014). "Identification of Late Blight Resistance-Related Metabolites and Genes in Potato through Nontargeted Metabolomics.", *Plant Molecular Biology Reporter*, 32(2), pp. 584-595. doi: 10.1007/s11105-013-0665-1

Yogendra, K.N., Pushpa, D., Mosa, K.A., Kushalappa, A.C., Murphy, A.M., and Mosquera, T. (2014). "Quantitative resistance in potato leaves to late blight associated with induced hydroxycinnamic acid amides.", *Functional and Integrative Genomics*, 14(2), pp. 285-298. doi: 10.1007/s10142-013-0358-8

2013

Tai, H.H., Goyer, C., Platt, H.W., De Koeyer, D.L., Murphy, A.M., Uribe, P., and Halterman, D. (2013). "Decreased defense gene expression in tolerance versus resistance to *Verticillium dahliae* in potato.", *Functional and Integrative Genomics*, 13(3), pp. 367-378. doi: 10.1007/s10142-013-0329-0

Tai, H.H., Goyer, C., and Murphy, A.M. (2013). "Potato MYB and bHLH transcription factors associated with anthocyanin intensity and common scab resistance.", *Botany*, 91(10), pp. 722-730. doi: 10.1139/cjb-2012-0025

Murphy, A.M. (2013). "The Potato Research Centre.", in Martel, Y., Deschênes, J.-M., and Corbeil, N. (eds.) - *The Innovators Rooted in Science - The History of Research Branch from 1986-2011*, Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC), pp. 407.

2012

Wang, Q., Yang, X., Leonard, S., Archbold, T., Sullivan, J.A., Duncan, A.M., Ma, W.D.L., Bizimungu, B., Murphy, A.M., Htoo, J.K., and Fan, M.Z. (2012). "Responses of dietary ileal amino acid digestibility to consumption of different cultivars of potatoes and conventional fibers in grower pigs fed a high-fat basal diet.", *Journal of Animal Science*, 90(Suppl. 4), pp. 356-358. doi: 10.2527/jas.53807

Ji, X.-H., Rivers, L., Zielinski, Z., Xu, M., MacDougall, E., Stephen, J., Zhang, S.C., Wang, Y., Chapman, R.G., Keddy, P., Robertson, G.S., Kirby, C.W., Embleton, J., Worrall, K., Murphy, A.M., De Koeyer, D.L., Tai, H.H., Yu, L., Charter, E., and Zhang, J.-Z. (2012). "Quantitative analysis of phenolic components and glycoalkaloids from 20 potato clones and in vitro evaluation of antioxidant, cholesterol uptake, and neuroprotective activities.", *Food Chemistry*, 133(4), pp. 1177-1187. doi: 10.1016/j.foodchem.2011.08.065

Nie, B.-H., Singh, M., Murphy, A.M., Sullivan, A., Xie, C.-H., and Nie, X. (2012). "Response of potato cultivars to five isolates belonging to four strains of Potato virus Y.", *Plant Disease*, 96(10), pp. 1422-1429. doi: 10.1094/PDIS-01-12-0018-RE

Wang-Pruski, G., Babin, S., Murphy, P., Kong, F., Wu, Y., Douglass, K., Murphy, A.M., De Koeyer, D.L., and Pinto, D.M. (2012). "Identification of Genes and Gene Markers by Genomics, Genome Mapping and Comparative Proteomics and Their Relationship to Potato Tuber Qualities.", *Acta Horticulturae (ISHS)*, 929, pp. 237-244.

2011

Li, X.-Q., Zhang, J., Luo, S., Liu, G.S., Murphy, A.M., Leclerc, Y., and Xing, T. (2011). "Effects of sampling methods on starch granule size measurement of potato tubers under a light microscope.", *International Journal of Plant Biology*, 2:e5(1). doi: 10.4081/pb.2011.e5

Kinnear, T., Wolever, T.M.S., Murphy, A.M., Sullivan, J.A., Liu, Q., and Bizimungu, B. (2011). "Effect of preparation method on the glycaemic index of novel potato clones.", *Food & Function*, 2(8), pp. 438-444. doi: 10.1039/C1FO10042D

Lu, Z.-H., Yada, R.Y., Liu, Q., Bizimungu, B., Murphy, A.M., De Koeyer, D.L., and Li, X.-Q., Pinhero, R.G. (2011). "Correlation of physicochemical and nutritional properties of dry matter and starch in potatoes grown in different locations food chemistry.", *Food Chemistry*, 126(3), pp. 1246-1253. doi : 10.1016/j.foodchem.2010.12.037

Zhang, J., Murphy, A.M., Liu, G.S., Bizimungu, B., Liu, Q., Leclerc, Y., Xing, T., and Li, X.-Q. (2011). "Starch granule size variation and relationship with tuber dry matter content in heritage potato varieties.", *Scientia Horticulturae*, 130(3), pp. 503-509. doi : 10.1016/j.scienta.2011.08.006

## Other Science Related Publications :

2015

Paudel, J.R., Davidson, C., Campbell, L., Clark, C., Nolan, L., Song, J., Murphy, A.M., Itkin, M., Aharoni, A., and Tai, H.H. (2015). "Reduced Steroidal Glycoalkaloid Levels Affects Solanum tuberosum resistance against Pests and Diseases."

2014

Nie, X., Murphy, A.M., and Singh, M. (2014). "Characterization of Host Resistance Mechanisms against Potato Virus Y in Potato Cultivars/Breeding Clones.", *Northeast Potato Technology Forum 2014*, Fredericton, NB, Canada, March 12-13, 2014.

Tai, H.H., De Koeyer, D.L., Goyer, C., Nolan, L., Davidson, C., Lague, M., Murphy, A.M., Sønderkær, M., Hedegaard, S., Halterman, D., and Lehman Neilsen, K. (2014). "Expression QTL analysis of genetic variation in potato responses to *Verticillium* wilt.", 11th Solanaceae Conference, Porto Seguro, Brazil, November 2-6, 2014. (Abstract)

Tai, H.H., De Koeyer, D.L., Goyer, C., Nolan, L., Davidson, C.G., Sønderkær, M., Hedegaard, S., Lehman Neilsen, K., Lague, M., Murphy, A.M., Uribe, P., and Halterman, D. (2014). "Genetic analysis of tolerance and resistance to *Verticillium dahliae*.", 98th Annual Meeting of the Potato Association of America (PAA), The Davenport Hotel, Spokane, WA, USA, July 27-31, 2014. (Abstract)

De Koeyer, D.L., Douglass, K., Lague, M., Bizimungu, B., Murphy, A.M., Bonierbale, M., and Mosquera, T. (2014). "Next-generation SNP genotyping platforms for characterizing potato germplasm.", in S. Dias, E. Dulloo, N. Maxted, S. Kell, E. Thörn, L. Smith, J. Preston, S. Hutchinson (eds.) - *International Conference on ENHANCED GENEPOOL UTILIZATION - Capturing wild relative and landrace diversity for crop improvement*, Cambridge University Press, UK, pp. 17.

2013

Tai, H.H., De Koeyer, D.L., Goyer, C., Sønderkær, M., Hedegaard, S., Nolan, L., Lague, M., Murphy, A.M., and Nielsen, K.L. (2013). "Analysis of genetic variation in gene expression associated with *Verticillium dahliae* infection in potato.", 10th Solanaceae Conference, Beijing, China, October 13-17, 2013.

Tai, H.H., Goyer, C., Platt, H.W., De Koeyer, D.L., Murphy, A.M., Uribe, P., and Halterman, D. (2013). "Decreased defense gene expression in a potato clone with tolerance to *Verticillium dahliae*.", 9th Canadian Plant Genomics Workshop, Halifax, NS, Canada, August 12-15, 2013.

Tai, H.H., Goyer, C., and Murphy, A.M. (2013). "Potato MYB and bHLH transcription factors associated with anthocyanin intensity and common scab resistance.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013.

Li, X.-Q., Zhang, J., Murphy, A.M., Liu, G.S., Donnelly, D.J., and Leclerc, Y. (2013). "Ploidy Effects on Potato Starch Granule Size.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013.

Murphy, A.M., Wilson, D.H., and Allaby, S. (2013). "Breeding for PVY Resistance - an update from the Potato Research Centre.", CPS Maritime Meeting, Charlottetown, Canada, November 28-29, 2013. (Abstract)

Li, X.-Q., Xu, C., Liu, X., Haroon, M., Liu, J., Xie, C.Y., Meng, F., De Koeyer, D.L., Leclerc, Y., Donnelly, D.J., and Murphy, A.M. (2013). "Identification of the major enzyme and genes controlling cold sweetening in potato tubers during storage.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013, Oral presentation.

2012

Bizimungu, B., Hawkins, G., Murphy, A.M., and Mikiitzel, L.J. (2012). "NIRS predictions of potato processing quality in breeding germplasm and cultivars.", 96th Annual Meeting of the Potato Association of America (PAA), Crowne Plaza Denver International Airport, Denver, CO, USA, August 12-16, 2012, Oral presentation.

Qi, W., Yang, X., Leonard, S., Archbold, T., Sullivan, A., Bizimungu, B., Murphy, A.M., Ma, D.Y., Duncan, A.M., and Htoo, J.K. (2012). "Responses of dietary ileal amino acid digestibility to consumption of different varieties of potatoes and conventional fibres in pigs fed a high-fat basal diet.", 12th International Symposium on Digestive Physiology in Pigs, Keystone, CO, USA, May 30 - June 1, 2012. (Poster)

Tai, H.H., Goyer, C., De Koeyer, D.L., Murphy, A.M., De Jong, H., and Platt, H.W. (2012). "Comparative Transcriptome Profiling of Foliage from Two Diploid Potato Clones with Variation in Responses to Verticillium Infection.", 96th Annual Meeting of the Potato Association of America (PAA), Crowne Plaza Denver International Airport, Denver, CO, USA, August 12-16, 2012, Oral presentation, Abst. 90.

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## **Research Publications:**

2014

Jones, T.H., Nattress, F.M., Dilts, B.D., Olsen, D., and Muehlhauser, V. (2014). "Numbers of coliforms, Escherichia coli, F-RNA coliphage, rotavirus, bovine enteric calicivirus and presence of non-O157 STEC on commercial vacuum packaged beef.", *Food Microbiology*, 42, pp. 225-231. doi: 10.1016/j.fm.2014.04.001

2011

Balamurugan, S., Nattress, F.M., Baker, L.P., and Dilts, B.D. (2011). "Survival of Campylobacter jejuni on beef and pork under vacuum packaged and retail storage conditions: Examination of the role of natural meat microflora on C. jejuni survival.", *Food Microbiology*, 28(5), pp. 1003-1010. doi: 10.1016/j.fm.2011.01.012

## **Other Science Related Publications:**

2013

Jones, T.H., Nattress, F.M., Dilts, B.D., Olsen, D., and Muehlhauser, V. (2013). "Numbers of E. coli, non-O157 STEC, F-RNA Coliphage, Rotavirus, Bovine Enteric Calicivirus on Commercial Vacuum Packaged Beef.", 93rd Annual Conference of the Canadian Meat Council, Banff, AB, Canada, May 29-31, 2013, pp. 13.

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## Research Publications:

2015

Spaner, D.M., Navabi, A., Strenzke, K., Iqbal, M., and Beres, B.L. (2015). "Coleman hard red spring wheat.", *Canadian Journal of Plant Science*, 95(5), pp. 1037-1041. doi: 10.4141/cjps-2015-111

Burt, A.J., William, H.M., Perry, G.E., Khanal, R., Pauls, K.P., Kelly, J., and Navabi, A. (2015). "Candidate Gene Identification with SNP Marker-Based Fine Mapping of Anthracnose Resistance Gene Co-4 in Common Bean.", *PLoS ONE*, 10(10 (e0139450)), pp. 1-19. doi: 10.1371/journal.pone.0139450

2014

Zou, X., Shi, C., Austin, R.S., Merico, D., Munholland, S., Marsolais, F., Navabi, A., Crosby, W.L., Pauls, K.P., Yu, K., and Cui, Y. (2014). "Genome-wide single nucleotide polymorphism and Insertion-Deletion discovery through next-generation sequencing of reduced representation libraries in common bean.", *Molecular Breeding*, 33(4), pp. 769-778. doi: 10.1007/s11032-013-9997-7

Navabi, A., Balasubramanian, P.M., Pauls, K.P., Bett, K.E., and Hou, A. (2014). "Genetic diversity of the Canadian dry bean varieties released since 1930: A pedigree analysis.", *Crop Science*, 54(3), pp. 993-1003. doi: 10.2135/cropsci2013.04.0210

Khanal, R., Burt, A.J., Woodrow, L., Balasubramanian, P.M., and Navabi, A. (2014). "Genotypic association of parameters commonly used to predict canning quality of dry bean.", *Crop Science*, 54(6), pp. 2564-2573. doi: 10.2135/cropsci2014.02.0113

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Navabi, A., Yu, K., and Hou, A. (2014). "Combining resistance to common bacterial blight, anthracnose, and bean common mosaic virus into Manitoba-adapted dry bean (*Phaseolus vulgaris* L.) cultivars.", *Canadian Journal of Plant Science*, 94(2), pp. 405-415. doi: 10.4141/CJPS2013-281

2013

Khanal, S., Xue, S.J., Khanal, R., Xie, W., Shi, J., Pauls, K.P., and Navabi, A. (2013). "Quantitative Trait Loci Analysis of Folate Content in Dry Beans, *Phaseolus vulgaris* L.", *International Journal of Agronomy*, 2013 (Article ID 983641). doi: 10.1155/2013/983641

Durham, K.M., Xie, W., Yu, K., Pauls, K.P., Lee, E., and Navabi, A. (2013). "Interaction of common bacterial blight Quantitative trait loci in a resistant inter-cross population of common bean.", *Plant Breeding*, 132(6), pp. 658-666. doi: 10.1111/pbr.12103

Kamran, A., Iqbal, M., Navabi, A., Randhawa, H.S., Pozniak, C.J., and Spaner, D.M. (2013). "Earliness per se QTLs and their interaction with the photoperiod insensitive allele Ppd-D1a in the Cutler 3 AC Barrie spring wheat population.", *Theoretical and Applied Genetics (TAG)*. doi: 10.1007/s00122-013-2110-0

Navabi, A., Rupert, T., Park, S.J., Yu, K., Smith, T.H., and Pauls, K.P. (2013). "Apex common bean.", *Canadian Journal of Plant Science*, 93(1), pp. 131-135. doi: 10.4141/CJPS2012-139

Perry, G.E., DiNatale, C., Xie, W., Navabi, A., Reinprecht, Y., Crosby, W.L., Yu, K., Shi, C., and Pauls, K.P. (2013). "A comparison of the molecular organization of genomic regions associated with resistance to common bacterial blight in two *Phaseolus vulgaris* genotypes", *Frontiers in Plant Science*, 4(Aug: Article 318). doi: 10.3389/fpls.2013.00318

2012

Shi, C., Yu, K., Xie, W., Perry, G.E., Navabi, A., Pauls, K.P., Miklas, P.N., and Deidré, F. (2012). "Development of candidate gene markers associated to common bacterial blight resistance in common bean.", *Theoretical and Applied Genetics (TAG)*, 125(7), pp. 1525-1537. doi: 10.1007/s00122-012-1931-6

Smith, T.H., Michaels, T.E., Navabi, A., and Pauls, K.P. (2012). "OAC Inferno common bean.", *Canadian Journal of Plant Science*, 92(3), pp. 589-592. doi: 10.4141/CJPS2011-186

Xie, W., Yu, K., Pauls, K.P., and Navabi, A. (2012). "Application of Image Analysis in Studies of Quantitative Disease Resistance: Exemplified Using Common Bacterial Blight-Common Bean Pathosystem.", *Phytopathology*, 102(4), pp. 434-442. doi: 10.1094/PHYTO-06-11-0175

Smith, T.H., Michaels, T.E., Navabi, A., and Pauls, K.P. (2012). "Rexeter common bean.", *Canadian Journal of Plant Science*, 92(2), pp. 351-353. doi : 10.4141/CJPS2011-184

2011

Reid, T.A., Yang, R.-C., Salmon, D.F., Navabi, A., and Spaner, D.M. (2011). "Realized gains from selection for spring wheat grain yield are different in conventional and organically managed systems.", *Euphytica*, 177(2), pp. 253-266. doi : 10.1007/s10681-010-0257-1

Shi, C., Navabi, A., and Yu, K. (2011). "Association mapping of common bacterial blight resistance QTL in Ontario bean breeding populations.", *BMC Plant Biology*, 11:52. doi : 10.1186/1471-2229-11-52

Hou, A., Balasubramanian, P.M., Conner, R.L., Park, S.J., Yu, K., Kiehn, F.A., and Navabi, A. (2011). "Portage common bean.", *Canadian Journal of Plant Science*, 91(3), pp. 523-525. doi : 10.4141/cjps2010-015

Goyal, A., Beres, B.L., Randhawa, H.S., Navabi, A., Salmon, D.F., and Eudes, F. (2011). "Yield stability analysis of broadly adaptive triticale germplasm in southern and central Alberta, Canada for industrial end-use suitability.", *Canadian Journal of Plant Science*, 91(1), pp. 125-135. doi : 10.4141/CJPS10063

Shi, C., Chaudhary, S., Yu, K., Park, S.J., Navabi, A., and McClean, P.E. (2011). "Identification of candidate genes associated with CBB resistance in common bean HR45 (*Phaseolus vulgaris* L.) using cDNA-AFLP.", *Molecular Biology Reports*, 38(1), pp. 75-81. doi : 10.1007/s11033-010-0079-1

## Other Science Related Publications:

2014

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Navabi, A., Yu, K., and Hou, A. (2014). "Combining resistance to common bacterial blight, anthracnose and bean common mosaic virus in dry bean.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014, Presentation. (Poster)

Zou, X., Shi, C., Austin, R.S., Merico, D., Munholland, S., Marsolais, F., Navabi, A., Crosby, W.L., Pauls, K.P., Yu, K., and Cui, Y. (2014). "Genome-wide SNP and InDel discovery and transcriptional profiling of CBB resistance in common bean.", 6th International Food Legumes Research Conference (IFLRC VI) and 7th International Conference on Legume Genetics and Genomics (ICLGG VII), Saskatoon, SK, Canada, July 14-17, 2014, Presentation. (Poster)

Diaz-Castro, E., Khanal, R., Perry, G.E., Xie, W., Navabi, A., and Pauls, K.P. (2014). "Application of Novel SNP Markers to Re-examine Common Bacterial Blight Resistance in OAC Rex.", Joint conference of the 6th International Food Legumes Research Conference (IFLRC VI) and 7th International Conference on Legume Genetics and Genomics (ICLGG VII), Saskatoon, SK, Canada, July 6-11, 2014.

Xie, W., Perry, G.E., Navabi, A., and Pauls, K.P. (2014). "Characterization of effector genes in common blight bacteria isolates showing differential pathogenicity on common bean.", Eastern Regional Meeting of the Canadian Society of Plant Biologists, Guelph, ON, Canada, November 28-29, 2014, pp. 53.

2013

Farid, M., Earl, H.J., Rajcan, I., Pauls, K.P., and Navabi, A. (2013). "Symbiotic nitrogen fixation related traits in dry bean.", Environmental Sustainability 2010 Research Forum, Best Western Conference Centre, Guelph, ON, Canada, June 16, 2010. (Poster)

Vazin, M., Burt, A.J., Xie, W., Gillard, C.L., Pauls, K.P., Bett, K.E., and Navabi, A. (2013). "Inheritance of Resistance to Race 73 of Anthracnose in the Navy Bean Line ACUG 10-1.", Annual Report of the Bean Improvement Cooperative (BIC), 56, pp. 41-42.

2012

Burt, A.J., Khanal, R., and Navabi, A. (2012). "Investigating Genotype by Environment (GxE) Interactions in Common Bean in Ontario.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Poster)

Xie, W., McClymont, S., Stonehouse, R.G., Khanal, R., Yu, K., Pauls, K.P., Bett, K.E., and Navabi, A. (2012). "Characterization of Quantitative Trait Loci in the Interactions between Common Bean and Isolates of Common Bacterial Blight Pathogens.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Presentation)

Zhang, B.L., Yu, K., and Navabi, A. (2012). "Breeder-friendly Single Nucleotide Polymorphism (SNP) markers for common bean (*Phaseolus vulgaris* L.).", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Poster)



- Zou, X., Shi, C., Austin, R.S., Navabi, A., Yu, K., and Cui, Y. (2012). "Genome Wide SNP discovery and transcriptional profiling of CBB resistance in common bean.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Poster)
- Diaz-Castro, E., Pauls, K.P., Navabi, A., and Rajcan, I. (2012). "Molecular characterization of common bacterial blight resistance in black common bean.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Poster)
- Navabi, A., Pauls, K.P., Yu, K., Tsao, R., Woodrow, L., and Poysa, V. (2012). "A Multi-Disciplinary Approach Towards Developing Bean Varieties for Sustainable Dry Bean Production in Ontario.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011.
- Perry, G.E., Crosby, W.L., Yu, K., Navabi, A., Zou, X., Power, K.A., Marsolais, F., Xie, W., Weersink, A., Tsao, R., Cooper, D., and Pauls, K.P. (2012). "Sequencing the bean genome: Using comparative genomics to examine interspecific introgressions.", Canadian Society of Plant Biologists Meeting (CSPB 2012), University of Alberta Campus, Edmonton, AB, Canada, June 25-27, 2012. (Presentation)
- Balasubramanian, P.M., Chatterton, S., Hou, A., Conner, R.L., McLaren, D.L., Navabi, A., Pauls, K.P., and Bett, K.E. (2012). "Dry bean improvement on the prairies for high yield, disease resistance and seed quality.", Pulse Science Cluster Scientific Meeting 2012, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 5-6, 2012.
- Xie, W., McClymont, S., Stonehouse, R.G., Khanal, R., Yu, K., Pauls, K.P., and Navabi, A. (2012). "Differential expression of resistance QTL in the interactions between common bean and isolates of common bacterial blight pathogens.", 15th International Congress on Molecular Plant-Microbe Interactions (MPMI), Kyoto International Conference Center, Kyoto, Japan, July 29-August 2, 2012.
- Farid, M., Xie, W., Pauls, K.P., Bett, K.E., and Navabi, A. (2012). "Quantitative trait loci analysis of in common bean.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Presentation)
- Vazin, M., Burt, A.J., Gillard, C.L., Pauls, K.P., and Navabi, A. (2012). "Inheritance of Resistance to Race 73 of Anthracnose in the Navy Bean Line ACUG 10-1.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Poster)
- Kamran, A., Iqbal, M., Navabi, A., Randhawa, H.S., Pozniak, C.J., and Spaner, D.M. (2012). "Mapping earliness per se QTL and exploring their interaction with the photoperiod insensitive gene Ppd-D1a in the Cutler x Barrie spring wheat population.", The Annual General Meeting of Canadian Triticum Advancement through Genomics (CTAG), Saskatoon, SK, Canada, November 23-24, 2012.
- Asif, M., Navabi, A., Randhawa, H.S., Pozniak, C.J., and Spaner, D.M. (2012). "QTL mapping in the Attila x CDC Go Spring Wheat Population.", The Annual General Meeting of Canadian Triticum Advancement through Genomics (CTAG), Saskatoon, SK, Canada, November 23-24, 2012.
- Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Navabi, A., Yu, K., and Hou, A. (2012). "Pyramiding resistance to common bacterial blight, anthracnose and bean common mosaic virus in dry bean.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, Poster.
- Welack, T.W. and Navabi, A. (2012). "Impact of Soybean Cyst Nematodes on Pulse Crops in Canada.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Poster)
- Smith, T.H., Rupert, T., Burt, A.J., and Navabi, A. (2012). "Nitrogen use efficiency of a diverse collection dry bean genotypes selected from different market classes in Ontario.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Poster)
- Smith, T.H., Rupert, T., Burt, A.J., and Navabi, A. (2012). "Nitrogen Use Efficiency of Different Dry Bean Market Classes in Ontario.", Annual Report of the Bean Improvement Cooperative (BIC), 55, pp. 63-64.
- Navabi, A., Smith, T.H., and Pauls, K.P. (2012). Bean Research report to the Ontario White Bean Marketing Board and the Ontario Coloured Bean Producers. (Report)
- Navabi, A., Burt, A.J., Rupert, T., Smith, T.H., Gillard, C.L., and Pauls, K.P. (2012). "Contribution of Genetic Improvement in Yield Increase and Disease Resistance in Navy Beans Released in Central Canada since 1930s.", Annual Report of the Bean Improvement Cooperative (BIC), 55, pp. 113-114.
- Navabi, A., Pauls, K.P., Yu, K., Tsao, R., Woodrow, L., and Poysa, V. (2012). "A Multi-Disciplinary Approach Towards Developing Bean Varieties for Sustainable Dry Bean Production in Ontario. Research Update.", Pulse Science Cluster Scientific Meeting 2012, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 5-6, 2012.
- Navabi, A. (2012). "Public bean breeding in Ontario: research update.", Ontario Pulse Committee Research Day Presentations, Exeter, ON, Canada, March 23, 2012. (Presentation)
- Navabi, A., Rupert, T., Woodrow, L., and Poysa, V. (2012). "Performance of mung bean (*Vigna radiata*) introduction lines in South-Western Ontario.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Poster)

- Navabi, A., Rupert, T., Smith, T.H., Gillard, C.L., and Pauls, K.P. (2011). "Contribution of genetic improvement in yield increase and disease resistance in navy beans released in Canada since 1930s.", Biennial Meeting of the Bean Improvement Cooperative and North American Pulse Improvement Association (BIC/NAPIA 2011), Verdanza Hotel, San Juan, Puerto Rico, October 30 - November 2, 2011, P-30. (Poster)
- Smith, T.H., Rupert, T., and Navabi, A. (2011). "Nitrogen use efficiency of different dry bean market classes in Ontario.", Biennial Meeting of the Bean Improvement Cooperative and North American Pulse Improvement Association (BIC/NAPIA 2011), Verdanza Hotel, San Juan, Puerto Rico, October 30-November 2, 2011. (Poster)
- Cooper, D.M., Perry, G.E., Navabi, A., and Pauls, K.P. (2011). "Common bacterial blight resistance in common dry bean (*Phaseolus vulgaris*) variety OAC REX – towards identifying a major resistance gene.", Biennial Meeting of the Bean Improvement Cooperative and North American Pulse Improvement Association (BIC/NAPIA 2011), Verdanza Hotel, San Juan, Puerto Rico, October 30-November 2, 2011. (Poster)
- Xie, W., Shi, C., Pauls, K.P., and Navabi, A. (2011). "Marker-assisted selection by SU91 in early generations accelerated resistance gains against common bacterial blight.", Biennial Meeting of the Bean Improvement Cooperative and North American Pulse Improvement Association (BIC/NAPIA 2011), Verdanza Hotel, San Juan, Puerto Rico, October 30-November 2, 2011.
- Asif, M., Randhawa, H.S., Yang, R.-C., Navabi, A., and Spaner, D.M. (2011). "Agronomic evaluation of a wheat breeding population in weed competitive organic and weed free conventional management systems.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.
- Khan, A.I., Burt, A.J., Xie, W., Pauls, K.P., and Navabi, A. (2011). "Significance of molecular markers related to common bacterial blight (CBB) in a dry bean RIL population.", Biennial Meeting of the Bean Improvement Cooperative and North American Pulse Improvement Association (BIC/NAPIA 2011), Verdanza Hotel, San Juan, Puerto Rico, October 30-November 2, 2011. (Poster)
- Navabi, A., Khanal, S., Shi, C., Xie, W., and Pauls, K.P. (2011). "Inheritance and quantitative trait loci analysis of folate content in dry beans (*Phaseolus vulgaris* L.).", Biennial Meeting of the Bean Improvement Cooperative and North American Pulse Improvement Association (BIC/NAPIA 2011), Verdanza Hotel, San Juan, Puerto Rico, October 30-November 2, 2011.
- Shi, C., Yu, K., Perry, G.E., Navabi, A., Pauls, K.P., Miklas, P.N., and Fourie, D. (2011). "Candidate gene markers associated with common bacterial blight resistance in common bean.", Biennial Meeting of the Bean Improvement Cooperative and North American Pulse Improvement Association (BIC/NAPIA 2011), Verdanza Hotel, San Juan, Puerto Rico, October 30-November 2, 2011.
- Shi, C., Yu, K., and Navabi, A. (2011). "Association mapping of common bacterial blight resistance QTL in Ontario bean breeding populations.", Annual Report of the Bean Improvement Cooperative (BIC), 54, pp. 84-85.
- Farid, M., Earl, H.J., Rajcan, I., Pauls, K.P., and Navabi, A. (2011). "Quantitative variation in nodulation potential in an inbred line population of dry bean.", Biennial Meeting of the Bean Improvement Cooperative and North American Pulse Improvement Association (BIC/NAPIA 2011), Verdanza Hotel, San Juan, Puerto Rico, October 30-November 2, 2011, P-31. (Poster)
- Farid, M., Pauls, K.P., and Navabi, A. (2011). "A study of N<sub>2</sub> fixation ability of different common bean genotypes in Ontario.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011. (Poster)
- Xie, W., Yu, K., Pauls, K.P., and Navabi, A. (2011). "Marker assisted breeding for improving resistance to common bacterial blight in common bean.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011. (Poster)
- Yu, K., Navabi, A., Hou, A., and Balasubramanian, P.M. (2011). "An update on the molecular development and marker-assisted selection in AAFC bean breeding programs.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011.
- Balasubramanian, P.M., Hou, A., Conner, R.L., McLaren, D.L., Navabi, A., and Pauls, K.P. (2011). "Improvement of dry bean on the prairies for high yield, disease resistance and seed quality.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011.
- Yu, K., Shi, C., Navabi, A., Pauls, K.P., Miklas, P.N., and Fourie, D. (2011). "Overview of genomics assisted breeding for common bean improvement at GPCRC, AAFC.", Biennial Meeting of the Bean Improvement Cooperative and North American Pulse Improvement Association (BIC/NAPIA 2011), Verdanza Hotel, San Juan, Puerto Rico, October 30-November 2, 2011. (Presentation)
- Navabi, A., Smith, T.H., and Pauls, K.P. (2011). Bean Research report to the Ontario Pulse Committee. (Report)
- Navabi, A., Smith, T.H., and Pauls, K.P. (2011). Bean Research report to the Ontario White Bean Marketing Board and the Ontario Coloured Bean Producers. (Report)
- Yu, K., Zhang, B.L., Shi, C., and Navabi, A. (2011). "Development of Temperature Switch-PCR (TS-PCR) markers for SNP Genotyping in Common Bean.", Annual Report of the Bean Improvement Cooperative (BIC), 54, pp. 82-83.

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## Research Publications:

2015

Forge, T.A., Hashimoto, N., Neilsen, D., Kenney, E., and Zebarth, B.J. (2015). "The use of compost as a preplant amendment to minimize impacts of parasitic nematodes and improve soil health and early establishment of red raspberry.", *Acta Horticulturae (ISHS)*, 1076, pp. 225-232. doi : 10.17660/ActaHortic.2015.1076.26

Neilsen, D., Losso, I., Neilsen, G.H., and Guak, S. (2015). "Development of chilling and forcing relationships for modeling spring phenology of apple and sweet cherry.", *Acta Horticulturae (ISHS)*, 1068, pp. 125-132.

Forge, T.A., Neilsen, G.H., Neilsen, D., O'Gorman, D.T., Hogue, E.J., and Angers, D.A. (2015). "Organic orchard soil management practices affect soil biology and organic matter.", *Acta Horticulturae (ISHS)*, 1076, pp. 77-84.

Zebarth, B.J., Ryan, M.C., Graham, G.L., Forge, T.A., and Neilsen, D. (2015). "Groundwater monitoring to support development of BMPs for groundwater protection: The Abbotsford-Sumas Aquifer case study.", *Ground Water Monitoring and Remediation*, 35(1), pp. 82-96. doi : 10.1111/gwrmr.12092

Hannam, K.D., Neilsen, G.H., Neilsen, D., and Bowen, P.A. (2015). "Cluster thinning as a tool to hasten ripening of wine grapes in the Okanagan Valley, British Columbia.", *Canadian Journal of Plant Science*, 95(1), pp. 103-113. doi : 10.4141/cjps2013-397

2014

Neilsen, G.H., Forge, T.A., Angers, D.A., Neilsen, D., and Hogue, E.J. (2014). "Suitable orchard floor management strategies in organic apple orchards that augment soil organic matter and maintain tree performance.", *Plant and Soil*, 378(1-2), pp. 325-335. doi : 10.1007/s11104-014-2034-8

Esmaeili, S., Thomson, N.R., Tolson, B.A., Zebarth, B.J., Kuchta, S., and Neilsen, D. (2014). "Quantitative global sensitivity analysis of the RZWQM to warrant a robust and effective calibration.", *Journal of Hydrology*, 511, pp. 567-579. doi : 10.1016/j.jhydrol.2014.01.051

Hannam, K.D., Neilsen, G.H., Neilsen, D., Rabie, W.S., Midwood, A., and Millard, P. (2014). "Late-Season Foliar Urea Applications Can Increase Berry Yeast-Assimilable Nitrogen in Winegrapes (*Vitis vinifera* L.)", *American Journal of Enology and Viticulture*, 65(1), pp. 89-95. doi : 10.5344/ajev.2013.13092

Kowalenko, C.G., Bittman, S., Neilsen, G.H., Kenney, E., Hunt, D.E., and Neilsen, D. (2014). "Potential for improving sulfur tests on agricultural soils in contrasting ecoregions of British Columbia, Canada.", *Geoderma Regional*, 1(C), pp. 10-20. doi : 10.1016/j.geodrs.2014.06.001

Neilsen, G.H., Neilsen, D., Kappel, F., and Forge, T.A. (2014). "Interaction of irrigation and soil management on sweet cherry productivity and fruit quality at different crop loads that simulate those occurring by environmental extremes.", *HortScience*, 49(2), pp. 215-220.

Lang, G., Blatt, S.E., Embree, C.G., Grant, J., Hoying, S., Ingels, C.A., Neilsen, D., Neilsen, G.H., and Robinson, T. (2014). "Developing and evaluating intensive sweet cherry orchard systems: the NC140 regional research trial.", *Acta Horticulturae (ISHS)*, 1058, pp. 113-120.

Cai, S., Zidek, J.V., Newlands, N.K., and Neilsen, D. (2014). "Statistical modeling and forecasting of fruit crop phenology under climate change.", *EnvironMetrics*, 25(8), pp. 621-629. doi : 10.1002/env.2304

2013

Qian, B., De Jong, R., Gameda, S.B., Huffman, E.C., Neilsen, D., Desjardins, R.L., Wang, H., and McConkey, B.G. (2013). "Impact of climate change scenarios on Canadian agroclimatic indices.", *Canadian Journal of Soil Science*, 93(2), pp. 243-259. doi : 10.4141/CJSS2012-053

Guak, S. and Neilsen, D. (2013). "Chill unit models for predicting dormancy completion of floral buds in apple and sweet cherry.", *Horticulture, Environment and Biotechnology*, 54(1), pp. 29-36. doi : 10.1007/s13580-013-0140-9

Forge, T.A., Neilsen, G.H., Neilsen, D., Hogue, E.J., and Faubion, D. (2013). "Composted Dairy Manure and Alfalfa Hay Mulch Affect Soil Ecology and Early Production of 'Braeburn' Apple on M.9 Rootstock", *HortScience*, 48(5), pp. 645-651.

Neilsen, G.H., Neilsen, D., Hannam, K., Hannam, K.D., Millard, P., and Midwood, A. (2013). "Foliar urea applications can increase berry yeast-assimilable N in wine (*Vitis vinifera* L.) grapes.", *Acta Horticulturae (ISHS)*, 984, pp. 427-433.

Hannam, K.D., Neilsen, G.H., Forge, T.A., and Neilsen, D. (2013). "The concentration of yeast assimilable nitrogen in Merlot grape juice is increased by N fertilization and reduced irrigation.", *Canadian Journal of Plant Science*, 93(1), pp. 37-45. doi : 10.4141/cjps2012-092

Neilsen, D., Neilsen, G.H., Cannon, A.J., Taylor, B., Van der Gulik, T.W., Smith, S., and Losso, I. (2013). "Assessing risks from climate change and variability in perennial horticultural crops.", *Acta Horticulturae (ISHS)*, 984, pp. 87-100.

Neilsen, G.H., Forge, T.A., Neilsen, D., O'Gorman, D.T., Hogue, E.J., Angers, D.A., and Bissonnette, N. (2013). "Soil management in organic production systems.", *Acta Horticulturae (ISHS)*, 1001, pp. 295-302.

## 2012

Cannon, A.J., Neilsen, D., and Taylor, W.G. (2012). "Lapse Rate Adjustments of Gridded Surface Temperature Normals in an Area of Complex Terrain: Atmospheric Reanalysis versus Statistical Up-Sampling.", *Atmosphere-Ocean*, 50(1), pp. 9-16. doi : 10.1080/07055900.2011.649035

Cline, J.A., Neilsen, D., Neilsen, G.H., Brownlee, R.A., Norton, D., and Quamme, H.A. (2012). "Cold Hardiness of New Apple Cultivars of Commercial Importance in Canada.", *Journal of the American Pomological Society*, 66(4), pp. 174-182.

## 2011

Neilsen, G.H. and Neilsen, D. (2011). "Consequences of potassium, magnesium sulphate fertilization of high density 'Fuji' apple orchards.", *Canadian Journal of Soil Science*, 91(6), pp. 1013-1027. doi: 10.4141/cjss2011-023

Pellerin, B.P., Buszard, D., Iron, D., Embree, C.G., Marini, R.P., Nichols, D.S., Neilsen, G.H., and Neilsen, D. (2011). "A Theory of Blossom Thinning to Consider Maximum Annual Flower Bud Numbers on Biennial Apple Trees.", *HortScience*, 46(1), pp. 40-42.

Fallahi, E., Fallahi, B., Shafii, B., Neilsen, D., and Neilsen, G.H. (2011). "The Impact of Long-Term Evapotranspiration-Based Water Scheduling in Various Irrigation Regimes on Tree Growth, Yield, and Fruit Quality at Harvest in 'Fuji' Apple.", *Journal of the American Pomological Society*, 65(1), pp. 42-53.

Cline, J.A., Neilsen, G.H., Hogue, E.J., Kuchta, S., and Neilsen, D. (2011). "Spray-on-mulch Technology for Intensively Grown Irrigated Apple Orchards: Influence on Tree Establishment, Early Yields, and Soil Physical Properties.", *HortTechnology*, 21(4), pp. 398-411.

## Other Science Related Publications:

### 2015

Zebarth, B.J., Ryan, M.C., Graham, G.L., Forge, T.A., and Neilsen, D. (2015). "Addressing groundwater nitrate contamination associated with intensive agricultural production systems: The Abbotsford-Sumas Aquifer case study.", *Internal Association of Hydrogeologists – Canadian National Chapter Annual Meeting, Waterloo, ON, Canada, October 27-30, 2015.*

### 2014

Neilsen, G.H., Forge, T.A., and Neilsen, D. (2014). "Does organic matter matter?", *109th Annual Meeting, Wenatchee, WA, USA*, pp. 314-321.

Forge, T.A., Neilsen, G.H., Broersma, K., and Neilsen, D. (2014). "Application of municipal biosolids alters the structure of nematode communities in rangeland soils in the southern interior of British Columbia.", *Annual meeting of the Canadian Soil Science Society, Banff, Alberta, Canada, May 4-7, 2014. (Abstract)*

Högg, T., Neilsen, D., Cannon, A.J., Smith, S., Losso, I., and Frank, G. (2014). *Spatio-temporal modelling of daily minimum temperatures in the Okanagan Basin, British Columbia. Internal Report, Pacific Agri-Food Research Centre, Summerland, B.C. 23pp. (Report)*

Högg, T., Neilsen, D., Cannon, A.J., Smith, S., Losso, I., and Frank, G. (2014). *Spatio-temporal modelling of daily minimum temperatures in the Okanagan Basin, British Columbia. Internal Report, Pacific Agri-Food Research Centre, Summerland, B.C. 42pp. (Report)*

Forge, T.A., Neilsen, G.H., and Neilsen, D. (2014). "Assessing soil health for tree fruit and vine crops.", *109th Annual Meeting, Wenatchee, WA, USA*, pp. 329-334.

Hannam, K.D., Jones, M.D., Neilsen, D., Midwood, A., Forge, T.A., Neilsen, G.H., and Millard, P. (2014). "Bicarbonates in irrigation water can alter the C13 signature and rate of soil respiration-evidence from a 10 year-old apple orchard in the Okanagan valley, British Columbia.", 2014 CSSS Annual Meeting, Banff, Alberta, Canada. (Abstract)

Fentabil, M., Nichol, C.F., Hannam, K.D., Neilsen, D., Forge, T.A., and Neilsen, G.H. (2014). "Annual greenhouse gas fluxes in drip and microspray irrigated vineyards and orchards in the Okanagan Valley, British Columbia.", Annual meeting of the Canadian Soil Science Society, Banff, Alberta, Canada, May 4-7, 2014. (Abstract)

Forge, T.A., Neilsen, D., Hannam, K.D., Neilsen, G.H., Jones, M.J., and Nichol, C.F. (2014). "Root growth and development of nematode communities in a young Merlot grape (*Vitis vinifera* L.) vineyard: Influence of irrigation and organic amendments.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014, Number 145-9. (Abstract)

Forge, T.A., Neilsen, D., and Neilsen, G.H. (2014). "PARC Research update-root zone ecology and management", Cherry Notes Newsletter of the British Columbia Cherry Association (January), pp. 6-7.

Neilsen, G.H. and Neilsen, D. (2014). "Fertigation and nutrition of apple orchards.", *Agropecuaria Catarinense*, 27(2), pp. 34-43.

Neilsen, G.H. and Neilsen, D. (2014). "Fertigation and nutrition of apple orchards.", *Compact Fruit Tree*, 47(2), pp. 15-20.

Forge, T.A., Neilsen, G.H., Neilsen, D., and Hogue, E.J. (2014). "Assessing soil health for tree-fruit and vine crops.", 2013 Washington State Horticultural Association 109th Annual Meetings, Wenatchee, WA, USA, December 2-4, 2013.

Neilsen, G.H., Forge, T.A., and Neilsen, D. (2014). "Does organic matter?", 2013 Washington State Horticultural Association 109th Annual Meetings, Wenatchee, WA, USA, December 2-4, 2013.

Hampson, C.R., Neilsen, D., Neilsen, G.H., and Forge, T.A. (2014). Report of cooperative regional project NC-140 / British Columbia: Improving economic and environmental sustainability in tree fruit production through changes in rootstock use. <http://www.nc140.org/annualreports.html>. (Report)

Neilsen, G.H. and Neilsen, D. (2014). "Fertigation and nutrition of apple orchards.", *Agropecuaria Catarinense*, 27(2), pp. 34-43.

Neilsen, G.H. and Neilsen, D. (2014). "Sap flow monitoring to improve water and management strategies for sweet cherry (*Prunus avium* L.)", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014, Number 421-7. (Abstract)

Neilsen, G.H. and Neilsen, D. (2014). "Fertigation and nutrition of apple orchards. International Fruit Tree Association.", *Compact Fruit Tree*, 47(2), pp. 15-20.

Hannam, K.D., Neilsen, G.H., Neilsen, D., Forge, T.A., Jones, M.J., Nichol, C.F., and Fentabil, M. (2014). "Soil nutrient dynamics and yield in a young Merlot grape (*Vitis vinifera* L.) vineyard; implications of irrigation and soil amendment practices.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014, Number 139-8. (Abstract)

Fentabil, M., Nichol, C.F., Hannam, K.D., Neilsen, D., Forge, T.A., Neilsen, G.H., and Jones, M.D. (2014). "Nitrous oxide emissions from micro-irrigated grape and apple fields located in the semi-arid Okanagan region of British Columbia.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014, Number 96-13. (Abstract)

Neilsen, D., Neilsen, G.H., and Forge, T.A. (2014). "Dwarfing rootstocks and training systems affect initial growth, cropping and nutrition in Skeena sweet cherry.", 29th International Hort. Congress, Australia, <http://www.ihc2014.org/Abstract>, pp. 95. (Abstract)

Lang, G., Blatt, S.E., Grant, J., Hoying, S., Ingels, C.A., Neilsen, D., Robinson, T., and Neilsen, G.H. (2014). "Innovative high density sweet cherry training systems: five years of comparative trials across North America.", 29th International Horticultural Congress Symposium on Physiology of Perennial Fruit Crops & Production Systems, Brisbane, Australia, August 2014, <http://www.ihc2014.org/Abstract>, pp. 56. (Abstract)

Hannam, K.D., Forge, T.A., Neilsen, G.H., Neilsen, D., Jones, M.D., and Nichol, C.K. (2014). "Implications of irrigation and soil amendment practices for soil nutrient dynamics and yield in a young Merlot grape (*Vitis vinifera*) vineyard.", 2014 CSSS Annual Meeting, Banff, Alberta, Canada. (Abstract)

Forge, T.A., Neilsen, D., and Neilsen, G.H. (2014). "PARC Research update-root zone ecology and management", Cherry Notes Newsletter of the British Columbia Cherry Association (January), pp. 6-7. (Newsletter)

Qian, B., Neilsen, D., Bourgeois, G., and Zhang, X. (2014). "Historical trends in the risk of spring frost damages to fruit trees in eastern Canada.", 20th International Congress on Biometeorology, Cleveland, Ohio, USA, September 28 – October 1, 2014, Presentation.

## 2013

- Neilsen, G.H., Forge, T.A., Neilsen, D., O'Gorman, D.T., and Bissonnette, N. (2013). "Soil and nutrient management in organic orchard production.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013, SSSA division soil fertility and plant nutrition, Abstract 133-9, pp. 103. (Abstract)
- Neilsen, D., Neilsen, G.H., and Forge, T.A. (2013). NC-140 BC 2013 State Report\_Cherry., Canada: Okanagan Kootenay Cherry Growers' Association (OKCGA), BC, Canada. (Report)
- Forge, T.A., Neilsen, G.H., Neilsen, D., O'Gorman, D.T., Hogue, E.J., Angers, D.A., and Bissonnette, N. (2013). "Organic orchard soil management practices affect soil biology and organic matter", II International symposium of organic matter management and compost use in horticulture III Workshop of bioproducts for agriculture and III Workshop of Ibero-american network for biological fertilizers for agriculture, Santiago, Chile, pp. 31.
- Neilsen, G.H. and Neilsen, D. (2013). Annual report Okanagan Kootenay Cherry Growers Association (OKCGA). NC140 project and coping with drought, 13pp. (Report)
- Neilsen, D., Neilsen, G.H., and Forge, T.A. (2013). Report of cooperative regional project NC-140 / British Columbia: Improving economic and environmental sustainability in tree fruit production through changes in cherry rootstock use. <http://www.nc140.org/annualreports.html>. (Report)
- Neilsen, G.H. and Neilsen, D. (2013). "Does the amount of crop on a tree affect sweet cherry fruit quality?", Cherry Notes: Newsletter of the Okanagan Kootenay Cherry Growers Association (June), pp. 2 pages.
- Neilsen, G.H. and Neilsen, D. (2013). Annual report Okanagan Kootenay Cherry Growers Association (OKCGA). NC140 project and coping with drought, Canada: Okanagan Kootenay Cherry Growers' Association (OKCGA), BC, Canada. (Report)
- Neilsen, D., Neilsen, G.H., Forge, T.A., and Cline, J.A. (2013). "The effects of crop load and water stress on yield and fruit quality of sweet cherry cultivars.", ASHS Annual Conference, HortSci. Supplement: S213. (Abstract)

## 2012

- Quamme, H.A. and Neilsen, D. (2012). "The Potential Impact of Climate Change on Temperate Zone Woody Perennial Crops.", in Storey, K.B. and Tanino, K.K. (eds.) - Temperature Adaptation in a Changing Climate: Nature at Risk (CABI Climate Change Series No. 3), CABI Publishing, Wallingford, UK, Chapter 15, pp. 218-228.
- Forge, T.A., Kenney, E., Neilsen, D., and Zebarth, B.J. (2012). "Alternatives to fumigation.", 54th Annual Horticulture Growers' Short Course, Abbotsford, BC, Canada, January 26-28, 2012, pp. 29-32.

## 2011

- Neilsen, D., Van der Gulik, T.W., Cannon, A.J., Taylor, W.G., and Fretwell, R. (2011). "Modeling future water demand for current and future climate in the Okanagan basin, British Columbia, Canada.", IX International Symposium on Modelling in Fruit Research and Orchard Management, Saint-Jean-sur-Richelieu, QC, Canada, June 19-23, 2011, pp. 48. (Abstract)
- Neilsen, D., Losso, I., Guak, S., and Neilsen, G.H. (2011). "Development of chilling and forcing relationships for modeling spring phenology of apple and sweet cherry cultivars.", IX International Symposium on Modelling in Fruit Research and Orchard Management, Saint-Jean-sur-Richelieu, QC, Canada, June 19-23, 2011, pp. 40. (Abstract)
- Neilsen, D., Neilsen, G.H., Forge, T.A., Guak, S., and Herbert, L.C. (2011). "Effects of irrigation stress and crop load on yield and quality of Ambrosia/M.9 apple trees.", HortScience, 46(9), pp. S115. (Abstract)
- Forge, T.A., Neilsen, D., Neilsen, G.H., and Hogue, E.J. (2011). "Influences of organic mulches on development of root-lesion nematode populations in relation to indicators of soil food web structure during apple orchard establishment.", Canadian Journal of Plant Pathology, 33, pp. 276. (Abstract)
- Neilsen, D. and Cannon, A.J. (2011). "Modeling Water Demand for the Okanagan Basin Under Current and Future Climates.", 92nd Annual General Meeting of the Association of Professional Engineers and Geoscientists of BC, Kelowna, BC, Canada, October 15, 2011.
- Van der Gulik, T.W., Neilsen, D., and Fretwell, R. (2011). Agricultural Water Demand Model: Report for the Similkameen watershed. BC Ministry of Agriculture. <http://www.waterbucket.ca>. (Report)
- Forge, T.A., Neilsen, G.H., Neilsen, D., Walters, T.W., and Koch, C.A. (2011). "Using organic amendments and mulches to preferentially enhance biological activity and suppress plant pathogens in root zone soil under perennial fruit crops.", Soils Ecology Society Meeting 2011, University of British Columbia - Okanagan, Kelowna, BC, Canada, May 24-27, 2011.
- Neilsen, G.H., Neilsen, D., Forge, T.A., Guak, S., and Herbert, L.C. (2011). "Irrigation strategy and crop load affect nutrition management of drip-fertigated Ambrosia/M.9 apple trees 359-2 S04 Soil fertility and plant nutrition.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011, Session: Management strategies to improve nutrient use efficiency I.

Neilsen, D., Cannon, A.J., Taylor, B., and Van der Gulik, T.W. (2011). "High resolution data requirements for agriculture.", 19th Annual Conference of The International Environmetrics Society, Kelowna, BC, Canada, June 8-13, 2008. (Abstract)

Neilsen, D., Van der Gulik, T.W., Cannon, A.J., Taylor, B., and Smith, S. (2011). "Modeling regional water demand for the Okanagan basin under current and future climates.", Waterfutions Conference, Silver Lake, BC, Canada, June 11, 2011.

Van der Gulik, T.W. and Neilsen, D. (2011). "Agriculture water demand model.", Seminars for the regional planners, Mission, Cranbrook, Clearwater, Duncan, Courtenay, Nanaimo, and Salmon Arm, BC, January - November 2011. (Presentation)

Neilsen, D. and Van der Gulik, T.W. (2011). "Improving irrigation management.", Water Supply Association of BC and the Canadian Water Network, November 10 and 22, 2011. (Presentation)

Van der Gulik, T.W. and Neilsen, D. (2011). "Reserving water for future agricultural needs.", NRCAN Webinar and the Fraser Basin Council on the Creation of an Agricultural Water Reserve, March 25 and October 20, 2011. (Presentation)

Forge, T.A., Neilsen, G.H., Smit, R., Neilsen, D., Bowen, P.A., Hannam, K., and Hannam, K.D. (2011). "Nematode parasites of grapevines in the Okanagan Valley: What are their potential impacts? What can we do about them?", 12th Annual Enology & Viticulture Conference and Trade Show, Penticton, BC, Canada, July 18-19, 2011.

Neilsen, G.H., Neilsen, D., Forge, T.A., Hannam, K., and Hannam, K.D. (2011). "Urea spray to improve yeast assimilable N concentration in grape at harvest.", 12th Annual Enology & Viticulture Conference and Trade Show, Penticton, BC, Canada, July 18-19, 2011.

Neilsen, G.H., Neilsen, D., and Toivonen, P.M.A. (2011). "NC-140-Sweet cherry training system /rootstock trial.", Cherry Notes: Newsletter of the Okanagan Kootenay Cherry Growers Association, 2011 (June), pp. 10.

Hannam, K.D., Neilsen, G.H., Neilsen, D., and Forge, T.A. (2011). "Improving the yeast assimilable nitrogen status of wine grape juice.", 12th Annual Enology & Viticulture Conference and Trade Show, Penticton, BC, Canada, July 18-19, 2011.

Hannam, K., Hannam, K.D., Neilsen, G.H., and Neilsen, D. (2011). "The concentrations of yeast assimilable N in wine grape juice can be manipulated using deficit irrigation, crop load reduction and nitrogen fertilization. 382-8 S08 Soil nutrient management and soil and plant analyses.", 2011 ASA-CSSA-SSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Neilsen, D., Cannon, A.J., Taylor, B., Losso, I., Frank, I., and Fretwell, R. (2011). "Climate studies in the Okanagan Basin.", Osoyoos Lake Water Science Forum 2011, Osoyoos, BC, Canada, September 18-20, 2011. (Abstract)

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## Research Publications:

2015

Forge, T.A., Neilsen, G.H., Neilsen, D., O'Gorman, D.T., Hogue, E.J., and Angers, D.A. (2015). "Organic orchard soil management practices affect soil biology and organic matter.", *Acta Horticulturae (ISHS)*, 1076, pp. 77-84.

Neilsen, D., Losso, I., Neilsen, G.H., and Guak, S. (2015). "Development of chilling and forcing relationships for modeling spring phenology of apple and sweet cherry.", *Acta Horticulturae (ISHS)*, 1068, pp. 125-132.

Hannam, K.D., Neilsen, G.H., Neilsen, D., and Bowen, P.A. (2015). "Cluster thinning as a tool to hasten ripening of wine grapes in the Okanagan Valley, British Columbia.", *Canadian Journal of Plant Science*, 95(1), pp. 103-113. doi : 10.4141/cjps2013-397

2014

Kowalenko, C.G., Bittman, S., Neilsen, G.H., Kenney, E., Hunt, D.E., and Neilsen, D. (2014). "Potential for improving sulfur tests on agricultural soils in contrasting ecoregions of British Columbia, Canada.", *Geoderma Regional*, 1(C), pp. 10-20. doi : 10.1016/j.geodrs.2014.06.001

Neilsen, G.H., Forge, T.A., Angers, D.A., Neilsen, D., and Hogue, E.J. (2014). "Suitable orchard floor management strategies in organic apple orchards that augment soil organic matter and maintain tree performance.", *Plant and Soil*, 378(1-2), pp. 325-335. doi : 10.1007/s11104-014-2034-8

Hannam, K.D., Neilsen, G.H., Neilsen, D., Rabie, W.S., Midwood, A., and Millard, P. (2014). "Late-Season Foliar Urea Applications Can Increase Berry Yeast-Assimilable Nitrogen in Winegrapes (*Vitis vinifera* L.)", *American Journal of Enology and Viticulture*, 65(1), pp. 89-95. doi : 10.5344/ajev.2013.13092

Neilsen, G.H., Neilsen, D., Kappel, F., and Forge, T.A. (2014). "Interaction of irrigation and soil management on sweet cherry productivity and fruit quality at different crop loads that simulate those occurring by environmental extremes.", *HortScience*, 49(2), pp. 215-220.

Neilsen, G.H. and Hampson, C.R. (2014). "'Honeycrisp' apple leaf and fruit nutrient concentration is affected by rootstock during establishment.", *Journal of the American Pomological Society*, 68(4), pp. 178-189.

Lang, G., Blatt, S.E., Embree, C.G., Grant, J., Hoying, S., Ingels, C.A., Neilsen, D., Neilsen, G.H., and Robinson, T. (2014). "Developing and evaluating intensive sweet cherry orchard systems: the NC140 regional research trial.", *Acta Horticulturae (ISHS)*, 1058, pp. 113-120.

2013

Peryea, F.J. and Neilsen, G.H. (2013). "Influence of 6-benzyladenine tank-mixed with boron, followed by mid-summer calcium plus copper sprays, on 'Gala' splitting and firmness.", *Acta Horticulturae (ISHS)*, 984, pp. 393-400.

Neilsen, G.H., Forge, T.A., Neilsen, D., O'Gorman, D.T., Hogue, E.J., Angers, D.A., and Bissonnette, N. (2013). "Soil management in organic production systems.", *Acta Horticulturae (ISHS)*, 1001, pp. 295-302.

Neilsen, D., Neilsen, G.H., Cannon, A.J., Taylor, B., Van der Gulik, T.W., Smith, S., and Losso, I. (2013). "Assessing risks from climate change and variability in perennial horticultural crops.", *Acta Horticulturae (ISHS)*, 984, pp. 87-100.

Peryea, F.J. and Neilsen, G.H. (2013). "Tank-mixing boron with 6-benzyladenine to enhance 'Gala' apple fruit size may promote fruit splitting.", *Acta Horticulturae (ISHS)*, 984, pp. 401-408.

Neilsen, G.H., Neilsen, D., Hannam, K., Hannam, K.D., Millard, P., and Midwood, A. (2013). "Foliar urea applications can increase berry yeast-assimilable N in wine (*Vitis vinifera* L.) grapes.", *Acta Horticulturae (ISHS)*, 984, pp. 427-433.

Hannam, K.D., Neilsen, G.H., Forge, T.A., and Neilsen, D. (2013). "The concentration of yeast assimilable nitrogen in Merlot grape juice is increased by N fertilization and reduced irrigation.", *Canadian Journal of Plant Science*, 93(1), pp. 37-45. doi : 10.4141/cjps2012-092

Forge, T.A., Neilsen, G.H., Neilsen, D., Hogue, E.J., and Faubion, D. (2013). "Composted Dairy Manure and Alfalfa Hay Mulch Affect Soil Ecology and Early Production of 'Braeburn' Apple on M.9 Rootstock", *HortScience*, 48(5), pp. 645-651.



Kappel, F. and Neilsen, G.H. (2013). "Pacific Agri-Food Research Centre, Summerland, British Columbia.", in Deschenes, J.M. and Corbeil, N. (eds.) - The innovator rooted in science. The history of the Research Branch from 1986 to 2011, pp. 343-350.

2012

Cline, J.A., Neilsen, D., Neilsen, G.H., Brownlee, R.A., Norton, D., and Quamme, H.A. (2012). "Cold Hardiness of New Apple Cultivars of Commercial Importance in Canada.", *Journal of the American Pomological Society*, 66(4), pp. 174-182.

2011

Neilsen, G.H. and Neilsen, D. (2011). "Consequences of potassium, magnesium sulphate fertilization of high density 'Fuji' apple orchards.", *Canadian Journal of Soil Science*, 91(6), pp. 1013-1027. doi: 10.4141/cjss2011-023

Cline, J.A., Neilsen, G.H., Hogue, E.J., Kuchta, S., and Neilsen, D. (2011). "Spray-on-mulch Technology for Intensively Grown Irrigated Apple Orchards: Influence on Tree Establishment, Early Yields, and Soil Physical Properties.", *HortTechnology*, 21(4), pp. 398-411.

Pellerin, B.P., Buszard, D., Iron, D., Embree, C.G., Marini, R.P., Nichols, D.S., Neilsen, G.H., and Neilsen, D. (2011). "A Theory of Blossom Thinning to Consider Maximum Annual Flower Bud Numbers on Biennial Apple Trees.", *HortScience*, 46(1), pp. 40-42.

Fallahi, E., Fallahi, B., Shafii, B., Neilsen, D., and Neilsen, G.H. (2011). "The Impact of Long-Term Evapotranspiration-Based Water Scheduling in Various Irrigation Regimes on Tree Growth, Yield, and Fruit Quality at Harvest in 'Fuji' Apple.", *Journal of the American Pomological Society*, 65(1), pp. 42-53.

## Other Science Related Publications:

2014

Neilsen, G.H. and Neilsen, D. (2014). "Fertigation and nutrition of apple orchards. International Fruit Tree Association.", *Compact Fruit Tree*, 47(2), pp. 15-20.

Fentabil, M., Nichol, C.F., Hannam, K.D., Neilsen, D., Forge, T.A., and Neilsen, G.H. (2014). "Annual greenhouse gas fluxes in drip and microspray irrigated vineyards and orchards in the Okanagan Valley, British Columbia.", Annual meeting of the Canadian Soil Science Society, Banff, Alberta, Canada, May 4-7, 2014. (Abstract)

Forge, T.A., Neilsen, G.H., Broersma, K., and Neilsen, D. (2014). "Application of municipal biosolids alters the structure of nematode communities in rangeland soils in the southern interior of British Columbia.", Annual meeting of the Canadian Soil Science Society, Banff, Alberta, Canada, May 4-7, 2014. (Abstract)

Forge, T.A., Neilsen, G.H., and Neilsen, D. (2014). "Assessing soil health for tree fruit and vine crops.", 109th Annual Meeting, Wenatchee, WA, USA, pp. 329-334.

Neilsen, G.H., Forge, T.A., and Neilsen, D. (2014). "Does organic matter matter?", 109th Annual Meeting, Wenatchee, WA, USA, pp. 314-321.

Forge, T.A., Neilsen, D., and Neilsen, G.H. (2014). "PARC Research update-root zone ecology and management.", *Cherry Notes Newsletter of the British Columbia Cherry Association* (January), pp. 6-7.

Hannam, K.D., Neilsen, G.H., Neilsen, D., Forge, T.A., Jones, M.J., Nichol, C.F., and Fentabil, M. (2014). "Soil nutrient dynamics and yield in a young Merlot grape (*Vitis vinifera* L.) vineyard; implications of irrigation and soil amendment practices.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014, Number 139-8. (Abstract)

Neilsen, G.H. and Neilsen, D. (2014). "Fertigation and nutrition of apple orchards.", *Agropecuaria Catarinense*, 27(2), pp. 34-43.

Neilsen, G.H. and Neilsen, D. (2014). "Fertigation and nutrition of apple orchards.", *Compact Fruit Tree*, 47(2), pp. 15-20.

Forge, T.A., Neilsen, G.H., Neilsen, D., and Hogue, E.J. (2014). "Assessing soil health for tree-fruit and vine crops.", 2013 Washington State Horticultural Association 109th Annual Meetings, Wenatchee, WA, USA, December 2-4, 2013.

Neilsen, G.H., Forge, T.A., and Neilsen, D. (2014). "Does organic matter matter?", 2013 Washington State Horticultural Association 109th Annual Meetings, Wenatchee, WA, USA, December 2-4, 2013.

Hampson, C.R., Neilsen, D., Neilsen, G.H., and Forge, T.A. (2014). Report of cooperative regional project NC-140 / British Columbia: Improving economic and environmental sustainability in tree fruit production through changes in rootstock use. <http://www.nc140.org/annualreports.html>. (Report)

Forge, T.A., Neilsen, D., and Neilsen, G.H. (2014). "PARC Research update-root zone ecology and management.", *Cherry Notes Newsletter of the British Columbia Cherry Association* (January), pp. 6-7. (Newsletter)

Forge, T.A., Neilsen, D., Hannam, K.D., Neilsen, G.H., Jones, M.J., and Nichol, C.F. (2014). "Root growth and development of nematode communities in a young Merlot grape (*Vitis vinifera* L.) vineyard: Influence of irrigation and organic amendments.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014, Number 145-9. (Abstract)

Neilsen, G.H. and Neilsen, D. (2014). "Fertigation and nutrition of apple orchards.", *Agropecuaria Catarinense*, 27(2), pp. 34-43.

Fentabil, M., Nichol, C.F., Hannam, K.D., Neilsen, D., Forge, T.A., Neilsen, G.H., and Jones, M.D. (2014). "Nitrous oxide emissions from micro-irrigated grape and apple fields located in the semi-arid Okanagan region of British Columbia.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014, Number 96-13. (Abstract)

Neilsen, D., Neilsen, G.H., and Forge, T.A. (2014). "Dwarfing rootstocks and training systems affect initial growth, cropping and nutrition in Skeena sweet cherry.", 29th International Hort. Congress, Australia, <http://www.ihc2014.org/Abstract>, pp. 95. (Abstract)

Lang, G., Blatt, S.E., Grant, J., Hoying, S., Ingels, C.A., Neilsen, D., Robinson, T., and Neilsen, G.H. (2014). "Innovative high density sweet cherry training systems: five years of comparative trials across North America.", 29th International Horticultural Congress Symposium on Physiology of Perennial Fruit Crops & Production Systems, Brisbane, Australia, August 2014, <http://www.ihc2014.org/Abstract>, pp. 56. (Abstract)

Hannam, K.D., Forge, T.A., Neilsen, G.H., Neilsen, D., Jones, M.D., and Nichol, C.K. (2014). "Implications of irrigation and soil amendment practices for soil nutrient dynamics and yield in a young Merlot grape (*Vitis vinifera*) vineyard.", 2014 CSSS Annual Meeting, Banff, Alberta, Canada. (Abstract)

Hannam, K.D., Jones, M.D., Neilsen, D., Midwood, A., Forge, T.A., Neilsen, G.H., and Millard, P. (2014). "Bicarbonates in irrigation water can alter the C13 signature and rate of soil respiration-evidence from a 10 year-old apple orchard in the Okanagan valley, British Columbia.", 2014 CSSS Annual Meeting, Banff, Alberta, Canada. (Abstract)

Hannam, K.D., Neilsen, G.H., and Forge, T.A. (2014). Effects of three years of Big Horn Natural Compost on soil properties, vine nutrient status, fruit quality and yield - Industry report to Big Horn Compost. (Report)

Neilsen, G.H. and Neilsen, D. (2014). "Sap flow monitoring to improve water and management strategies for sweet cherry (*Prunus avium* L.)", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014, Number 421-7. (Abstract)

## 2013

Neilsen, D., Neilsen, G.H., and Forge, T.A. (2013). NC-140 BC 2013 State Report\_Cherry., Canada: Okanagan Kootenay Cherry Growers' Association (OKCGA), BC, Canada. (Report)

Neilsen, D., Neilsen, G.H., Forge, T.A., and Cline, J.A. (2013). "The effects of crop load and water stress on yield and fruit quality of sweet cherry cultivars.", ASHS Annual Conference, HortSci. Supplement: S213. (Abstract)

Forge, T.A., Neilsen, G.H., Neilsen, D., O'Gorman, D.T., Hogue, E.J., Angers, D.A., and Bissonnette, N. (2013). "Organic orchard soil management practices affect soil biology and organic matter", II International symposium of organic matter management and compost use in horticulture III Workshop of bioproducts for agriculture and III Workshop of Ibero-american network for biological fertilizers for agriculture, Santiago, Chile, pp. 31.

Neilsen, G.H., Forge, T.A., Neilsen, D., O'Gorman, D.T., and Bissonnette, N. (2013). "Soil and nutrient management in organic orchard production.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013, SSSA division soil fertility and plant nutrition, Abstract 133-9, pp. 103. (Abstract)

Neilsen, G.H., Hannam, K.D., and Hannam, K. (2013). Final J. R. Simplot research report. (Report)

Neilsen, G.H. and Neilsen, D. (2013). Annual report Okanagan Kootenay Cherry Growers Association (OKCGA). NC140 project and coping with drought, 13pp. (Report)

Neilsen, D., Neilsen, G.H., and Forge, T.A. (2013). Report of cooperative regional project NC-140 / British Columbia: Improving economic and environmental sustainability in tree fruit production through changes in cherry rootstock use. <http://www.nc140.org/annualreports.html>. (Report)

Neilsen, G.H. and Neilsen, D. (2013). Annual report Okanagan Kootenay Cherry Growers Association (OKCGA). NC140 project and coping with drought, Canada: Okanagan Kootenay Cherry Growers' Association (OKCGA), BC, Canada. (Report)

Neilsen, G.H. and Neilsen, D. (2013). "Does the amount of crop on a tree affect sweet cherry fruit quality?", Cherry Notes: Newsletter of the Okanagan Kootenay Cherry Growers Association (June), pp. 2 pages.

## 2012

Thurston, M., Nelson, L.M., and Neilsen, G.H. (2012). "Comparison and screening of phosphate-solubilizing micro-organisms for plant growth promotion of apple seedlings.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012, pp. 47.

2011

Neilsen, G.H., Neilsen, D., and Toivonen, P.M.A. (2011). "NC-140-Sweet cherry training system /rootstock trial.", Cherry Notes: Newsletter of the Okanagan Kootenay Cherry Growers Association, 2011 (June), pp. 10.

Forge, T.A., Neilsen, D., Neilsen, G.H., and Hogue, E.J. (2011). "Influences of organic mulches on development of root-lesion nematode populations in relation to indicators of soil food web structure during apple orchard establishment.", Canadian Journal of Plant Pathology, 33, pp. 276. (Abstract)

Forge, T.A., Neilsen, G.H., Neilsen, D., Walters, T.W., and Koch, C.A. (2011). "Using organic amendments and mulches to preferentially enhance biological activity and suppress plant pathogens in root zone soil under perennial fruit crops.", Soils Ecology Society Meeting 2011, University of British Columbia - Okanagan, Kelowna, BC, Canada, May 24-27, 2011.

Neilsen, D., Neilsen, G.H., Forge, T.A., Guak, S., and Herbert, L.C. (2011). "Effects of irrigation stress and crop load on yield and quality of Ambrosia/M.9 apple trees.", HortScience, 46(9), pp. S115. (Abstract)

Neilsen, D., Losso, I., Guak, S., and Neilsen, G.H. (2011). "Development of chilling and forcing relationships for modeling spring phenology of apple and sweet cherry cultivars.", IX International Symposium on Modelling in Fruit Research and Orchard Management, Saint-Jean-sur-Richelieu, QC, Canada, June 19-23, 2011, pp. 40. (Abstract)

Neilsen, G.H., Neilsen, D., Forge, T.A., Guak, S., and Herbert, L.C. (2011). "Irrigation strategy and crop load affect nutrition management of drip-fertigated Ambrosia/M.9 apple trees 359-2 S04 Soil fertility and plant nutrition.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011, Session: Management strategies to improve nutrient use efficiency I.

Neilsen, G.H. and O'Gorman, D.T. (2011). "Using nitrogen fertilizers to increase grape quality; Grapevine trunk diseases.", 2011 CCOVI Annual Lecture Series, Brock University, St. Catharines, ON, Canada, April 27, 2011. (Presentation)

Hannam, K.D., Neilsen, G.H., Neilsen, D., and Forge, T.A. (2011). "Improving the yeast assimilable nitrogen status of wine grape juice.", 12th Annual Enology & Viticulture Conference and Trade Show, Penticton, BC, Canada, July 18-19, 2011.

Neilsen, G.H., Neilsen, D., Forge, T.A., Hannam, K., and Hannam, K.D. (2011). "Urea spray to improve yeast assimilable N concentration in grape at harvest.", 12th Annual Enology & Viticulture Conference and Trade Show, Penticton, BC, Canada, July 18-19, 2011.

Hannam, K., Hannam, K.D., Neilsen, G.H., and Neilsen, D. (2011). "The concentrations of yeast assimilable N in wine grape juice can be manipulated using deficit irrigation, crop load reduction and nitrogen fertilization. 382-8 S08 Soil nutrient management and soil and plant analyses.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Forge, T.A., Neilsen, G.H., Smit, R., Neilsen, D., Bowen, P.A., Hannam, K., and Hannam, K.D. (2011). "Nematode parasites of grapevines in the Okanagan Valley: What are their potential impacts? What can we do about them?", 12th Annual Enology & Viticulture Conference and Trade Show, Penticton, BC, Canada, July 18-19, 2011.

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## Research Publications:

2015

Ibrahim, N.H.M., Thandapilly, S.J., Jia, Y., Netticadan, T., and Aukema, H. (2015). "Soy Protein Alleviates Hypertension and Fish Oil Improves Diastolic Heart Function in the Han:SPRD-Cy Rat Model of Cystic Kidney Disease.", *Lipids*, pp. 1-8. doi : 10.1007/s11745-015-4095-8

2014

Raj, P., Lieben Louis, X., Thandapilly, S.J., Movahed, A., Zieroth, S., and Netticadan, T. (2014). "Potential of resveratrol in the treatment of heart failure.", *Life Sciences*, 95(2), pp. 63-71. doi : 10.1016/j.lfs.2013.12.011

Louis, X.L., Thandapilly, S.J., Kalt, W., Vinqvist-Tymchuk, M.R., Aloud, B.M., Raj, P., Yu, L., Le, H., and Netticadan, T. (2014). "Blueberry polyphenols prevent cardiomyocyte death by preventing calpain activation and oxidative stress.", *Food & Function*, 5(8), pp. 1785-1794. doi : 10.1039/c3fo60588d

2013

Movahed, A., Nabipour, I., Lieben Louis, X., Thandapilly, S.J., Yu, L., Kalantarhormozi, M.R., Rekabpour, S.J., and Netticadan, T. (2013). "Antihyperglycemic effects of short term resveratrol supplementation in type 2 diabetic patients.", *Evidence-based Complementary and Alternative Medicine*, 2013(851267). doi : 10.1155/2013/851267

2012

Louis, X.L., Murphy, R., Thandapilly, S.J., Yu, L., and Netticadan, T. (2012). "Garlic extracts prevent oxidative stress, hypertrophy and apoptosis in cardiomyocytes: A role for nitric oxide and hydrogen sulfide.", *BMC Complementary and Alternative Medicine Journal*, 12:140. doi : 10.1186/1472-6882-12-140

Movahed, A., Yu, L., Thandapilly, S.J., Louis, X.L., and Netticadan, T. (2012). "Resveratrol protects adult cardiomyocytes against oxidative stress mediated cell injury.", *Archives of Biochemistry and Biophysics*, 527(2), pp. 74-80. doi : 10.1016/j.abb.2012.05.002

2011

Thandapilly, S.J., Louis, X.L., Yang, T., Stringer, D.M., Yu, L., Zhang, S., Wigle, J., Kardami, E., Zahradka, P., Taylor, C.G., Anderson, H.D., and Netticadan, T. (2011). "Resveratrol prevents norepinephrine induced hypertrophy in adult rat cardiomyocytes by activating NO-AMPK pathway.", *European Journal of Pharmacology*, 668(1-2), pp. 217-224. doi : 10.1016/j.ejphar.2011.06.042

Santiago, J.-J., Ma, X., McNaughton, L.J., Nickel, B.E., Bestvater, B.P., Yu, L., Fandrich, R.R., Netticadan, T., and Kardami, E. (2011). "Preferential accumulation and export of high molecular weight FGF-2 by rat cardiac non-myocytes.", *Cardiovascular Research*, 89(1), pp. 139-147. doi : 10.1093/cvr/cvq261

## Other Science Related Publications:

2012

Thandapilly, S.J., Louis, X.L., Yu, L., Vinqvist-Tymchuk, M.R., Kalt, W., and Netticadan, T. (2012). "Blueberry fractions prevent norepinephrine induced cardiomyocyte hypertrophy and cell death.", 10th International Symposium on Vaccinium and Other Superfruits, Maastricht, Limburg, The Netherlands, June 17-22, 2012.

2011

Brown, D.C.W., Mazza, G., Ross, K.A., Jordan, M.A., McCallum, J.L., Netticadan, T., Siow, Y.L., Khanizadeh, S., Ames, N.P., and Lui, E.M.K. (2011). "Plant Bioactives Research in Canada.", *Plant Bioactives Research in Canada. Canada-United Kingdom Gut and Health Workshop, AAFC-FRDC / AAC-CRDA, Saint-Hyacinthe, QC, Canada, February 24-25, 2011.*

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## Research Publications:

2015

Gagnon, P., Sheedy, C., Farenhorst, A., Cessna, A.J., Newlands, N.K., and McQueen, R.D.A. (2015). "Environmental Sustainability of Canadian Agriculture: Agri-Environmental Indicator Report Series.", - Indicator of Risk of Water Contamination – Pesticides (IROWC-PEST), Agriculture and Agri-Food Canada, pp. 8 pages.

Kouadio, L., Newlands, N.K., Potgieter, A., McLean, G., and Hill, H.S. (2015). "Exploring the Potential Impacts of Climate Variability on Spring Wheat Yield with the APSIM Decision Support Tool.", *Agricultural Sciences*, 6(7), pp. 686-698. doi : 10.4236/as.2015.67066

Newlands, N.K., Lu, W., and Porcelli, T.A. (2015). "Downscaling of regional climate scenarios within agricultural areas in Canada with a multi-variate, multi-site model (<http://www.springer.com/mathematics/computational+science+%26+engineering/book/978-3-319-12306-6>).", in Cojocar, M., Kotsireas, I.S., Makarov, R.N., Melnik, R., and Shodiev, H. (eds.) - *Interdisciplinary Topics in Applied Mathematics, Modeling and Computational Science*; Springer-Verlag. Series: Springer Proceedings in Mathematics & Statistics, Vol. 117, Springer-Verlag GmbH, Chapter 48, pp. 335-340.

Hosseini, R., Newlands, N.K., Dean, C., and Takemura, A. (2015). "Statistical modeling of soil moisture, integrating satellite, remote-sensing (SAR) and ground-based data.", *Remote Sensing*, 7(3), pp. 2752-2780. doi: 10.3390/rs70302752

Zamar, D.S., Gopaluni, B., Sokhansanj, S., and Newlands, N.K. (2015). "Robust optimization of competing biomass supply-chains under feedstock uncertainty.", 2015 ADCHEM Conference, Whistler, B.C., Canada, June 7-10, 2015.

Chipanshi, A.C., Newlands, N.K., Chemeski, P., Hill, H.S., and Howard, A. (2015). "Mitigation and adaptation strategies for reducing agricultural greenhouse gases in Canada - a review.", in Lac, S., McHenry, M. and Kulshreshtha, S. (eds.) - *Agriculture Management for Climate Change*, Nova Publishers.

Kouadio, L. and Newlands, N.K. (2015). "Building capacity for spatial-based sustainability metrics in agriculture.", *Decision Analytics*, 2(2), pp. 18 pages. doi : 10.1186/s40165-015-0011-9

Newlands, N.K. and Stephens, D.S. (2015). Increasing confidence in agricultural crop forecasts and climate adaptation decisions with causality analysis. University of British Columbia (UBC), Technical Report #275, 10pp. (<http://www.stat.ubc.ca/Research/TechReports/tr/275.pdf>). (Report)

Chipanshi, A.C., Zhang, Y., Kouadio, L., Newlands, N.K., Davidson, A.M., Hill, H.S., Warren, R., Qian, B., Daneshfar, B., Bedard, F., and Reichert, G. (2015). "Evaluation of the Integrated Canadian Crop Yield Forecaster (ICCYF) model for in-season prediction of crop yield across the Canadian agricultural landscape.", *Agricultural and Forest Meteorology*, 206, pp. 137-150. doi : 10.1016/j.agrformet.2015.03.007

2014

Gagnon, P., Sheedy, C., Farenhorst, A., McQueen, R.D.A., Cessna, A.J., and Newlands, N.K. (2014). "A coupled stochastic/deterministic model to estimate the evolution of the risk of water contamination by pesticides across Canada.", *Integrated Environmental Assessment and Management*, 10(3), pp. 429-436. doi: 10.1002/ieam.1533

Kouadio, L., Newlands, N.K., Davidson, A.M., Zhang, Y., and Chipanshi, A.C. (2014). "Assessing the Performance of MODIS NDVI and EVI for Seasonal Crop Yield Forecasting at the Ecodistrict Scale.", *Remote Sensing*, 6(10), pp. 10193-10214. doi : 10.3390/rs61010193

Leggett, M., Newlands, N.K., Greenshields, D.L., West, L., Inman, S., and Koivunen, M. (2014). "Maize yield response to a phosphorus-solubilizing microbial inoculant in field trials.", *Journal of Agricultural Science*. doi : 10.1017/S0021859614001166

Cai, S., Zidek, J.V., Newlands, N.K., and Neilson, D. (2014). "Statistical modeling and forecasting of fruit crop phenology under climate change.", *EnvironMetrics*, 25(8), pp. 621-629. doi: 10.1002/env.2304

Newlands, N.K., Zamar, D.S., Kouadio, L., Zhang, Y., Chipanshi, A.C., Potgieter, A., Toure, S., and Hill, H.S. (2014). "An integrated, probabilistic model for improved seasonal forecasting of agricultural crop yield under environmental uncertainty.", *Frontiers in Environmental Science*, 2(17). doi : 10.3389/fenvs.2014.00017

Phillips, A.J.L., Newlands, N.K., Liang, S.H.L., and Ellert, B.H. (2014). "Integrated sensing of soil moisture at the field-scale: sampling, modelling and sharing for improved agricultural decision-support.", *Computers and Electronics in Agriculture*, 107, pp. 73-88.

Bonner, S.J., Newlands, N.K., and Heckman, N.E. (2014). "Modeling regional impacts of climate teleconnections using functional data analysis.", *Environmental and Ecological Statistics*, 21(1), pp. 1-26. doi: 10.1007/s10651-013-0241-8

Kouadio, L. and Newlands, N.K. (2014). "Data hungry models in a food hungry world – an interdisciplinary challenge bridged by statistics.", in Lawless, J.F. (ed.) - *Statistics in Action: A Canadian Outlook*, CRC Press Taylor & Francis, Chapter 21, pp. 371-385.

## 2013

Newlands, N.K., Zamar, D.S., Clark, G.O., Zhang, Y.-C., and McConkey, B.G. (2013). "An integrated assessment model for exploring potential impacts of global change scenarios on the Canadian agricultural system.", *IEEE Computer Society Paper Proceedings of the 46th Hawaii International Conference on System Sciences (HICSS-46)*, Grand Wailea, Maui, HI, USA, January 7-10, 2013, [http://ieeexplore.ieee.org/xpl/freeabs\\_all.jsp?arnumber=6479944&abstractAccess=no&userType=inst](http://ieeexplore.ieee.org/xpl/freeabs_all.jsp?arnumber=6479944&abstractAccess=no&userType=inst).

## 2012

Newlands, N.K. and Zamar, D.S. (2012). "In-season probabilistic crop yield forecasting - integrating agro-climate, remote-sensing and crop phenology data.", *2012 Joint Statistical Meetings (2012 JSM): Statistics - Growing to Serve a Data Dependent Society*, San Diego Convention Center, San Diego, CA, USA, July 28-August 2, 2012, Published in: *JSM Proceedings, Statistical Computing Section*. Alexandria, VA: American Statistical Association.

Newlands, N.K., Espino-Hernández, G., and Erickson, R.S. (2012). "Understanding Crop Response to Climate Variability with Complex Agroecosystem Models.", *International Journal of Ecology*, 2012(Article ID 756242). doi: 10.1155/2012/756242

Newlands, N.K. and Townley-Smith, L. (2012). "Biodiesel from oilseeds in the Canadian Prairies and supply-chain models for exploring production cost scenarios – a review.", *International Scholarly Research Network (ISRN) Agronomy*, 2012(Article ID 980621), pp. 1-10. doi: 10.5402/2012/980621

## 2011

Newlands, N.K., Davidson, A.M., Howard, A., and Hill, H.S. (2011). "Validation and inter-comparison of three methodologies for interpolating daily precipitation and temperature across Canada.", *EnvironMetrics*, 22(2), pp. 205-223. doi: 10.1002/env.1044

Phillips, A.J. and Newlands, N.K. (2011). "Spatial and temporal variability of soil freeze-thaw cycling within Southern Alberta, Canada.", *Agricultural Sciences*, 2(4), pp. 392-405. doi: 10.4236/as.2011.24051

## Other Science Related Publications:

### 2014

Newlands, N.K., Lu, W., and Porcelli, T.A. (2014). "Downscaling of regional climate scenarios within agricultural areas in Canada with a multi-variate, multi-site model.", *2013 Paper Proceedings of the Applied Mathematics, Modelling and Computational Science Interdisciplinary Conference (AMMCS)*, Waterloo, Ontario, Canada, Springer-Verlag, pp. 1-6.

Newlands, N.K. (2014). "Sustainability metrics, uncertainty and risk in regional-scale bioenergy supply and production.", *Biomass and Bioenergy Research Group (BBRG)*, Department of Biological and Chemical Engineering, University of British Columbia. (Presentation)

Chipanshi, A.C., Newlands, N.K., Zhang, Y., Davidson, A.M., Kouadio, A.L., Hill, H.S., Howard, A., Qian, B., Daneshfar, B., Bedard, F., and Reichert, G. (2014). "North American Tripartite Committee on Agricultural Statistics (NATCAS)", *GIS/Remote Sensing Technical Meeting*, Fairfax, Virginia, USA, February 25-26, 2014. (Abstract)

Newlands, N.K. (2014). "Probabilistic forecasting of agricultural crop yield under environmental uncertainty.", *Geography Departmental Seminar*, University of Victoria, September 26, 2014. (Presentation)

Newlands, N.K., Smith, W.N., and Kouadio, L. (2014). "Issues with upscaling and downscaling: Theory, methods, findings, challenges. Forestry and Agriculture Greenhouse Gas Modeling Forum.", *7th Forestry and Agriculture Greenhouse Gas Modeling Forum*, National Conservation Training Centre, Shepherdstown, WV, USA, June 1-4, 2014.

Newlands, N.K., Sokhansanj, S., Gopaluni, B., and Zamar, D.S. (2014). "Bioenergy feedstocks: sustainable supply metrics and emerging economic development opportunities.", *2014 Bioenergy Modeling Workshop*, Washington DC, USA, July 22-23, 2014, United States National Renewable Energy Laboratory (NREL) and Department of Energy (DOE). (Abstract)

2013

Newlands, N.K. (2013). "Sustainability metrics, uncertainty and risk in regional-scale bioenergy supply and production.", published in Biomass and Bioenergy Research Group (BBRG), University of British Columbia, Department of Biological and Chemical Engineering (abstract).

Newlands, N.K. (2013). "Probabilistic crop yield forecasting, integrating climate, remote-sensing and phenology data.", International Environmetrics Conference (TIES), Anchorage, Alaska, USA, Oral presentation. (Abstract)

Zhang, Y., Chipanshi, A.C., Newlands, N.K., Davidson, A.M., Hill, H.S., Bedard, F., and Reichert, G. (2013). "Evaluation of an Integrated Canadian Crop Yield Forecaster (ICCYF) for In-season Prediction of Crop Yield Across the Canadian Agricultural Landscape.", Canadian Meteorological and Oceanographic Society (CMOS) Congress 2013, Theme: Bridging environmental science, policy and resource management (Oral presentation). (Abstract)

2012

Newlands, N.K., Townley-Smith, L., and Porcelli, T.A. (2012). "A renewable source of jetfuel from alternative oilseeds? Predicting crop response under environmental variability.", 782: Visualization, Imaging and Image Processing / 783: Modelling and Simulation / 784: Wireless Communications (VIIP, MS, WC 2012), Banff, AB, Canada, July 3-5, 2012, Published in: Al Zahir, S., Hamza, M.H. and Cheng, J. (eds.) - 782: Visualization, Imaging and Image Processing / 783: Modelling and Simulation / 784: Wireless Communications (VIIP, MS, WC 2012), Acta Press, pp. 283-291.

Newlands, N.K. and Phillips, A.J. (2012). "Statistical modeling of complex agroecosystems in a changing climate.", Planet Under Pressure 2012 Conference: New Knowledge Towards Solutions, Excel, London, UK, March 26-29, 2012.

Chipanshi, A.C., Zhang, Y., Newlands, N.K., and Hill, H.S. (2012). "Introducing the Canadian Crop Yield Forecaster.", 10th Annual NOAA Climate Prediction Applications Science Workshop (CPASW), Rosenstiel School of Marine and Atmospheric Sciences (RSMAS), Florida, USA, March 13-15, 2012, Theme: Climate Services for National Security Challenges. (Poster)

Newlands, N.K., McConkey, B.G., Townley-Smith, L., Liu, T., and Huffman, E.C. (2012). "Exploring optimal configurations of regional biorefinery systems under changes in feedstock distribution and supply logistics: implications for biomass supply from marginal land.", Growing the Bioeconomy: Social, Environmental and Economic Implications, Banff, AB, Canada, October 2-5, 2012. (Poster)

Chipanshi, A.C., Zhang, Y., Newlands, N.K., Hill, H.S., and Zamar, D.S. (2012). "Canadian Crop Yield Forecaster (CCYF): a GIS and statistical integration of agro-climates and remote sensing information.", Workshop on the Application of Remote Sensing and GIS Technology on Crops Productivity among APEC Economies, Beijing, China, July 30-31, 2012, Published in: The Application of Remote Sensing and GIS Technology on Crops Productivity. Proceedings of Workshop, Asia-Pacific Economic Cooperation (APEC), pp. 14 pages.

Newlands, N.K., Clark, G.O., Sun, Y.-C., and McConkey, B.G. (2012). "An integrated assessment model for exploring potential impacts of global change scenarios on the Canadian agricultural system.", Planet Under Pressure 2012 Conference: New Knowledge Towards Solutions, Excel, London, UK, March 26-29, 2012.

2011

Newlands, N.K. and Jin, Z. (2011). Sensitivity analysis and inter-comparison of hydrology of the Versatile Soil-Moisture Budget (VSMB) (AAFC) and advection-diffusion-based PRZM transport model hydrology (US EPA), AAFC Lethbridge Research Centre, AB. (Report)

Newlands, N.K., Bonner, S.J., and Heckman, N.E. (2011). "Influence of teleconnections on regional climate variability: regional forecasting of agricultural crop productivity.", 7th International Congress on Industrial and Applied Mathematics (ICIAM), Vancouver, BC, Canada, July 16-24, 2011.

Zamar, D.S. and Newlands, N.K. (2011). Relating land productivity, crop suitability to soil state and climate., AAFC Lethbridge Research Centre, AB. (Report)

Newlands, N.K. and Zamar, D.S. (2011). Statistical methodology for crop forecasting integrating climate, remote sensing and phenology., AAFC Lethbridge Research Centre, AB. (Report)

Zidek, J.V., Cai, S., and Newlands, N.K. (2011). "Forecasting Phenological Events in Agroclimate Risk Management.", Guelph Biomathematics and Biostatistics (BioM&S) Symposium, Climate Change and Ecology: a Mathematical & Statistical Perspective, Guelph, ON, Canada, April 28, 2011. (Presentation)

Doria, R., Newlands, N.K., Malwankar, A., and Zamar, D.S. (2011). "Validation analysis of statistically downscaled climate within agricultural regions across Canada.", 7th International Congress on Industrial and Applied Mathematics (ICIAM), Vancouver, BC, Canada, July 16-24, 2011.

Sun, Y.-C., Newlands, N.K., Clark, G.O., and McConkey, B.G. (2011). "An integrated assessment model for exploring potential impacts of global change scenarios on the Canadian agricultural system.", Climate Change and the Implications for Plant Science: Symposium and Workshop, University of Guelph, Guelph, ON, Canada, June 7-9, 2011, P1.155. (Poster)

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## Research Publications:

2015

Rubio Lozano, M.S., Méndez Medina, R.D., ReyesMayorga, K., Rubio García, M.E., Ovando, M.A., Ngapo, T.M., and Galindo Maldonado, F.A. (2015). "Effect of an allostatic modulator on stress blood indicators and meat quality of commercial young bulls in Mexico.", *Meat Science*, 105, pp. 63-67. doi : 10.1016/j.meatsci.2015.03.012

Zemva, M., Ngapo, T.M., Malovrh, S., Levart, A., and Kovac, M. (2015). "Effect of sex and slaughter weight on meat and fat quality of the Krškopolje pig reared in an enriched environment.", *Animal Production Science*, 55(9), pp. 1200-1206. doi : 10.1071/AN14059

2014

Zemva, M., Ngapo, T.M., Malovrh, S., Levart, A., and Kovac, M. (2014). "Fat quality in the indigenous Krškopolje pig reared in an enriched environment / Kakovost maščobe avtohtonega krškopoljskega prašiča, rejenega v obogatenu okolju.", *Acta Agriculturae Slovenica*, 104(2), pp. 75-79. doi : 10.14720/aas.2014.104.2.2

2013

Ngapo, T.M., Riendeau, L., Laberge, C., and Fortin, J. (2013). "Marbling and ageing - Part 2. Consumer perception of sensory quality.", *Food Research International*, 51(2), pp. 985-991. doi : 10.1016/j.foodres.2012.05.008

2012

Ngapo, T.M., Riendeau, L., Laberge, C., Leblanc, D., and Fortin, J. (2012). "Chilled" pork - Part I: Sensory and physico-chemical quality.", *Meat Science*, 92(4), pp. 330-337. doi : 10.1016/j.meatsci.2012.04.032

Ngapo, T.M., Riendeau, L., Laberge, C., and Fortin, J. (2012). "Chilled" pork - Part II: Consumer perception of sensory quality.", *Meat Science*, 92(4), pp. 338-345. doi : 10.1016/j.meatsci.2012.04.031

Ngapo, T.M., Riendeau, L., Laberge, C., and Fortin, J. (2012). "Marbling and ageing - Part 1. Sensory quality of pork", *Food Research International*, 49(1), pp. 396-405. doi : 10.1016/j.foodres.2012.07.039

## Other Science Related Publications:

2014

Ngapo, T.M. and Brana Varela, D. (2014). "Pork chop preferences of consumers in four Mexican states.", *International Pig Veterinary Society Congress*, Cancún, México, June 8-11, 2014.

Ngapo, T.M. (2014). "Consumer science applications in meat R&D.", *6th Mexico National Meat Meeting*, Mexico City, México, September 24-26, 2014.

2013

Ngapo, T.M. (2013). "Consumer Studies for the Food Value Chain.", *1st Turkish-International Circle's Workshop on Food Science and Technology*, Kayseri, Turkey, May 9-11, 2013.

2012

Ngapo, T.M., Vachon, L., Riendeau, L., Laberge, C., and Fortin, J. (2012). "Une autre bonne nouvelle pour le secteur porcin.", *Porc Québec*, 23(2), pp. 43.

Ngapo, T.M., Vachon, L., Riendeau, L., Laberge, C., and Fortin, J. (2012). "L'étiquetage : bon pour la demande?", *Porc Québec*, 23(2), pp. 42.

Ngapo, T.M. (2012). "Consumer studies for the pork industry.", *XLVII Annual Mexican Swine Veterinarian Meeting*, Guadalajara, México, July 18-21, 2012.



2011

Ngapo, T.M. (2011). "Meat Appearance: Pork Chop Standards. Supplement to 'A tool for surveying consumer preferences'. Versions ascending and descending."

Ngapo, T.M. (2011). "Meat Appearance: Beef Steak Standards. Supplement to 'A tool for surveying consumer preferences'. Versions ascending and descending."

Ngapo, T.M. (2011). "Meat Appearance: Beef Steak I. A tool for surveying consumer preferences."

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## Research Publications:

2015

Hu, X., Lei, Y., Wang, P., Tang, L., He, C.Z., Song, Y., Xiong, X., and Nie, X. (2015). "Development of a multiplex reverse transcription-PCR assay for simultaneous detection of garlic viruses.", *Journal of Integrative Agriculture*, 14(5), pp. 900-908. doi : 10.1016/S2095-3119(14)60892-3

Liang, Z., Dickson, V.L., Singh, M., Xiong, X., and Nie, X. (2015). "Studies of tomato plants in response to infections with PVX and different PVY isolates reveal a remarkable PVX-PVYNTN synergism and diverse expression profiles of genes involved in different pathways.", *European Journal of Plant Pathology*. doi : 10.1007/s10658-015-0750-4

Zhang, J.H., Nie, X., Boquel, S., Al-Daoud, F., and Pelletier, Y. (2015). "Increased sensitivity of Potato virus Y detection by RT-PCR using the RNA isolated with a process of differential centrifugation.", *Journal of Virological Methods*. doi : 10.1016/j.jviromet.2015.07.008

Nie, X., De Koeber, D.L., Liang, Z., Dickson, V.L., Singh, M., and Hawkins, G. (2015). "Identification and first report of a potato tuber necrosis inducing isolate of Alfalfa mosaic virus in Canada.", *Plant Disease*. doi : 10.1094/PDIS-04-15-0423-PDN

Bhagwat, B., Dickson, V.L., Su, L., Bernardy, M.G., Wiersma, P.A., Nie, X., and Xiang, Y. (2015). "Molecular Characterization of Divergent Strawberry Mild Yellow Edge Virus Isolates from Eastern Canada.", *Journal of Phytopathology*. doi : 10.1111/jph.12444

Nie, X., Liang, Z., Nie, B.-H., Murphy, A.M., and Singh, M. (2015). "Studies on varietal response to different strains of Potato virus Y (PVY) reveal hypersensitive resistance in Exploits to PVYO and extreme resistance in F87084 to all tested strains.", *American Journal of Potato Research*, 92(1), pp. 23-31. doi : 10.1007/s12230-014-9407-7

MacKenzie, T.D.B., Nie, X., and Singh, M. (2015). "RT-PCR and Real-Time RT-PCR methods for the detection of Potato virus Y in potato leaves and tubers.", *Methods in Molecular Biology* (Clifton, N.J.), 1236, pp. 13-26. doi : 10.1007/978-1-4939-1743-3\_2

Nie, X. and Molen, T.A. (2015). "Host recovery and reduced virus level in the upper leaves after Potato virus Y infection occur in tobacco and tomato but not in potato plants.", *Viruses*, 7(2), pp. 680-698. doi : 10.3390/v7020680

Fageria, M.S., Nie, X., Gallagher, A., and Singh, M. (2015). "Mechanical transmission of Potato virus Y (PVY) through seed cutting and plant wounding.", *American Journal of Potato Research*, 92(1), pp. 143-147. doi : 10.1007/s12230-014-9418-4

2014

He, C.Z., Zhang, W., Hu, X., Singh, M., Xiong, X., and Nie, X. (2014). "Molecular characterization of a Chinese isolate of Potato virus A (PVA) and the revelation of a genome recombination event among PVA isolates on the 3'-proximal end of the genome.", *Archives of Virology*, 159(9), pp. 2457-2462. doi : 10.1007/s00705-014-2053-z

MacKenzie, T.D.B., Fageria, M.S., Nie, X., and Singh, M. (2014). "Effects of Crop Management Practices on Current Season Spread of Potato virus Y.", *Plant Disease*, 98(2), pp. 213-222. doi : 10.1094/PDIS-04-13-0403-RE

2013

Singh, M., Singh, R.P., Fageria, M.S., Nie, X., Coffin, R.H., and Hawkins, G. (2013). "Optimization of a real-time RT-PCR assay and its comparison with ELISA, conventional RT-PCR and the grow-out test for large scale diagnosis of Potato virus Y in dormant potato tubers.", *American Journal of Potato Research*, 90(1), pp. 43-50. doi : 10.1007/s12230-012-9274-z

Fageria, M.S., Singh, M., Nanayakkara, U.N., Pelletier, Y., Nie, X., and Wattie, D. (2013). "Monitoring Current Season Spread of Potato virus Y in Potato Fields Using ELISA and Real-time RT-PCR.", *Plant Disease*, 97(5), pp. 641-644. doi : 10.1094/PDIS-03-12-0283-RE

Nie, X. and Singh, M. (2013). "Response of potato, tobacco and *Physalis floridana* plants to mixed infection with PVX, PVYNTN and PVYO strains.", *Canadian Journal of Plant Pathology*. doi : 10.1080/07060661.2013.812581

Hu, X., Lei, Y., Xiong, X., He, C.Z., Liu, M., and Nie, X. (2013). "Identification of Potato mop-top virus (PMTV) in potatoes in China.", *Canadian Journal of Plant Pathology*. doi: 10.1080/07060661.2013.785981

Nie, X., Singh, M., Pelletier, Y., and McLaren, D.L. (2013). "Recent Advances on Potato virus Y Research in Canada.", *American Journal of Potato Research*, 90(1), pp. 14-20. doi: 10.1007/s12230-012-9288-6

Zhang, J.H., Nie, X., Nanayakkara, U.N., Boquel, S., Giguère, M.-A., and Pelletier, Y. (2013). "Detection of Potato virus Y from the stylets of a single aphid by one-step reverse transcription polymerase chain reaction.", *Entomologia Experimentalis et Applicata*, 147(1), pp. 93-97. doi: 10.1111/eea.12044

## 2012

Nanayakkara, U.N., Nie, X., Giguère, M.-A., Zhang, J.H., and Pelletier, Y. (2012). "Chenopodium album L. as a Host for Potato Virus Y (PVY) in New Brunswick, Canada.", *American Journal of Potato Research*, 89(3), pp. 245-247. doi: 10.1007/s12230-012-9243-6

Pelletier, Y., Nie, X., Giguère, M.-A., Nanayakkara, U.N., Maw, H.E.L., and Footitt, R.G. (2012). "A New Approach for the Identification of Aphid Vectors (Hemiptera: Aphididae) of Potato Virus Y.", *Journal of Economic Entomology*, 105(6), pp. 1909-1914. doi: 10.1603/EC12085

Nie, B.-H., Singh, M., Murphy, A.M., Sullivan, A., Xie, C.-H., and Nie, X. (2012). "Response of potato cultivars to five isolates belonging to four strains of Potato virus Y.", *Plant Disease*, 96(10), pp. 1422-1429. doi: 10.1094/PDIS-01-12-0018-RE

Nanayakkara, U.N., Singh, M., Pelletier, Y., and Nie, X. (2012). "Investigation of Potato virus Y (PVY) Strain Status and Variant Population in Potatoes in New Brunswick, Canada.", *American Journal of Potato Research*, 89(3), pp. 232-239. doi: 10.1007/s12230-012-9247-2

Nie, X. (2012). "Analysis of Sequence Polymorphism and Population Structure of Tomato chlorotic dwarf viroid and Potato spindle tuber viroid in Viroid-Infected Tomato Plants.", *Viruses*, 4(6), pp. 940-953. doi: 10.3390/v4060940

Nie, B.-H., Xie, C.-H., and Nie, X. (2012). "Progress in research on the resistance mechanism against viruses in potatoes.", *Acta Horticulturae Sinica*, 39(9), pp. 1703-1714.

Nanayakkara, U.N., Nie, X., Giguère, M.-A., Zhang, J.H., Boquel, S., and Pelletier, Y. (2012). "Aphid Feeding Behavior in Relation to Potato Virus Y (PVY) Acquisition.", *Journal of Economic Entomology*, 105(6), pp. 1903-1908. doi: 10.1603/EC11427

## 2011

Nie, X., Giguère, M.-A., and Pelletier, Y. (2011). "The use of test tube plantlets for the assessment of Potato virus Y transmission by *Myzus persicae* and *Aphis glycines*.", *Phytoprotection*, 92(1), pp. 15-18.

Nie, X., Pelletier, Y., Mason, N., Dilworth, A.D., and Giguère, M.-A. (2011). "Aphids preserved in propylene glycol can be used for reverse transcription-polymerase chain reaction detection of Potato virus Y.", *Journal of Virological Methods*, 175(2), pp. 224-227. doi: 10.1016/j.jviromet.2011.05.019

Hu, X., Nie, X., He, C.Z., and Xiong, X. (2011). "Differential pathogenicity of two different recombinant PVYNTN isolates in *Physalis floridana* is likely determined by the coat protein gene.", *Virology Journal*, 8:207. doi: 10.1186/1743-422X-8-207

Hu, X., Nie, X., Song, Y., Xiong, X., and Tai, H.H. (2011). "Ethylene is involved but plays a limited role in Tomato chlorotic dwarf viroid-induced symptom development in tomato.", *Agricultural Sciences in China*, 10(4), pp. 544-552. doi: 10.1016/S1671-2927(11)60035-7

Nie, X. (2011). "Plant Viral Disease Management in the Genomics Era.", *The Americas Journal of Plant Science and Biotechnology*, 5(Spec. Issue 1), pp. 107-114.

Nie, B.-H., Singh, M., Sullivan, A., Singh, R.P., Xie, C.-H., and Nie, X. (2011). "Recognition and molecular discrimination of severe and mild PVYO variants of Potato virus Y in potatoes in New Brunswick, Canada.", *Plant Disease*, 95(2), pp. 113-119. doi: 10.1094/PDIS-04-10-0257

## Other Science Related Publications:

### 2015

Hu, X.S., Lei, Y., Yang, Y., Xiong, X., and Nie, X. (2015). "Potato mop-top virus isolate Yunnan, complete RNA2. Accession number: KM822700."

Nie, X., Dickison, V., Singh, M., and Hu, X.S. (2015). "Potato mop-top virus isolate Ch20, complete RNA3. Accession number: KM822708."

Nie, X. (2015). "Update on research done at Agriculture and Agri-Food Canada - AAFC Strawberry Decline Project.", 2015 New Brunswick Strawberry Conference, Fredericton, NB, Canada, February 19, 2015. (Presentation)

Nie, X. (2015). "Potato virus research progress in AAFC.", New Brunswick Seed Potato Grower Annual Meeting 2015, Grand Falls, NB, Canada, February 24, 2015. (Presentation)

Nie, X., Dickison, V., Singh, M., and Hu, X.S. (2015). "Potato mop-top virus isolate Ch9, complete RNA1. Accession number: KM822709."

Nie, X., Dickison, V., Singh, M., and Hu, X.S. (2015). "Potato mop-top virus isolate Ch9, complete RNA2. Accession number: KM822701."

Nie, X., Dickison, V., Singh, M., and Hu, X.S. (2015). "Potato mop-top virus isolate Ch9, complete RNA3. Accession number: KM822706."

Nie, X., Dickison, V., Singh, M., and Hu, X.S. (2015). "Potato mop-top virus isolate Ch10, complete RNA1. Accession number: KM822697."

Hu, X.S., Lei, Y., Yang, Y., Xiong, X., and Nie, X. (2015). "Potato mop-top virus isolate Guangdong, complete RNA1. Accession number: KM822695."

Nie, X., Dickison, V., Singh, M., and Hu, X.S. (2015). "Potato mop-top virus isolate Ch10, complete RNA3. Accession number: KM822707."

Hu, X.S., Lei, Y., Yang, Y., Xiong, X., and Nie, X. (2015). "Potato mop-top virus isolate Guangdong, complete RNA3. Accession number: KM822704."

Nie, X., Dickison, V., Singh, M., and Hu, X.S. (2015). "Potato mop-top virus isolate Ch20, complete RNA2. Accession number: KM822703."

Nie, X., Dickison, V., Singh, R.P., and Hu, X.S. (2015). "Potato mop-top virus isolate Ch20, complete RNA1. Accession number: KM822698."

Hu, X.S., Lei, Y., Yang, Y., Xiong, X., and Nie, X. (2015). "Potato mop-top virus isolate Yunnan, complete RNA1. Accession number: KM822696."

Hu, X.S., Lei, Y., Yang, Y., Xiong, X., and Nie, X. (2015). "Potato mop-top virus isolate Yunnan, complete RNA3. Accession number: KM822705."

Hu, X.S., Lei, Y., Yang, Y., Xiong, X., and Nie, X. (2015). "Potato mop-top virus isolate Guangdong, complete RNA2. Accession number: KM822699."

Nie, X., Dickison, V., Singh, M., and Hu, X.S. (2015). "Potato mop-top virus isolate Ch10, complete RNA2. Accession number: KM822702."

## 2014

He, C., Zhang, W., Hu, X.S., Xiong, X., and Nie, X. (2014). "Potato virus A isolate Hunan, complete genome. Accession number: KF977085."

Fageria, M.S., Nie, X., and Singh, M. (2014). "Mechanical Transmission of PVY Through Seed-cutting and Plant-wounding.", Northeast Potato Technology Forum 2014, Fredericton, NB, Canada, March 12-13, 2014.

Fageria, M.S., Boquel, S., Nie, X., Goyer, C., and Pelletier, Y. (2014). "Management of Potato virus Y using Mineral Oils.", Northeast Potato Technology Forum 2014, Fredericton, NB, Canada, March 12-13, 2014.

Nie, X., Murphy, A.M., and Singh, M. (2014). "Characterization of Host Resistance Mechanisms against Potato Virus Y in Potato Cultivars/Breeding Clones.", Northeast Potato Technology Forum 2014, Fredericton, NB, Canada, March 12-13, 2014.

Singh, M., MacKenzie, T.D.B., Fageria, M.S., and Nie, X. (2014). "Recent Advances in Understanding Environmental and Management Factors Affecting Spread of Potato virus Y in Commercial Potato Fields of New Brunswick.", Northeast Potato Technology Forum 2014, Fredericton, NB, Canada, March 12-13, 2014.

Singh, M., MacKenzie, T.D.B., Fageria, M.S., and Nie, X. (2014). "Recent advances in understanding environmental and management factors affecting spread of potato virus Y in commercial potato fields of New Brunswick, Canada.", 19th Triennial Conference of EAPR (European Association for Potato Research), Brussels, Belgium, July 6-11, 2014, pp. 63. (Abstract)

Nie, X. (2014). "Impact of PVY strains on potato cultivars and aggravated disease by PVY-PVX mixed infections.", New Brunswick Seed Potato Grower Annual Meeting 2014- PVY Workshop, Grand Falls, NB, Canada, February 18, 2014. (Presentation)

Nie, X., Singh, M., and Lavoie, L. (2014). Identification of PVY Strains in New Brunswick Potatoes III: Investigation of PVY Infection on Yield of Different Potato Cultivars., Canada: New Brunswick Department of Agriculture, Aquaculture and Fisheries. (Report)

Nie, X., Singh, M., and Fageria, M.S. (2014). Investigation of dandelion as a possible host for PVY and the possible spread of PVY due to seed-cutting and plant-wounding. Project Report., Canada: New Brunswick Department of Agriculture, Aquaculture and Fisheries. (Report)

Nie, X. and Singh, M. (2014). "Genetic diversity of Potato virus Y (PVY) in New Brunswick and characterization of isolates belonging to PVYO strain group.", 19th Triennial Conference of EAPR (European Association for Potato Research), Brussels, Belgium, July 6-11, 2014, pp. 70. (Abstract)

## 2013

Boquel, S., Giguère, M.-A., Clark, C., Zhang, J.H., Nie, X., Fageria, M.S., and Pelletier, Y. (2013). "Mineral oil as an efficient product to reduce Potato virus Y acquisition by aphids.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013, Amer. J. Potato Res. 91: 38.

Fageria, M.S., Boquel, S., Nie, X., and Pelletier, Y. (2013). "Management of Potato virus Y using mineral oils.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013.

Pelletier, Y., Nie, X., Privé, J.-P., and Boquel, S. (2013). Evaluation of the efficacy and mode of action of mineral oil for the inhibition of PVY transmission in potato. Project Report., Canada: New Brunswick Department of Agriculture, Aquaculture and Fisheries. (Report)

Nie, X., Singh, M., and Lavoie, L. (2013). Identification of PVY Strains in New Brunswick Potatoes III: Investigation of PVY Infection on Yield of Different Potato Cultivars. Project Report., Canada: New Brunswick Department of Agriculture, Aquaculture and Fisheries. (Report)

Nie, X. (2013). "Potato Varietal Response to PVY Strains.", Agriculture and Agri-food Canada's Accelerated Release Program 2013 - New Potato Selections for French Fries, Chips and the Fresh Market., Fredericton, NB, Canada, February 13, 2013. (Presentation)

Nie, X. (2013). "PVY strains and symptoms.", New Brunswick Seed Potato Grower Annual Meeting 2013, Grand Falls, NB, Canada, January 30, 2013. (Presentation)

Singh, M., MacKenzie, T.D.B., Fageria, M.S., and Nie, X. (2013). "Effects of Crop Management Practices on Current Season Spread of Potato Virus Y.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013.

Nie, X. (2013). "PVY strain status and potato varietal response to PVY.", New Brunswick Seed Potato Growers' Association Annual Meeting 2013 and the PVY Workshop, Grand Falls, NB, Canada, January 30, 2013.

Nie, X., Singh, M., Liang, Z., and Xiong, X. (2013). "PVYNTN and PVX co-infections incite stronger synergistic reactions than mixed infections with PVX and other strains of PVY in solanaceous plants.", CPS-Maritime Region Meeting 2013, Charlottetown, PEI, Canada, November 27, 2013.

Singh, M., MacKenzie, T.D.B., Fageria, M.S., and Nie, X. (2013). "Statistical modelling of Potato virus Y spread under different management practices.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013, Amer. J. Potato Res. 91: 67.

Nie, X. and Singh, M. (2013). "PVX and PVYNTN co-infections incite severe synergistic reactions in potato, tobacco and *Physalis floridana* plants.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013, Amer. J. Potato Res. 91: 59-60.

## 2012

Fageria, M.S., Singh, M., Nie, X., and Pelletier, Y. (2012). "Impact of Best Management Practices on Spread of PVY in New Brunswick Seed Potato Fields.", 96th Annual Meeting of the American Association of Immunologists, Seattle, WA, USA, May 8-12, 2009, Amer. J. Potato Res. (2013) 90:130-131.

De Koeyer, D.L., Nie, X., Douglass, K., Laguë, M., Gustafson, V., Albert, L., and Singh, M. (2012). "Next Generation Sequencing for Detection of Viruses Infecting Potato.", 96th Annual Meeting of the Potato Association of America (PAA), Crowne Plaza Denver International Airport, Denver, CO, USA, August 12-16, 2012, Amer. J. Potato Res. (2013) 90:129-130.

Singh, M., Nie, X., Pelletier, Y., and Fageria, M.S. (2012). "PVY and Canadian experience.", American Phytopathological Society (APS) 2012 Annual Meeting, Westin Providence, Providence, RI, USA, August 4-8, 2012, pp. 20.

He, C.Z. and Nie, X. (2012). "Potato viruses and viral disease control.", in Tai, G.C.C. and Xiong, X. (eds.) - Research Topics in World Potato Science, OmniScience Press, Toronto, Canada, Chapter 11, pp. 189-214.

Nie, X., Xue, X., and Singh, M. (2012). "Molecular and Pathological Characterization of Potato virus Y Isolates Belonging to PVYO Strain Group.", 96th Annual Meeting of the Potato Association of America (PAA), Crowne Plaza Denver International Airport, Denver, CO, USA, August 12-16, 2012, Amer. J. Potato Res. (2013) 90:143, pp. 60.

2011

Nanayakkara, U.N., Singh, M., Pelletier, Y., Maradukhel, G., and Nie, X. (2011). "Genetic Diversity of Potato Virus Y (PVY) in Seed-lot Potatoes in New Brunswick.", 95th Annual Meeting of the Potato Association of America (PAA), Wilmington, NC, USA, August 14-18, 2011.

Pelletier, Y. and Nie, X. (2011). "The potato virus Y tale: studying the aphid vectors and preventing transmission.", XXIV International Congress of Entomology (ICE 2012): Phloemophagous insects: Strategies and impacts on plants, Daegu, South Korea, August 19-24, 2012. (Presentation)

Nie, X., Nie, B.-H., Singh, M., Sullivan, A., and Xie, C.-H. (2011). "Responses of Potato Cultivars to Potato Virus Y Strain Groups.", 19th Annual Northeast Potato Technology Forum, Crowne Plaza Fredericton Lord Beaverbrook Hotel, Fredericton, NB, Canada, March 16-17, 2011.

Nanayakkara, U.N., Singh, M., Pelletier, Y., Maradukhel, G., and Nie, X. (2011). "Genetic Diversity of Potato Virus Y (PVY) in Seed-lot Potatoes in New Brunswick.", 19th Annual Northeast Potato Technology Forum, Crowne Plaza Fredericton Lord Beaverbrook Hotel, Fredericton, NB, Canada, March 16-17, 2011.

Fageria, M.S., Singh, M., Nanayakkara, U.N., Wattie, D., and Nie, X. (2011). "Monitoring Current Season Spread of PVY in Seed Potato Fields of New Brunswick", 19th Annual Northeast Potato Technology Forum, Crowne Plaza Fredericton Lord Beaverbrook Hotel, Fredericton, NB, Canada, March 16-17, 2011.

Pelletier, Y., Nie, X., Giguère, M.-A., Mason, N., and Nanayakkara, U.N. (2011). "Which Aphid Species is Transmitting PVY?", 19th Annual Northeast Potato Technology Forum, Crowne Plaza Fredericton Lord Beaverbrook Hotel, Fredericton, NB, Canada, March 16-17, 2011.

Pelletier, Y., Nie, X., and Footitt, R.G. (2011). "Identification of potato virus Y vector from trap samples.", Entomological Society of America (ESA) 59th Annual Meeting, Reno-Sparks Convention Center, Reno, NV, USA, November 13-16, 2011. (Poster)

Fageria, M.S., Singh, M., Nanayakkara, U.N., Wattie, D., Pelletier, Y., and Nie, X. (2011). "Monitoring current season spread of Potato virus Y in seed potato fields.", 95th Annual Meeting of the Potato Association of America (PAA), Wilmington, NC, USA, August 14-18, 2011.

Nanayakkara, U.N., Nie, X., Pelletier, Y., and Singh, M. (2011). "Genetic Diversity of Potato Virus Y (PVY) in Seed-lot Potatoes in New Brunswick", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

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## **Research Publications:**

2014

Kagale, S., Koh, C.S., Nixon, J.H., Bollina, V., Clarke, W.E., Tuteja, R., Spillane, C., Robinson, S.J., Links, M.G., Clarke, C., Higgins, E.E., Huebert, T., Sharpe, A.G., and Parkin, I.A.P. (2014). "The emerging biofuel crop *Camelina sativa* retains a highly undifferentiated hexaploid genome structure.", *Nature Communications*, 5(April: Article number 3706), pp. 1-11. doi : 10.1038/ncomms4706

Kagale, S., Robinson, S.J., Nixon, J.H., Xiao, R., Huebert, T., Condie, J., Kessler, D., Clarke, W.E., Edger, P.P., Links, M.G., Sharpe, A.G., and Parkin, I.A.P. (2014). "Polyploid evolution of the Brassicaceae during the Cenozoic era.", *Plant Cell*, 26(7), pp. 2777-2791. doi : 10.1105/pc.114.126391

2013

Nixon, J.H. (2013). "On Multiple Hypothesis Testing Maximizing the Average Power.", *International Journal of Statistics and Probability*, 2(2), pp. 112-135. doi : 10.5539/ijsp.v2n2p112

2012

Nixon, J.H. (2012). "Investigations into refinements of Storey's method of multiple hypothesis testing minimising the FDR, and its application to test binomial data.", *Computational Statistics & Data Analysis*, 56(12), pp. 4381-4398. doi : 10.1016/j.csda.2012.03.026

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## Research Publications:

2013

Kabaluk, J.T., Janmaat, A., Sheedy, C., Goettel, M.S., and Noronha, C. (2013). "Agriotes spp. Wireworms and Click Beetles", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing.

## Other Science Related Publications:

2014

McKenzie, D.B., Bishop, G.A., Dixon, P.L., and Noronha, C. (2014). "No thanks, I'll pass on the wireworms in my potatoes.", 56th Annual Farm Field Day, St. John's, NL, Canada, August 9, 2014, Presentation. (Poster)

McKenzie, D.B., Bishop, G.A., Dixon, P.L., and Noronha, C. (2014). "Non merci, je ne veux pas de larves de doryphore sur mes patates!", 56th Annual Farm Field Day, St. John's, NL, Canada, August 9, 2014, Presentation. (Poster)

2012

Noronha, C. (2012). "Wireworm research update.", PEI Horticulture Association Annual Meeting, Charlottetown, PEI, Canada, April 3, 2012.

Noronha, C. (2012). "Management of wireworms in potatoes.", Entomological Society of America (ESA) 60th Annual Meeting, Knoxville Convention Centre, Knoxville, TN, USA, November 11-14, 2012, #1135.



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## Research Publications:

2015

Walsh, K.D., Soltani, N., Hooker, D.C., Nurse, R.E., and Sikkema, P.H. (2015). "Biologically effective rate of sulfentrazone applied pre-emergence in soybean.", *Canadian Journal of Plant Science*, 95(2), pp. 339-344. doi: 10.4141/CJPS-2014-264

Simard, M.-J., Nurse, R.E., and Darbyshire, S.J. (2015). "Emergence pattern and seed production of a Canadian woolly cupgrass (*Eriochloa villosa*) population in legume forage.", *Canadian Journal of Plant Science*, 95(3), pp. 539-548. doi: 10.4141/CJPS-2014-317

Page, E.R. and Nurse, R.E. (2015). "Cropping systems and the prevalence of giant ragweed (*Ambrosia trifida*): From the 1950's to present.", *Field Crops Research*, 184, pp. 104-111. doi: 10.1016/j.fcr.2015.09.013

Page, E.R. and Nurse, R.E. (2015). "Comparing physical, chemical, and cold stratification methods for alleviating dormancy of giant ragweed (*Ambrosia trifida*) seeds", *Weed Technology*, 29(2), pp. 311-317. doi: 10.1614/WT-D-14-00061.1

Tardif-Paradis, C., Simard, M.-J., Leroux, G.D., Panneton, B., Nurse, R.E., and Vanasse, A. (2015). "Effect of planter and tractor wheels on row and inter-row weed populations.", *Crop Protection*, 71, pp. 66-71. doi: 10.1016/j.cropro.2015.01.026

Soltani, N., Nurse, R.E., Shropshire, C., and Sikkema, P.H. (2015). "Tolerance of adzuki bean to pre-emergence herbicides.", *Canadian Journal of Plant Science*, 95(5), pp. 959-963. doi: 10.4141/CJPS-2015-064

2014

Soltani, N., Nurse, R.E., and Sikkema, P.H. (2014). "Weed management in kidney bean with tankmixes of s-metolachlor, imazethapyr and linuron.", *Agricultural Sciences*, 5(7), pp. 611-617.

Soltani, N., Nurse, R.E., Shropshire, C., and Sikkema, P.H. (2014). "Weed control in white bean with various halo-sulfuron tankmixes.", *Advances in Agriculture*. doi: 10.1155/2014/391634

Ford, L., Soltani, N., Robinson, D.E., Nurse, R.E., McFadden, A., and Sikkema, P.H. (2014). "Evaluation of 2, 4-D Amine, Glyphosate, 2, 4-D Amine plus Glyphosate DMA and 2, 4-D Choline/Glyphosate DMA for Their Efficacy on Glyphosate Susceptible and Resistant Canada Fleabane Populations.", *Agricultural Sciences*, 5(11), pp. 1053-1060. doi: 10.4236/as.2014.511114

Ford, L., Soltani, N., Robinson, D.E., Nurse, R.E., McFadden, A., and Sikkema, P.H. (2014). "Efficacy of 2,4-D choline/glyphosate DMA on glyphosate resistant Canada fleabane (*Conyza canadensis*) at different sizes.", *American Journal of Plant Sciences*, 5(18), pp. 2755-2763. doi: 10.4236/ajps.2014.518292

Mahoney, K.J., Nurse, R.E., Everman, W.J., Sprague, C.L., and Sikkema, P.H. (2014). "Tolerance of corn (*Zea mays* L.) to early and late glyphosate applications.", *American Journal of Plant Sciences*, 5(18), pp. 2748-2754. doi: 10.4236/ajps.2014.518291

Ford, L., Soltani, N., Robinson, D.E., Nurse, R.E., McFadden, A., and Sikkema, P.H. (2014). "Canada fleabane (*Conyza canadensis*) control with preplant applied residual herbicides followed by 2,4-D choline/glyphosate DMA applied postemergence in corn.", *Canadian Journal of Plant Science*, 94(7), pp. 1231-1237. doi: 10.4141/CJPS2013-403

Mahoney, K.J., Nurse, R.E., and Sikkema, P.H. (2014). "The effect of hard water, spray solution, storage time and ammonium sulfate on glyphosate efficacy and yield of glyphosate-tolerant corn.", *Canadian Journal of Plant Science*, 94(8), pp. 1401-1405. doi: 10.4141/cjps-2014-131

Soltani, N., Nurse, R.E., and Sikkema, P.H. (2014). "Two-pass weed management with preemergence and postemergence herbicides in glyphosate-resistant soybean.", *Agricultural Sciences*, 5(6), pp. 504-512. doi: 10.4236/as.2014.56052

Ford, L., Soltani, N., McFadden, A., Nurse, R.E., Robinson, D.E., and Sikkema, P.H. (2014). "Control of Canada Fleabane (*Conyza canadensis*) with glyphosate DMA/2,4-D choline applications in corn (*Zea mays*).", *Agricultural Sciences*, 5(1), pp. 77-83. doi: 10.4236/as.2014.51009

Soltani, N., Nurse, R.E., Shropshire, C., and Sikkema, P.H. (2014). "Weed control with halosulfuron applied preplant incorporated, preemergence or postemergence in white bean.", *Agricultural Sciences*, 5(10), pp. 875-881. doi : 10.4236/as.2014.510094

Mahoney, K.J. and Nurse, R.E. (2014). "Tolerance of soybean (*Glycine max* L.) to protoporphyrinogen oxidase inhibitor and very long chain fatty acid synthesis inhibitors applied preemergence.", *American Journal of Plant Sciences*, 5(8), pp. 1117-1124. doi : 10.4236/ajps.2014.58124

## 2013

Stopps, G.J., Nurse, R.E., and Sikkema, P.H. (2013). "The effect of time of day on the activity of postemergence soybean herbicides.", *Weed Technology*, 27(4), pp. 690-695. doi : 10.1614/WT-D-13-00035.1

Lindgren, C.J., Castro, K.L., Coiner, H.A., Nurse, R.E., and Darbyshire, S.J. (2013). "The biology of invasive alien plants in Canada. 12. *Pueraria montana* var. *lobata* (Willd.) Sanjappa & Predeep.", *Canadian Journal of Plant Science*, 93(1), pp. 71-95. doi : 10.4141/cjps2012-128

Simard, M.-J., Darbyshire, S.J., and Nurse, R.E. (2013). "Comparative seed predation of woolly cupgrass (*Eriochloa villosa*) and yellow foxtail (*Setaria pumila*) along a field border in Canada.", *Weed Biology and Management*. doi : 10.1111/wbm.12018

Darbyshire, S.J., Simard, M.-J., and Nurse, R.E. (2013). "The Spikelet Callus of *Eriochloa Villosa* (Poaceae).", *Journal of the Botanical Research Institute of Texas (BRIT)*, 7(2), pp. 697-702.

## 2011

Soltani, N., Nurse, R.E., Shropshire, C., and Sikkema, P.H. (2011). "Response of eight market classes of dry bean (*Phaseolus vulgaris* L.) to pendimethalin.", *American Journal of Plant Sciences*, 2(6), pp. 835-840. doi : 10.4236/ajps.2011.26098

Soltani, N., Mashhadi, H.R., Mesgaran, M.B., Cowbrough, M., Tardif, F.J., Chandler, Kevin, Nurse, R.E., Swanton, C.J., and Sikkema, P.H. (2011). "The effect of residual corn herbicides on injury and yield of soybean seeded in the same season.", *Canadian Journal of Plant Science*, 91(3), pp. 571-576. doi : 10.4141/cjps10110

Soltani, N., Nurse, R.E., Shropshire, C., and Sikkema, P.H. (2011). "Weed management in cranberry bean with linuron.", *Canadian Journal of Plant Science*, 91(5), pp. 881-888. doi : 10.4141/cjps2011-018

Soltani, N., Nurse, R.E., Robinson, D.E., and Sikkema, P.H. (2011). "Effect of ammonium sulfate and water hardness on glyphosate and glufosinate activity in corn.", *Canadian Journal of Plant Science*, 91(6), pp. 1053-1059. doi : 10.4141/cjps2011-047

Stewart, C.L., Nurse, R.E., Van Eerd, L.L., Vyn, R.J., and Sikkema, P.H. (2011). "Weed control, environmental impact, and economics of weed management strategies in glyphosate-resistant soybean.", *Weed Technology*, 25(4), pp. 535-541. doi : 10.1614/WT-D-10-00116.1

Nurse, R.E., Sikkema, P.H., and Robinson, D.E. (2011). "Weed control and sweet maize (*Zea mays* L.) yield as affected by pyroxasulfone dose.", *Crop Protection*, 30(7), pp. 789-793. doi : 10.1016/j.cropro.2011.03.026

## Other Science Related Publications :

### 2015

Page, E.R. and Nurse, R.E. (2015). "Cropping systems and the prevalence of giant ragweed (*Ambrosia trifida*): from the 1950's to present giant ragweed.", Meeting of the Weed Science Society of America, Lexington, KY, USA, February 9-12, 2015, Oral Presentation.

Page, E.R. and Nurse, R.E. (2015). "Giant ragweed (*Ambrosia trifida* L.) seed production and reproductive allometry in maize (*Zea mays* L.) and soybean (*Glycine max* (L.) Merr.)", Meeting of the Weed Science Society of America, Lexington, KY, USA, February 9-12, 2015. (Poster)

### 2014

Hall, L.M., Alexander, B.C.S., Beckie, H.J., Simard, M.-J., Clements, D.R., Nurse, R.E., and Lewis, M. (2014). "There is more to fitness than fecundity: invasiveness of GM crops.", *Crop Sci. Soc. Amer.*, Long Beach, CA, USA, November, 2014. (Abstract)

Hall, L.M., Alexander, B.C.S., Beckie, H.J., Simard, M.-J., Clements, D.R., Nurse, R.E., and Lewis, M. (2014). "There is more to fitness than fecundity: demographic analysis to evaluate genetically modified crops.", ISBGMO, South Africa, November 2014. (Abstract)

Clements, D.R., Beckie, H.J., Hall, L.M., Nurse, R.E., Simard, M.-J., Raatz, L.L., and Alexander, B.C.S. (2014). "Quantifying the relative invasive potential of genetically modified crops using demographic analysis.", 2014 WSSA/CWSS Annual Meeting, Vancouver, B.C., Canada, February 3-6, 2014. (Abstract)

Page, E.R. and Nurse, R.E. (2014). "Cropping systems and the prevalence of giant ragweed (*Ambrosia trifida* L.): from the 1950's to present giant ragweed.", 68th Canadian Weed Science Society Meeting, Montreal, QC, Canada, November 17-20, 2014. (Abstract)

Nurse, R.E. (2014). "How to review a manuscript for a journal?", 68th Canadian Weed Science Society Meeting. (Abstract)

Nurse, R.E., Page, E.R., and Obeid, K. (2014). "The critical weed-free period in grain amaranth and quinoa.", 68th Canadian Weed Science Society Meeting. (Abstract)

Page, E.R. and Nurse, R.E. (2014). "Giant ragweed (*Ambrosia trifida* L.) fecundity and reproductive allometry in maize (*Zea mays* L.) and soybean (*Glycine max* (L.) Merr.).", 68th Canadian Weed Science Society Meeting, Montreal, QC, Canada, November 17-20, 2014. (Poster)

Soltani, N., Nurse, R.E., and Sikkema, P.H. (2014). "Weed management with tankmixes of s-metolachlor, imazethapyr, and linuron in dry bean.", 68th Canadian Weed Science Society Meeting. (Abstract)

## 2013

Page, E.R. and Nurse, R.E. (2013). "Comparing physical, chemical and cold stratification methods for alleviating seed dormancy in Giant Ragweed (*Ambrosia trifida* L.).", Joint meeting of the Canadian Weed Science Society and Weed Science Society of Canada, Vancouver, BC, Canada, February 3-7, 2013. (Poster)

## 2012

Alexander, B.C.S., Beckie, H.J., Simard, M.-J., Nurse, R.E., Clements, D.R., and Hall, L.M. (2012). "Quantification of invasiveness in crops using demographic analysis.", 2nd International Symposium on Biosafety of Genetically Modified Organisms (ISBGMO12), St Louis, Missouri, USA, September, 2012. (Abstract)

Simard, M.-J., Panneton, B., Tardif-Paradis, C., Leroux, G.D., Nurse, R.E., and Vanasse, A. (2012). "Do unseeded corn or soybean rows have more weeds?", Canadian Weed Science Society 66th Annual Meeting, Fairmont Hotel, Winnipeg, MB, Canada, November 12-15, 2012. (Abstract)

Simard, M.-J., Darbyshire, S.J., and Nurse, R.E. (2012). "Emergence pattern and fitness of a Canadian woolly cupgrass (*Eriochloa villosa*) population.", Weed Science Society of America Meeting, Waikoloa, Hawaii, USA, February 7-10, 2012. (Abstract)

## 2011

Simard, M.-J., Panneton, B., Leroux, G.D., Vanasse, A., and Nurse, R.E. (2011). "Can Inter-row Soil Disturbance at Seeding Lead to Efficient Localized Weed Control Using Plant Cover Detection?", 51st Annual Meeting of the Weed Science Society of America (WSSA), Hilton Portland & Executive Tower Hotel, Portland, OR, USA, February 7-10, 2011. (Poster)

Owen, J., Fillmore, S.A.E., Sanderson, K.R., Nurse, R.E., Mercier, G., Charles, M.T., and Benoît, D.-L. (2011). An eastern Canada Research Network for the study of organic vegetable rotational cropping systems: Project Final Report. March 31, 2011. (Report)

Ball Coelho, B.R., Benoît, D.-L., Nurse, R.E., Callow, K., and Bernier, D. (2011). "Cover crops as an integrated approach to weed management in vegetable production in Canada.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 63. (Poster)

Robinson, D.E. and Nurse, R.E. (2011). "Antagonism of acetyl-CoA carboxylase inhibitors by strobilurin fungicides in tomato.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 52. (Abstract)

Ball Coelho, B.R., Callow, K., Nurse, R.E., Benoît, D.-L., and Bernier, D. (2011). "Field vegetable production: Using cover crops for weed management.", published by Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC), Pesticide Risk Reduction Program/Programme de réduction des risques liés aux pesticides, 6 pages. (Technology transfer)

Soltani, N., Nurse, R.E., Shropshire, C., and Sikkema, P.H. (2011). "Dry Bean Tolerance to Halosulfuron Applied Postemergence.", 51st Annual Meeting of the Weed Science Society of America (WSSA), Hilton Portland & Executive Tower Hotel, Portland, OR, USA, February 7-10, 2011. (Poster)

Sikkema, P.H., Nurse, R.E., and Soltani, N. (2011). "Impact of Time of Day on Herbicide Efficacy in Soybean.", 51st Meeting Weed Science Society of America, Hilton Portland & Executive Tower Hotel, Portland, OR, USA, February 7-10, 2011, pp. 63. (Presentation)

Thompson, J.A., Henry, H.A.L., and Nurse, R.E. (2011). "The influence of glyphosate treatment on the growth and fitness of glyphosate-resistant and -susceptible giant ragweed (*Ambrosia trifida* L.) biotypes.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 26. (Abstract)

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## Research Publications:

2015

- Jiang, Y., Jamieson, T., Nyiraneza, J., Somers, G.H., Thompson, B., Murray, B., Grimmett, M.G., and Geng, X.Y. (2015). "Effects of fall versus spring plowing forages on nitrate leaching losses to groundwater.", *Ground Water Monitoring and Remediation*, 35(1), pp. 43-54. doi: 10.1111/gwrm.12083
- N'Dayegamiye, A., Whalen, J.K., Tremblay, G.F., Nyiraneza, J., Grenier, M., Drapeau, A., and Bipfubusa, M. (2015). "The benefits of legume crop on corn and wheat yield, nitrogen nutrition, and soil properties improvement.", *Agronomy Journal*, 107(5), pp. 1653-1665. doi: 10.2134/agronj14.0416
- Nyiraneza, J., Peters, R.D., Rodd, A.V., Grimmett, M.G., and Jiang, Y. (2015). "Improving productivity of managed potato cropping systems in Eastern Canada: Crop rotation and nitrogen source effects.", *Agronomy Journal*, 107(4), pp. 1447-1457. doi: 10.2134/agronj14.0430
- Bélanger, G., Ziadi, N., Pageau, D., Grant, C.A., Lafond, J., and Nyiraneza, J. (2015). "Shoot Growth, Phosphorus-Nitrogen Relationships, and Yield of Canola in Response to Mineral Phosphorus Fertilization.", *Agronomy Journal*, 107(4), pp. 1458-1464. doi: 10.2134/agronj15.0050
- Bélanger, G., Ziadi, N., Pageau, D., Grant, C.A., Högnäsbacka, M., Virkajärvi, P., Hu, Z.Y., Lu, J., Lafond, J., and Nyiraneza, J. (2015). "A Model of Critical Phosphorus Concentration in the Shoot Biomass of Wheat.", *Agronomy Journal*, 107(3), pp. 963-970. doi: 10.2134/agronj14.0451
- Zebarth, B.J., Danieleescu, S., Nyiraneza, J., Ryan, M.C., Jiang, Y., Grimmett, M.G., and Burton, D.L. (2015). "Controls on nitrate loading and implications for BMPs under intensive potato production systems in Prince Edward Island, Canada.", *Ground Water Monitoring and Remediation*, 35(1), pp. 30-42. doi: 10.1111/gwrm.12088

2013

- N'Dayegamiye, A., Nyiraneza, J., Giroux, M., Grenier, M., and Drapeau, A. (2013). "Manure and Paper Mill Sludge Application Effects on Potato Yield, Nitrogen Efficiency and Disease Incidence.", *Agronomy*, 3(1), pp. 43-58. doi: 10.3390/agronomy3010043
- Ziadi, N., Gagnon, B., and Nyiraneza, J. (2013). "Crop yield and soil fertility as affected by papermill biosolids and liming by-product.", *Canadian Journal of Soil Science*, 93(3), pp. 319-328. doi: 10.4141/cjss2012-129
- Ziadi, N., Cambouris, A.N., Nyiraneza, J., and Nolin, M.C. (2013). "Across a landscape, soil texture controls the optimum rate of N fertilizer for maize production.", *Field Crops Research*, 148, pp. 78-85. doi: 10.1016/j.fcr.2013.03.023

2012

- St. Luce, M., Ziadi, N., Nyiraneza, J., Tremblay, G.F., Zebarth, B.J., Whalen, J.K., and Laterrière, M. (2012). "Near infrared reflectance spectroscopy prediction of soil nitrogen supply in humid temperate regions of Canada.", *Soil Science Society of America Journal*, 76(4), pp. 1454-1461. doi: 10.2136/sssaj2011.0443
- Dayegamiye, A.N., Nyiraneza, J., Whalen, J.K., Grenier, M., and Drapeau, A. (2012). "Growing Soybean Prior to Corn Increased Soil Nitrogen Supply and N Fertilizer Efficiency for Corn in Cold and Humid Conditions of Eastern Canada.", *Sustainable Agriculture Research*, 1(2), pp. 251-256. doi: 10.5539/sar.v1n2p257
- Nyiraneza, J., Zebarth, B.J., Ziadi, N., Burton, D.L., Drury, C.F., Bittman, S., and Grant, C.A. (2012). "Prediction of soil nitrogen supply in corn production using soil chemical and biological indices.", *Soil Science Society of America Journal*, 76(3), pp. 925-935. doi: 10.2136/sssaj2011.0318
- Nyiraneza, J., Cambouris, A.N., Ziadi, N., Tremblay, N., and Nolin, M.C. (2012). "Spring Wheat Yield and Quality Related to Soil Texture and Nitrogen Fertilization.", *Agronomy Journal*, 104(3), pp. 589-599. doi: 10.2134/agronj2011.0342

2011

- Nyiraneza, J., Nolin, M.C., Ziadi, N., and Cambouris, A.N. (2011). "Short-range Variability of Nitrate and Phosphate Desorbed from Anionic Exchange Membranes.", *Soil Science Society of America Journal*, 75(6), pp. 2242-2250. doi: 10.2136/sssaj2011.0141

Ziadi, N., Grant, C.A., Samson, N., Nyiraneza, J., Bélanger, G., and Parent, L.-É. (2011). "Efficiency of controlled-release urea for a potato production system in Quebec.", *Agronomy Journal*, 103(1), pp.60-66. doi : 10.2134/agronj2010.0298

## Other Science Related Publications:

2015

Jiang, Y., Nyiraneza, J., and Zebarth, B.J. (2015). "Challenges and BMP opportunities for improving water quality and economic resiliency of potato production in Eastern Canada.", 2015 World Potato Congress, Beijing, China, July 28-30, 2015.

Whittaker, J., Nyiraneza, J., Burton, D.L., Zebarth, B.J., Rodd, A.V., and Grimmett, M.G. (2015). "Nitrogen cycling from legume and grass forages during forage phase and subsequent potato crop.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

Morissette, R., Jégo, G., Bélanger, G., Cambouris, A.N., Nyiraneza, J., and Zebarth, B.J. (2015). "Simulating potato growth and nitrogen uptake in eastern Canada with the STICS crop model.", SSSA 2015.

Grimmett, M.G., Nyiraneza, J., Rodd, A.V., Zebarth, B.J., and Danielescu, S. (2015). "Seasonal soil nitrate patterns under potato production in Prince Edward Island.", 14th International Symposium for Soil and Plant Analysis, Kona Beach, Hawaii, USA, January 26-30, 2015.

2014

Fuller, K.D., Burton, D.L., Rodd, A.V., Smith, E., Grimmett, M.G., Nyiraneza, J., Jiang, Y., Khakbazan, M., and Van Roestel, J. (2014). "Improving Hayfield for Forage Quality while Minimizing Nitrate Loading of Tile Drainage in Atlantic Canada.", ASA - CSSA-SSSA International Annual Meeting: Grand Challenges – Great Solutions, Long Beach, CA, USA, November 2-6, 2014.

Danielescu, S., Grimmett, M.G., Rodd, A.V., Nyiraneza, J., and Zebarth, B.J. (2014). "Groundwater recharge and nitrate loading from a field under a conventional potato production system in PEI.", Canada Water Resources Association (CWRA) 2014 Congress, Hamilton, ON, Canada, June 2-4, 2014, Presentation.

Fuller, K.D., Burton, D.L., Rodd, A.V., Smith, E., Grimmett, M.G., Nyiraneza, J., Jiang, Y., Khakbazan, M., and Van Roestel, J. (2014). "Nitrogen dynamics in twin row versus conventional row silage corn in Atlantic Canada.", ASA-CSSA-SSSA International Annual Meeting: Grand Challenges – Great Solutions, Long Beach, CA, USA, November 2-6, 2014.

Bélanger, G., Ziadi, N., Sinaj, S., Virkajärvi, P., Jouany, C., Lajeunesse, J., and Nyiraneza, J. (2014). "Critical P concentration of forage grasses.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014. (Poster)

Mills, A.A.S., Nyiraneza, J., and Rodd, A.V. (2014). "The impact of underseeding and overseeding cover crops on the agronomic performance of soybean and canola in the Northeast.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014. (Poster)

Jiang, Y., Chapman, S., Nyiraneza, J., Malenica, A., Li, Q., Murray, B., Grimmett, M.G., and Rodd, A.V. (2014). "Groundwater quality under a retired potato field evidences significant contribution of soil N to nitrate leaching.", 13th congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014.

Fuller, K.D., Burton, D.L., Rodd, A.V., Smith, E., Grimmett, M.G., Nyiraneza, J., Jiang, Y., Khakbazan, M., and Van Roestel, J. (2014). "Nitrogen dynamics in twin row versus conventional row silage corn in Atlantic Canada.", ASA-CSSA-SSSA International Annual Meeting: Grand Challenges – Great Solutions, Long Beach, CA, USA, November 2-6, 2014.

Fuller, K.D., Burton, D.L., Rodd, A.V., Smith, E., Grimmett, M.G., Nyiraneza, J., Jiang, Y., Khakbazan, M., and Van Roestel, J. (2014). "Improving Hayfield for Forage Quality while Minimizing Nitrate Loading of Tile Drainage in Atlantic Canada.", ASA - CSSA-SSSA International Annual Meeting: Grand Challenges – Great Solutions, Long Beach, CA, USA, November 2-6, 2014.

Nyiraneza, J., Thompson, B., Fuller, K.D., Bizimungu, B., Bishop, G.A., Jiang, Y., Grimmett, M.G., Khiari, L., Rodd, A.V., and Anderson, S. (2014). "Potato response to phosphorus fertilization in Atlantic Canada and assessment of the degree of soil phosphorus saturation.", Northeast Potato Technology Forum 2014, Fredericton, NB, Canada, March 12-13, 2014.

Nyiraneza, J., Mills, A.A.S., Rodd, A.V., Grimmett, M.G., and Jiang, Y. (2014). "The effects of different cover crops and their managements on subsequent potato growth.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014, Abstract/poster.

Cambouris, A.C., Perron, I., Ziadi, N., Lafond, J., Zebarth, B.J., Nyiraneza, J., Nelson, A., Carvers, C., and Tremblay, N. (2014). "Fertilisation azotée dans la production de pomme de terre du centre à l'est Canadien: saison 2013.", Congrès annuel de l'association québécoise des spécialistes en sciences du sol, Victoriaville, Québec, Canada, May 26-29, 2014, Oral presentation.

Fuller, K.D., Nyiraneza, J., Thompson, B., Bizimungu, B., Bishop, G.A., Jiang, Y., Grimmett, M.G., Khiari, L., Rodd, A.V., and Anderson, S. (2014). "Optimum rates of phosphorus for potato production in soils of varying P status in Atlantic Canada... an AAFC Science & Technology Branch Project.", Scotia Horticultural Congress 2014, Kentville, NS, Canada, January 27-28, 2014.

Rodd, A.V., Grimmett, M.G., Fuller, K.D., Bezanson, G.S., Nyiraneza, J., Henry, R., Jenkins, S., and others (2014). "Management of manure to decrease the potential for E. coli contamination.", Open houses organized by AAFC, Crop and Livestock Research Centre. (Presentation)

Nyiraneza, J., Peters, R.D., Grimmett, M.G., Jiang, Y., and Rodd, A.V. (2014). "Canola response to N fertilizer sources and rotation systems in Prince Edward Island.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014, Abstract/poster.

Cambouris, A.N., Perron, I., Ziadi, N., Lafond, J., Zebarth, B.J., Nyiraneza, J., Nelson, A., Cavers, C., and Tremblay, N. (2014). "Fertilisation azotée du centre à l'est du Canada sous culture de la pomme de terre : saison 2013.", Congrès annuel de l'AQSSS, Victoriaville, QC, Canada. (Presentation)

## 2013

Nyiraneza, J., Peters, R.D., Rodd, A.V., Grimmett, M.G., Zebarth, B.J., Ziadi, N., Bélanger, G., and Jégo, G. (2013). "Soil N supply and potato yield as affected by Crop Rotations and N sources.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013, #038.

N'Dayegamiye, A., Nyiraneza, J., Deschenes, P., and Drapeau, A. (2013). "Benefits of summer and fall green manures on potato yields, N nutrition and disease incidence.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013, #110.

Rodd, A.V., Nyiraneza, J., Henry, R., Peters, R.D., Grimmett, M.G., and Mills, A.A.S. (2013). "Compost from the sea for agricultural production. Compost council of Canada regional meeting.", Compost matters in Atlantic Canada, Westmorland-Albert Solid Waste Corporation, Moncton, NB, Canada, March 13-14, 2013.

Nyiraneza, J., Peters, R.D., Rodd, A.V., Grimmett, M.G., Zebarth, B.J., Ziadi, N., Bélanger, G., and Jégo, G. (2013). "Impact of Crop Rotations, and Mineral and Organic N fertilizer on Soil Nitrogen Availability and Potato Yield.", Northeast Potato Technology Forum 2013, Delta Prince Edward, Charlottetown, PEI, Canada, March 5-6, 2013.

Nyiraneza, J., Fuller, K.D., Bizimungu, B., Bishop, G.A., Grimmett, M.G., Rodd, A.V., Jiang, Y., Mills, A.A.S., Gregory, D., Enman, B., and others (2013). "Increasing phosphorus use efficiency in potato production in Atlantic Canada.", Open houses organized by AAFC, Crop and Livestock Research Centre, August 16, 2013. (Presentation)

Grimmett, M.G., Rodd, A.V., Nyiraneza, J., Zebarth, B.J., and Danieleescu, S. (2013). "Nutrient analysis of groundwater and soil water from potato production systems.", 127th Association of Official Agricultural Chemists (AOAC) Annual Meeting, Palmer House Hilton, Chicago, IL, USA, August 25-28, 2013.

Anderson, S., Rodd, A.V., Grimmett, M.G., Nyiraneza, J., Zoski, E.D., Smith, E., Kuehnbaum, A., Handyside, P., Murray, B., Henry, R., Jenkins, S., and others (2013). "Woodchip bioreactor for decreasing nitrate in tile effluent.", Open houses organized by AAFC, Harrington, Charlottetown, PEI, Canada, August 16, 2013. (Presentation)

N'Dayegamiye, A., Nyiraneza, J., Giroux, M., Grenier, M., and Drapeau, A. (2013). "Manure and Paper Mill Sludge Application Effects on Potato Yield, Nitrogen Efficiency and Disease Incidence.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013, #111.

Jiang, Y., Nyiraneza, J., Jamieson, T., Murray, B., Grimmett, M.G., Somers, G.H., and Thompson, B. (2013). "Delayed plowing of forages within potato rotation reduces nitrate leaching.", American Geophysical Union 2013 Fall Meeting, San Francisco, USA, December 9-13, 2013. (Abstract)

## 2012

Nyiraneza, J., Cambouris, A.N., Ziadi, N., Tremblay, N., and Nolin, M.C. (2012). "Effets de la texture et de la fertilisation azotée sur le rendement et la qualité de blé de printemps.", Journée scientifique sur les grandes cultures, Centre de Référence en Agriculture et Agroalimentaire du Québec (CRAAQ), Drummondville, QC, Canada, February 23, 2012. (Presentation)

Nyiraneza, J., Chantigny, M.H., N'Dayegamiye, A., and Laverdière, M.R. (2012). "Les systèmes de culture qui laissent peu de résidus de récolte sont-ils durables à long-terme? Cas du maïs ensilage alterné avec les céréales?", Journée scientifique sur les grandes cultures, Centre de Référence en Agriculture et Agroalimentaire du Québec (CRAAQ), Drummondville, QC, Canada, February 23, 2012. (Presentation)

Nyiraneza, J. (2012). "Effets de la texture et de la fertilisation azotée sur le rendement et la qualité du blé de printemps.", Journée d'information scientifique sur les grandes cultures 2012, Centre de Référence en Agriculture et Agroalimentaire du Québec (CRAAQ), Drummondville, QC, Canada, February 23, 2012.

Bélanger, G., Ziadi, N., Sinaj, S., Virkajärvi, P., Jouany, C., Lajeunesse, J., and Nyiraneza, J. (2012). "Critical P concentration of timothy and multispecies swards.", 24th General Meeting of the European Grassland Federation, Lublin, Poland, June 3-7, 2012. (Poster)

Nyiraneza, J., Ziadi, N., Cambouris, A.N., and Nolin, M.C. (2012). "Com nitrogen response and residual soil nitrate are affected by soil texture, N rate and growing season conditions.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012. (Presentation)

Nyiraneza, J., Zebarth, B.J., Ziadi, N., Sharifi, M., Burton, D.L., Drury, C.F., Bittman, S., and Grant, C.A. (2012). "The ability of soil chemical and biological N availability indices to predict soil nitrogen supply of contrasting soils under com.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012. (Poster)

## 2011

Nyiraneza, J., Nolin, M.C., Ziadi, N., and Cambouris, A.N. (2011). "Short-range Variability of Nitrate and Phosphate desorbed from Anionic Exchange Membranes.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Poster)

Nyiraneza, J., Nolin, M.C., Ziadi, N., and Cambouris, A.N. (2011). "Variabilité à petite échelle des nitrates et phosphates adsorbés sur les membranes échangeuses d'anion.", 25ème congrès de l'Association Québécoise des Spécialistes en Science du Sol (AQSSS): Les sciences du sol au 21ème siècle : Défis à relever pour une ressource à préserver, Wendake, QC, Canada, May 25-27, 2011. (Presentation)

St. Luce, M., Ziadi, N., Nyiraneza, J., Tremblay, G.F., Zebarth, B.J., Whalen, J.K., and Laterrière, M. (2011). "Prediction of soil properties and soil N supply using near infrared reflectance spectroscopy.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

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## Research Publications:

2015

Lupwayi, N.Z., Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Hall, L.M., Willenborg, C.J., Gan, Y.T., Lafond, G.P., May, W.E., and Grant, C.A. (2015). "Relating soil microbial properties to yields of no-till canola on the Canadian prairies.", *European Journal of Agronomy*, 62, pp. 110-119. doi: 10.1016/j.eja.2014.10.004

Harker, K.N., O'Donovan, J.T., Smith, E.G., Johnson, E.N., Peng, G., Willenborg, C.J., Gulden, R.H., Mohr, R.M., Gill, K.S., and Grenkow, L.A. (2015). "Seed size and seeding rate effects on canola emergence, development, yield and seed weight.", *Canadian Journal of Plant Science*, 95(1), pp. 1-8. doi: 10.4141/cjps-2014-222

Harker, K.N., Yu, A.Z., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Johnson, E.N., Gan, Y.T., Kutcher, H.R., Dossdall, L.M., Peng, G. (2015). "Canola rotation frequency impacts canola yield and associated pest species.", *Canadian Journal of Plant Science*, 95(1), pp. 9-20. doi: 10.4141/cjps-2014-289

Ding, S., Oba, M., Swift, M.-L., O'Donovan, J.T., Edney, M.J., McAllister, T.A., and Yang, W.-Z. (2015). "Short communication: In vitro gas production and dry matter digestibility of malting barley grain sown with different seeding and nitrogen fertilization rates in Canada.", *Animal Feed Science and Technology*, 199, pp. 146-151. doi: 10.1016/j.anifeedsci.2014.11.014

Tozzi, E., Harker, K.N., Blackshaw, R.E., O'Donovan, J.T., Strelkov, S.E., and Willenborg, C.J. (2015). "Late glyphosate applications alter yield and yield components in glyphosate-resistant canola (*Brassica napus*L.).", *Weed Technology*, 29(4), pp. 675-683. doi: 10.1614/WT-D-15-00009.1

St. Luce, M., Grant, C.A., Zebarth, B.J., Ziadi, N., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Khakbazan, M., and Smith, E.G. (2015). "Legumes can reduce economic optimum nitrogen rates and increase yields in a wheat-canola cropping sequence in western Canada.", *Field Crops Research*, 179, pp. 12-25. doi: 10.1016/j.fcr.2015.04.003

Turkington, T.K., O'Donovan, J.T., Harker, K.N., Xi, K., Blackshaw, R.E., Johnson, E.N., Peng, G., Kutcher, H.R., May, W.E., Lafond, G.P., Mohr, R.M., Irvine, R.B., and Stevenson, C. (2015). "The impact of fungicide and herbicide timing on foliar disease severity, and barley productivity and quality.", *Canadian Journal of Plant Science*, 95(3), pp. 525-537. doi: 10.4141/CJPS-2014-364

O'Donovan, J.T., Anbessa, Y., Grant, C.A., MacLeod, A., Edney, M.J., Izydorczyk, M.S., Turkington, T.K., Juskiw, P.E., Lafond, G.P., May, W.E., Harker, K.N., Johnson, E.N., Beres, B.L., McAllister, T.A., Smith, E.G., and Chapman, W. (2015). "Relative responses of new malting barley cultivars to increasing nitrogen rates in western Canada.", *Canadian Journal of Plant Science*, 95(5), pp. 831-839. doi: 10.4141/cjps-2014-415

Ding, S., Oba, M., Swift, M.-L., Edney, M., O'Donovan, J.T., McAllister, T.A., and Yang, W.-Z. (2015). "Short communication: The effect of seed hardness and malting characteristics on in situ dry matter digestibility of barley grain in beef heifers.", *Canadian Journal of Animal Science*, 95(2), pp. 299-303. doi: 10.4141/CJAS-2014-081

Gan, Y.T., Hamel, C., O'Donovan, J.T., Cutforth, H.W., Zentner, R.P., Campbell, C.A., Niu, Y., and Poppy, L.B. (2015). "Diversifying crop rotations with pulses enhances system productivity.", *Scientific Reports*, 5(Article number: 14625), pp. 1-14. doi: 10.1038/srep14625

Munir, S., Dossdall, L.M., O'Donovan, J.T., and Keddie, A.B. (2015). "Diadegma insulare development is altered by *Plutella xylostella* reared on water-stressed host plants.", *Journal of Applied Entomology*. doi: 10.1111/jen.12257

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Dossdall, L.M., Hall, L.M., Kutcher, H.R., Willenborg, C.J., Peng, G., Irvine, R.B., and Mohr, R.M. (2015). "Canola cultivar mixtures and rotations do not mitigate the negative impacts of continuous canola.", *Canadian Journal of Plant Science*, 95(6), pp. 1085-1099. doi: 10.4141/cjps-2015-126

2014

Lupwayi, N.Z., Benke, M.B., Hao, X., O'Donovan, J.T., and Clayton, G.W. (2014). "Relating Crop Productivity to Soil Microbial Properties in Acid Soil Treated with Cattle Manure.", *Agronomy Journal*, 106(2), pp. 612-621. doi: 10.2134/agronj2013.0427



Yang, C., Gan, Y.T., Harker, K.N., Kutcher, H.R., Gulden, R.H., Irvine, R.B., May, W.E., and O'Donovan, J.T. (2014). "Up to 32 % yield increase with uniform canola stands in western Canada.", *Agronomy for Sustainable Development*, 34(4), pp. 793-801. doi : 10.1007/s13593-014-0218-5

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Turkington, T.K., Lupwayi, N.Z., Stevenson, F.C., McLaren, D.L., Khakbazan, M., and Smith, E.G. (2014). "Rotational effects of legumes and non-legumes on hybrid canola and malting barley.", *Agronomy Journal*, 106(6), pp. 1921-1932. doi : 10.2134/agronj14.0236

Khakbazan, M., Grant, C.A., Huang, J., Smith, E.G., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Lafond, G.P., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., and Lupwayi, N.Z. (2014). "Economic effects of preceding crops and nitrogen application on canola and subsequent barley.", *Agronomy Journal*, 106(6), pp. 2055-2066. doi : 10.2134/agronj14.0253

Munir, S., Dossdall, L.M., and O'Donovan, J.T. (2014). "Evolutionary Ecology of Diamondback Moth, *Plutella xylostella* (L.) and *Diadegma insulare* (Cresson) in North America: A Review.", *Annual Research & Review in Biology*, 5(3), pp. 189-206. doi : 10.9734/ARRB/2015/11834

## 2013

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Johnson, E.N., Brandt, S.A., Kutcher, H.R., and Clayton, G.W. (2013). "Weed interference impacts and yield recovery after four years of variable crop inputs in no-till barley and canola.", *Weed Technology*, 27(2), pp. 281-290. doi : 10.1614/WT-D-12-00115.1

Harker, K.N. and O'Donovan, J.T. (2013). "Recent weed control, weed management, and integrated weed management.", *Weed Technology*, 27(1), pp. 1-11. doi : 10.1614/wt-d-12-00109.1

O'Donovan, J.T., Harker, K.N., Turkington, T.K., and Clayton, G.W. (2013). "Combining cultural practices with herbicides reduces wild oat (*Avena fatua*) seed in the soil seed bank and improves barley yield.", *Weed Science*, 61(2), pp. 328-333. doi : 10.1614/WS-D-12-00168.1

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Hall, L.M., Willenborg, C.J., Kutcher, H.R., Gan, Y.T., Lafond, G.P., May, W.E., Grant, C.A., Barthelet, V., McDonald, T., Wispinski, D., and Hartman, M. (2013). "Effect of agronomic inputs and crop rotation on biodiesel quality and fatty acid profiles of direct-seeded canola.", *Canadian Journal of Plant Science*, 93(4), pp. 577-588. doi : 10.4141/cjps2012-277

St. Luce, M., Ziadi, N., Zebarth, B.J., Whalen, J.K., Grant, C.A., Gregorich, E.G., Lafond, G.P., Blackshaw, R.E., Johnson, E.N., O'Donovan, J.T., and Harker, K.N. (2013). "Particulate organic matter and soil mineral nitrogen concentrations are good predictors of the soil nitrogen supply to canola following legume and non-legume crops in western Canada.", *Canadian Journal of Soil Science*, 93(5), pp. 607-620. doi : 10.4141/cjss2013-005

## 2012

Turkington, T.K., O'Donovan, J.T., Edney, M.J., Juskiw, P.E., McKenzie, R.H., Harker, K.N., Clayton, G.W., Xi, K., Lafond, G.P., Irvine, R.B., Brandt, S.A., Johnson, E.N., May, W.E., and Smith, E.G. (2012). "Effect of crop residue, nitrogen rate and fungicide application on malting barley productivity, quality, and foliar disease severity.", *Canadian Journal of Plant Science*, 92(3), pp. 577-588. doi : 10.4141/CJPS2011-216

Dossdall, L.M., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Kutcher, H.R., Gan, Y.T., and Johnson, E.N. (2012). "Crop Sequence Effects on Root Maggot (Diptera: Anthomyiidae: *Delia* spp.) Infestations in Canola.", *Journal of Economic Entomology*, 105(4), pp. 1261-1267. doi : 10.1603/EC11440

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Johnson, E.N., Lafond, G.P., and May, W.E. (2012). "Seeding depth and seeding speed effects on no-till canola emergence, maturity, yield and seed quality.", *Canadian Journal of Plant Science*, 92(4), pp. 795-802. doi : 10.4141/CJPS2011-189

Edney, M.J., O'Donovan, J.T., Turkington, T.K., Clayton, G.W., McKenzie, R.H., Juskiw, P.E., Lafond, G.P., Brandt, S.A., Grant, C.A., Harker, K.N., Johnson, E.N., and May, W.E. (2012). "Effects of seeding rate, nitrogen rate and cultivar on barley malt quality.", *Journal of the Science of Food and Agriculture*, 92(13), pp. 2672-2678. doi : 10.1002/jsfa.5687

Smith, E.G., O'Donovan, J.T., Henderson, W.J., Turkington, T.K., McKenzie, R.H., Harker, K.N., Clayton, G.W., Juskiw, P.E., Lafond, G.P., Brandt, S.A., Edney, M.J., Johnson, E.N., and May, W.E. (2012). "Net return risk for malting barley production in Western Canada as influenced by production strategies.", *Agronomy Journal*, 104(5), pp. 1374-1382. doi : 10.2134/agronj2011.0416

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Beckie, H.J., Mallory-Smith, C., and Maxwell, B.D. (2012). "Our view.", *Weed Science*, 60(2), pp. 143-144. doi : 10.1614/WS-D-11-00177.1

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Klein-Gebbinck, H.W., Dossdall, L.M., Hall, L.M., Willenborg, C.J., Kutcher, H.R., Malhi, S.S., Vera, C.L., Gan, Y.T., Lafond, G.P., May, W.E., Grant, C.A., and McLaren, D.L. (2012). "High-yield no-till canola production on the Canadian prairies.", *Canadian Journal of Plant Science*, 92(2), pp. 221-233. doi : 10.4141/CJPS2011-125

Hummel, J.D., Dosdall, L.M., Clayton, G.W., Harker, K.N., and O'Donovan, J.T. (2012). "Ground Beetle (Coleoptera: Carabidae) Diversity, Activity Density, and Community Structure in a Diversified Agroecosystem.", *Environmental Entomology*, 41(1), pp. 72-80. doi : 10.1603/EN11072

Li, C.L., Hao, X., Blackshaw, R.E., O'Donovan, J.T., Harker, K.N., and Clayton, G.W. (2012). "Nitrous oxide emissions in response to ESN and urea, herbicide management and canola cultivar in a no-till cropping system.", *Soil & Tillage Research*, 118, pp. 97-106. doi : 10.1016/j.still.2011.10.017

O'Donovan, J.T., Turkington, T.K., Edney, M.J., Juskiw, P.E., McKenzie, R.H., Harker, K.N., Clayton, G.W., Lafond, G.P., Grant, C.A., Brandt, S.A., Johnson, E.N., May, W.E., and Smith, E.G. (2012). "Effect of seeding date and seeding rate on malting barley production in western Canada.", *Canadian Journal of Plant Science*, 92(2), pp. 321-330. doi : 10.4141/cjps2011-130

## 2011

Blackshaw, R.E., Hao, X., Harker, K.N., O'Donovan, J.T., Johnson, E.N., and Vera, C.L. (2011). "Barley productivity response to polymer-coated urea in a no-till production system.", *Agronomy Journal*, 103(4), pp. 1100-1105. doi : 10.2134/agronj2010.0494

O'Donovan, J.T., Turkington, T.K., Edney, M.J., Clayton, G.W., McKenzie, R.H., Juskiw, P.E., Lafond, G.P., Grant, C.A., Brandt, S.A., Harker, K.N., Johnson, E.N., and May, W.E. (2011). "Seeding Rate, Nitrogen Rate, and Cultivar Effects on Malting Barley Production.", *Agronomy Journal*, 103(3), pp. 709-716. doi : 10.2134/agronj2010.0490

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Johnson, E.N., Holm, F.A., and Clayton, G.W. (2011). "Environmental effects on the relative competitive ability of canola and small-grain cereals in a direct-seeded system.", *Weed Science*, 59(3), pp. 404-415. doi : 10.1614/WS-D-10-00121.1

Blackshaw, R.E., Hao, X., Brandt, R.N., Clayton, G.W., Harker, K.N., O'Donovan, J.T., Johnson, E.N., and Vera, C.L. (2011). "Canola response to ESN and urea in a four-year no-till cropping system.", *Agronomy Journal*, 103(1), pp. 92-99. doi : 10.2134/agronj2010.0299

Lupwayi, N.Z., Clayton, G.W., O'Donovan, J.T., and Grant, C.A. (2011). "Soil Microbial Response to Nitrogen Rate and Placement and Barley Seeding Rate under No Till.", *Agronomy Journal*, 103(4), pp. 1064-1071. doi : 10.2134/agronj2010.0334

## Other Science Related Publications:

### 2015

Baron, V.S., Lemke, R.L., Young, D.G., Harker, K.N., O'Donovan, J.T., and Flesch, T.K. (2015). "Ecosystem carbon balance of field-scale canola and barley in central Alberta.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. (Poster)

Turkington, T.K., Xi, K., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., McAllister, T.A., and Lupwayi, N.Z. (2015). "The impact of barley variety rotation, mixtures, and intercropping on leaf disease and silage production.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015.

Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Johnson, E.N., Pageau, D., Shirliffe, S.J., Gulden, R.H., Rowsell, J., Hall, L.M., and Willenborg, C.J. (2015). "Cultural techniques for integrated wild oat management.", Canadian Weed Science Society Meeting, Edmonton, AB, Canada, November 23-26, 2015, Oral presentation. (Abstract)

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Johnson, E.N., Kutcher, H.R., Willenborg, C.J., Gan, Y.T., Dosdall, L.M., Hall, L.M., Peng, G., Irvine, R.B., and Mohr, R.M. (2015). "Sustainable canola production increases with cropping system diversity.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. (Poster)

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2015). "Legumes in rotation affect hybrid canola and malting barley.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015, Keynote Theme D oral presentation.

Turkington, T.K., O'Donovan, J.T., Harker, K.N., Xi, K., Blackshaw, R.E., Johnson, E.N., Peng, G., Kutcher, H.R., May, W.E., Lafond, G.P., Mohr, R.M., and Irvine, R.B. (2015). "The impact of fungicide and herbicide timing on foliar disease severity, and barley productivity and quality.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015, ID: P HERBI 7. (Poster)

Morrison, M.J., Blackshaw, R.E., O'Donovan, J.T., Harker, K.N., and Holzapfel, C.B. (2015). "Innovations underpinning yield improvements in the Canadian canola industry.", *Crop Updates*, Perth, Australia, February 24-25, 2015.

Gan, Y.T., Harker, K.N., Kutcher, H.R., Gulden, R.H., Irvine, R.B., May, W.E., O'Donovan, J.T., and Yang, C. (2015). "Uniform plant stands enhance the synergy of pod formation and seed yield in canola.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. (Poster)

Turkington, T.K., Xi, K., Peng, G., Martin, R.A., Harker, K.N., O'Donovan, J.T., Beres, B.L., May, W.E., and Mohr, R.M. (2015). "The impact of seed treatment, foliar fungicide timing, and plant growth regulator on barley leaf disease severity and productivity.", *Canadian Journal of Plant Pathology*. (Abstract)

Turkington, T.K., Xi, K., O'Donovan, J.T., Harker, K.N., Peng, G., Martin, R.C., Beres, B.L., May, W.E., and Mohr, R.M. (2015). "The impact of seed treatment, foliar fungicide timing, and plant growth regulator on leaf-disease severity and productivity of barley.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015, ID: P IPM 42. (Poster)

Turkington, T.K., Xi, K., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., McAllister, T.A., and Lupwayi, N.Z. (2015). "The impact of barley variety rotation, mixtures, and intercropping on leaf disease and silage production.", *Canadian Journal of Plant Pathology*. (Abstract)

O'Donovan, J.T., Turkington, T.K., Harker, K.N., Oatway, L., Grant, C.A., Beres, B.L., Johnson, E.N., May, W.E., Izydorczyk, M.S., MacLeod, A., Anbessa, Y., and Vera, C.L. (2015). "Malting barley cultivar responses to increasing nitrogen rates in western Canada.", ASA-CSSA-SSSA International Annual Meeting: Synergy in Science. Partnering for Solutions, Minneapolis, MN, USA, November 15-18, 2015. (Poster)

## 2014

O'Donovan, J.T., Harker, K.N., Turkington, T.K., Blackshaw, R.E., Beres, B.L., Clayton, G.W., Lafond, G.P., Lupwayi, N.Z., and Dosdall, L.M. (2014). "The role of agronomic research in meeting cropping system challenges in western Canada.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

O'Donovan, J.T., Edney, M.J., MacLeod, A., Turkington, T.K., Grant, C.A., Harker, K.N., Johnson, E.N., Lafond, G.P., May, W.E., Beres, B.L., Kabeta, Y., and Juskiw, P.E. (2014). "Response of new malting barley cultivars to increasing nitrogen rates in western Canada.", 13th Congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014, pp. 141-142. (Poster)

O'Donovan, J.T., Blackshaw, R.E., Grant, C.A., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., and Turkington, T.K. (2014). "Legume crops grown in rotation enhance canola and barley productivity in western Canada.", 13th Congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014, pp. 357-358.

Lupwayi, N.Z., Harker, K.N., Lamey, F.J., Blackshaw, R.E., and O'Donovan, J.T. (2014). "Correlating soil microbial properties with crop yields in the Canadian prairies: two case studies.", Soil's Role in Restoring Ecosystem Services Conference, Sacramento, CA, USA, March 6-9, 2014. (Abstract)

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Lafond, G.P., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2014). "Rotational Effects of Legumes and Non-Legumes on Hybrid Canola, and Malting Barley.", American Society of Agronomy Annual Meeting 2014, Long Beach, CA, USA, November 3-5, 2014.

Turkington, T.K., Xi, K., Peng, G., Martin, R.A., Harker, K.N., and O'Donovan, J.T. (2014). "The impact of seed treatment, foliar fungicide, and variety resistance on barley leaf disease severity and productivity.", 1st International Workshop on Barley Leaf Diseases, Salsomaggiore Terme, Italy, June 3-6, 2014, Also in *Canadian Journal of Plant Pathology* (in press), pp. 18. (Abstract)

Turkington, T.K., Xi, K., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., McAllister, T.A., and Lupwayi, N.Z. (2014). "The impact of barley variety monoculture, rotation and mixtures, and intercropping on leaf disease and silage production.", 1st International Workshop on Barley Leaf Diseases, Salsomaggiore Terme, Italy, June 3-6, 2014, pp. 73. (Abstract)

Turkington, T.K., Xi, K., Peng, G., O'Donovan, J.T., and Harker, K.N. (2014). "An update on malt barley research at Lacombe.", Rahr Malting Canada Annual Grower Meeting, Alix, Alberta, Canada, February 6, 2014. (Presentation)

Blackshaw, R.E., Harker, K.N., O'Donovan, J.T., Johnson, E.N., Gan, Y.T., and Peng, G. (2014). "How frequently can oilseed rape be grown in sustainable cropping systems.", 13th Congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014, Available online at <http://www.esa2014.hu/news/post-conference-updates-8.html>, pp. 331-332. (Poster)

O'Donovan, J.T., Harker, K.N., Turkington, T.K., and Clayton, G.W. (2014). "Combining cultural practices with herbicides reduces wild oat seed in the soil seed bank and improves barley yield.", 2014 Weed Science Society of America (WSSA) and the Canadian Weed Science Society (CWSS) Annual Meeting, Vancouver, B.C., Canada, February 3-6, 2014. (Abstract)

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Baron, V.S., Blackshaw, R.E., Hall, L.M., Johnson, E.N., Willenborg, C.J., Shirliffe, S.J., Gulden, R.H., Kobler, J.F., and Pageau, D. (2014). "Delaying herbicide resistance with integrated wild oat (*Avena fatua*) management.", 2014 Weed Science Society of America (WSSA) and the Canadian Weed Science Society (CWSS) Annual Meeting, Vancouver, B.C., Canada, February 3-6, 2014. (Abstract)

## 2013

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Turkington, T.K., Johnson, E.N., Lafond, G.P., May, W.E., Gan, Y.T., Edney, M., and Juskiw, P.E. (2013). "Effect of legume crops grown two years prior to barley on malting barley yield and quality.", ASA/CSSA/SSSA International annual meeting: Water, Food, Energy and Innovation for a Sustainable World, Tampa, Florida, USA, November 3-6, 2013.

O'Donovan, J.T., Harker, K.N., Turkington, T.K., Lafond, G.P., Lupwayi, N.Z., Blackshaw, R.E., Clayton, G.W., and Dossdall, L. M. (2013). "The Role of Agronomic Research in Meeting Current and Future Cropping System Challenges in Western Canada.", ASA/CSSA/SSSA International annual meeting: Water, Food, Energy and Innovation for a Sustainable World, Tampa, Florida, USA, November 3-6, 2013.

O'Donovan, J.T., Turkington, T.K., Edney, M., Smith, E.G., Harker, K.N., Beres, B.L., Clayton, G.W., Brandt, S.A., Johnson, E.N., Lafond, G.P., May, W.E., Grant, C.A., McKenzie, R., Juskiw, P.E., Kadeta, Y., Stonehouse, K., and Chapman, B. (2013). "Varietal and agronomic impacts on malting barley yield and quality.", FarmTech 2013, Westin Hotel, Edmonton, AB, Canada, January 29-31, 2013.

O'Donovan, J.T. (2013). "Improvement of malting barley quality and yield with agronomic practices.", BMBRI Triennial Meeting, Winnipeg, MB, Canada, June 6, 2013.

O'Donovan, J.T., Turkington, T.K., Edney, M., Juskiw, P.E., May, W.E., Grant, C.A., Smith, E.G., Harker, K.N., Johnson, E.N., Beres, B.L., Kadeta, Y., and Chapman, B. (2013). "Relative responses of malting barley varieties to increasing nitrogen rates.", 16th Australian Barley Technical Symposium, Melbourne, Australia, September 8-11, 2013, pp. 58.

Otani, J.K., O'Donovan, J.T., Yoder, C., Azooz, R.H., and Burton, S.L. (2013). Competitive contract production of forage seed in western Canada (DIAP# PRO-05147/AGR-05846). AAFC's Developing Innovative Agri-Products Initiative. Final Report 2010-2013, April 19, 2013. (Report)

## 2012

Smith, E.G., O'Donovan, J.T., Henderson, W.J., Turkington, T.K., and Clayton, G.W. (2012). "Malting Barley Production: Profitability and Risk", 2012 Annual Meeting of the Canadian Agricultural Economics Society (CAES), Niagara Falls, ON, Canada, June 17-19, 2012.

Harker, K.N. and O'Donovan, J.T. (2012). "Canola after pulse crops.", Agronomy Update Conference 2012, Red Deer, AB, Canada, January 17-18, 2012, pp. 9.

Beaudoin, N., Sansoulet, J.B., Pattey, E., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., O'Donovan, J.T., and Gervois, S. (2012). "Adaptation de STICS à la culture de canola au Canada à partir du modèle colza en vue de simuler les émissions de N<sub>2</sub>O par ModuloSTICS.", IXe Séminaire du modèle de culture STICS, Sainte-Montaine, France, October 16-19, 2012. (Poster)

## 2011

Blackshaw, R.E., Harker, K.N., and O'Donovan, J.T. (2011). "Polymer-coated urea compared with urea reduces N uptake by weeds.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 65. (Poster)

O'Donovan, J.T., Harker, K.N., and Blackshaw, R.E. (2011). "Implications of sub-economic threshold wild oat densities in a cereal/field pea rotation under no-till.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 46. (Abstract)

Harker, K.N., Turkington, T.K., O'Donovan, J.T., Kutcher, H.R., and Johnson, E.N. (2011). "Barley Herbicide and Fungicide Tank Mixtures?", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 46. (Abstract)

Harker, K.N., Brandt, S.A., O'Donovan, J.T., Blackshaw, R.E., Johnson, E.N., and Kutcher, H.R. (2011). "The Impact of Two Years of Wild Oat Management After Four Years of Low Crop Inputs in Barley and Canola.", 51st Meeting Weed Science Society of America, Hilton Portland & Executive Tower Hotel, Portland, OR, USA, February 7-10, 2011, pp. 62. (Presentation)

O'Donovan, J.T. and Turkington, T.K. (2011). "Effect of farming practices on malting grade barley and brewhouse performance.", Western Barley Growers Association & Master Brewers Association of the Americas Joint Conference, Deerfoot Inn & Casino, Calgary, AB, Canada, February 16-18, 2011.

Turkington, T.K. and O'Donovan, J.T. (2011). "Malt Barley Research Update: The impact of harvest management and seed source", Alberta Barley Commission, Rahr Malting, Inc. and Canadian Wheat Board meeting, Alberta Barley Commission Office, Calgary, AB, Canada, April 19, 2011. (Presentation)

Turkington, T.K., Kutcher, H.R., Xi, K., Harker, K.N., O'Donovan, J.T., and Johnson, E.N. (2011). "The impact of fungicide and herbicide timing on barley leaf disease severity, weed management and crop productivity.", The Western Producer, 101(6), pp. S180. (Abstract)

Harker, K.N., Turkington, T.K., O'Donovan, J.T., Kutcher, H.R., and Johnson, E.N. (2011). "Barley Herbicide and Fungicide Tank-Mixtures?", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 24, 2011. (Presentation)

Blackshaw, R.E., Hao, X., Clayton, G.W., Harker, K.N., O'Donovan, J.T., Johnson, E.N., and Vera, C.L. (2011). "Canola response to polymer-coated urea versus urea in a four-year zero-tillage cropping system on the Canadian prairies.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, pp. 61-64.

O'Donovan, J.T., Blackshaw, R.E., Grant, C.A., Harker, K.N., Lafond, G.P., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., and Lupwayi, N.Z. (2011). "Legume Crops to Improve Soil Fertility for Enhanced Canola Production.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Poster)

Grant, C.A., Zebbarth, B.J., Malhi, S.S., Soon, Y.K., Selles, F., Lupwayi, N.Z., O'Donovan, J.T., Harker, K.N., and Clayton, G.W. (2011). "Changes in soil ammonium and nitrate concentration over the growing season in western Canada as affected by urea or controlled release urea application.", 12th International Symposium on Soil and Plant Analysis, Mediterranean Agronomic Institute of Chania, Crete, Greece, June 6-10, 2011.

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## Research Publications:

2015

O'Hara, J.E., Cerretti, P., and Dahlem, G.A. (2015). "First North American record of the Palaearctic rhinophorid *Stevenia deceptor* (Loew) (Diptera: Rhinophoridae).", *Zootaxa*, 4058(2), pp. 293-295. doi : 10.11646/zootaxa.4058.2.11

Cerretti, P., O'Hara, J.E., Winkler, I.S., Lo Giudice, G., and Stireman III, J.O. (2015). "Two tribes hidden in one genus: the case of *Agaedioxenis* Villeneuve (Diptera: Tachinidae: Exoristinae).", *Organisms, Diversity and Evolution*, 15(3), pp. 489-512. doi : 10.1007/s13127-015-0211-0

Rognes, K., O'Hara, J.E., and Cerretti, P. (2015). "The identity of *Tachina westermanni* Wiedemann, 1819 (Diptera: Calliphoridae or Tachinidae) with a solution to a nomenclatural problem.", *Zootaxa*, 3957(4), pp. 467-479. doi : 10.11646/zootaxa.3957.4.7

Winkler, I.S., Blaschke, J.D., Davis, D.J., Stireman III, J.O., O'Hara, J.E., Cerretti, P., and Moulton, J.K. (2015). "Explosive radiation or uninformative genes? Origin and early diversification of tachinid flies (Diptera: Tachinidae).", *Molecular Phylogenetics and Evolution*, 88, pp. 38-54. doi : 10.1016/j.ympev.2015.03.021

2014

Michelsen, V. and O'Hara, J.E. (2014). "A review of genus-group names in Diptera (Insecta) that J.C. Fabricius "borrowed" from other dipterists and proposed as new in his systematic works from 1775 to 1805.", *Zootaxa*, 3783(1), pp. 73-81. doi : 10.11646/zootaxa.3783.1.6

Cerretti, P., Lo Giudice, G., and O'Hara, J.E. (2014). "A new *Loewia* Egger (Diptera: Tachinidae) from Turkey, with taxonomic and nomenclatural remarks on congeners.", *Zootaxa*, 3754(4), pp. 450-460. doi : 10.11646/zootaxa.3754.4.6

Cerretti, P., O'Hara, J.E., Wood, D.M., Shima, H., Inclan, D.J., and Stireman III, J.O. (2014). "Signal through the noise? Phylogeny of the Tachinidae (Diptera) as inferred from morphological evidence.", *Systematic Entomology*, 39(2), pp. 335-353. doi : 10.1111/syen.12062

Ellenrieder, N.v., Hauser, M., Kinnee, S., O'Hara, J.E., Stireman III, J.O., Cerretti, P., and Wood, D.M. (2014). "First record of a parasitoid tachinid fly (Diptera: Tachinidae) on a dragonfly (Odonata: Calopterygidae).", *Studia Dipterologica*, 21(2), pp. 335-341.

2013

O'Hara, J.E., Raper, C.M., Pont, A.C., and Whitmore, D. (2013). "Reassessment of *Paleotachina* Townsend and *Electrotachina* Townsend and their removal from the Tachinidae (Diptera).", *ZooKeys*, 361, pp. 27-36. doi : 10.3897/zookeys.361.6448

O'Hara, J.E. (2013). "History of tachinid classification (Diptera, Tachinidae).", *ZooKeys*, 316, pp. 1-34. doi : 10.3897/zookeys.316.5132

Mulieri, P.R., Patitucci, L.D., Bachmann, A.O., and O'Hara, J.E. (2013). "The type specimens of Tachinidae (Diptera) housed in the Museo Argentino de Ciencias Naturales "Bernardino Rivadavia", Buenos Aires.", *Zootaxa*, 3670(2), pp. 157-176. doi : 10.11646/zootaxa.3670.2.3

2012

O'Hara, J.E. (2012). "Review of Tachinid Fly Diversity in the Gila National Forest, New Mexico.", in Norris, W. and Felger, R. (eds.) - *Proceedings of the Third Natural History of the Gila Symposium, October 14-16 2010, Western New Mexico University, Silver City, New Mexico / The New Mexico Botanist, Special Issue No. 3, October 2012*, pp. 32-41.

Cerretti, P., Wood, D.M., and O'Hara, J.E. (2012). "*Neoethilla*, a new genus for the first record of the Ethillini from the New World (Diptera, Tachinidae, Exoristinae).", *ZooKeys*, 242, pp. 25-41. doi : 10.3897/zookeys.242.3974

O'Hara, J.E. (2012). "Review of *Euthera* (Diptera: Tachinidae) in North America with the description of a new species.", *Canadian Entomologist*, 144(2), pp. 206-215. doi : 10.4039/tce.2012.23

Gates, M.W., Lill, J.T., Kula, R.R., O'Hara, J.E., Wahl, D.B., Smith, D.R., Whitfield, J.B., Murphy, S.M., and Stoepler, T.M. (2012). "Review of parasitoid wasps and flies (Hymenoptera, Diptera) associated with Limacodidae (Lepidoptera) in North America, with a key to genera.", *Proceedings of the Entomological Society of Washington*, 114(1), pp. 24-110. doi: 10.4289/0013-8797.114.1.24

Sinclair, B.J., Cumming, J.M., Brooks, S.E., O'Hara, J.E., and Skevington, J.H. (Eds.) (2012). "Ottawa Dipterology (1937-1989): Festschrift commemorating the coordinators of the Manual of Nearctic Diptera and their contributions to building the Canadian National Collection of Insects. Part 2.", *Canadian Entomologist*, 144(1), pp. i+1-195.

2011

Cumming, J.M., Sinclair, B.J., Brooks, S.E., O'Hara, J.E., and Skevington, J.H. (2011). "The history of dipterology at the Canadian National Collection of Insects, with special reference to the Manual of Nearctic Diptera.", *The Canadian Entomologist*, 143(6), pp. 539-577. doi: 10.4039/n11-029

Sinclair, B.J., Cumming, J.M., Brooks, S.E., O'Hara, J.E., and Skevington, J.H. (Eds.) (2011). "Ottawa Dipterology (1937-1989): Festschrift commemorating the coordinators of the Manual of Nearctic Diptera and their contributions to building the Canadian National Collection of Insects. Part 1.", *Canadian Entomologist*, 143(6), pp. ii + 539-740.

O'Hara, J.E. and Evenhuis, N.L. (2011). "Case 3539. *Sturmia Robineau-Desvoidy*, 1830, *Senometopia Macquart*, 1834 and *Drino Robineau-Desvoidy*, 1863 (Insecta, Diptera, Tachinidae): proposed conservation of usage.", *Bulletin of Zoological Nomenclature*, 68(1), pp. 61-64.

O'Hara, J.E., Cerretti, P., Pape, T., and Evenhuis, N.L. (2011). "Nomenclatural studies toward a world list of diptera genus-group names. Part II: *Camillo rondani*.", *Zootaxa*, 3141, pp. 1-268.

O'Hara, J.E. (2011). "Cyber nomencluralists and the 'CESA itch'"., *Zootaxa*, 2933, pp. 57-64.

## Other Science Related Publications:

2015

O'Hara, J.E. (Ed.) (2015). "The Tachinid Times 28 (Available for download at <http://www.nadsdiptera.org/Tach/WorldTachs/Ttimes/Tach28.html>).", *The Tachinid Times*, 28, pp. 1-32. (Newsletter)

Brooks, S.E., Sinclair, B.J., Cumming, J.M., O'Hara, J.E., Skevington, J.H., Lonsdale, O., and Cooper, B.E. (2015). Diptera types in the Canadian National Collection of Insects. Supplement. Edition 4.0. 95 pp., [Published on the Internet]. URL: <http://www.nadsdiptera.org/Catalogs/CNCTypes/Suppl.htm>. (Book)

Stireman III, J.O., O'Hara, J.E., Moulton, J.K., Cerretti, P., Winkler, I.S., Blaschke, J.D., and Burington, Z.L. (2015). "Phylogeny of World Tachinidae Project. Continuing progress towards a phylogeny of Tachinidae.", *The Tachinid Times*, 28, pp. 4-7. (Newsletter)

O'Hara, J.E. (2015). "8th International Congress of Dipterology, Potsdam, Germany, August 2014.", *The Tachinid Times*, 28, pp. 20-21. (Newsletter)

O'Hara, J.E. (2015). "Vera Andreevna Richter 1936–2015.", *The Tachinid Times*, 28, pp. 18-19. (Newsletter)

2014

Winkler, I.S., Stireman III, J.O., Moulton, J.K., O'Hara, J.E., Cerretti, P., and Blaschke, J.D. (2014). "Progress towards a molecular phylogeny of Tachinidae, year two.", *The Tachinid Times*, 27, pp. 11-14. (Newsletter)

O'Hara, J.E. (Ed.) (2014). "The Tachinid Times 27 (Available for download at <http://www.nadsdiptera.org/Tach/WorldTachs/Ttimes/Tach27.html>).", *The Tachinid Times*, 27, pp. 1-50. (Newsletter)

O'Hara, J.E. (2014). "New tachinid records for the United States and Canada.", *The Tachinid Times*, 27, pp. 34-40. (Newsletter)

O'Hara, J.E., Cerretti, P., Stireman III, J.O., and Winkler, I.S. (2014). "Chasing tachinids 'Down Under'. Expeditions of the Phylogeny of World Tachinidae Project. Part II. Eastern Australia.", *The Tachinid Times*, 27, pp. 20-31. (Newsletter)

Roslin, T., O'Hara, J.E., Várkonyi, G., and Wirta, H.K. (2014). "Studying tachinids at the top of the world. Notes on the tachinids of Northeast Greenland.", *The Tachinid Times*, 27, pp. 4-10. (Newsletter)

O'Hara, J.E. (2014). "World genera of the Tachinidae (Diptera) and their regional occurrence. Version 8.0.", 87 pp. [Published on the Internet]. Available for download at: <http://www.nadsdiptera.org/Tach/WorldTachs/Genera/Worldgenera.htm>.

## 2013

Cerretti, P., O'Hara, J.E., Stireman III, J.O., and Kirk-Spriggs, A.H. (2013). "To 'Die Hel' and back Expeditions of the Phylogeny of World Tachinidae Project. Part I: Western Cape, South Africa.", *The Tachinid Times*, 26, pp. 20-29. (Newsletter)

O'Hara, J.E. (Ed.) (2013). "The Tachinid Times 26 (Available for download at <http://www.nadsdiptera.org/Tach/WorldTachs/Times/Tach26.html>).", *The Tachinid Times*, 26, pp. 1-61. (Newsletter)

Stireman III, J.O., O'Hara, J.E., Moulton, J.K., Cerretti, P., and Winkler, I.S. (2013). "Progress towards a phylogeny of world Tachinidae. Year 1.", *The Tachinid Times*, 26, pp. 4-9. (Newsletter)

O'Hara, J.E. (2013). "A visit to the Vienna Museum with a brief history of the tachinid collection.", *The Tachinid Times*, 26, pp. 30-38. (Newsletter)

O'Hara, J.E. (2013). "Where in the world are all the tachinid genera?", *The Tachinid Times*, 26, pp. 10-16. (Newsletter)

## 2012

Sinclair, B.J., Cumming, J.M., Brooks, S.E., O'Hara, J.E., and Skevington, J.H. (2012). "Ottawa Dipterology (1937-1989): Festschrift commemorating the coordinators of the Manual of Nearctic Diptera and their contributions to building the Canadian National Collection of Insects. Part 3 (Foreword).", *Canadian Entomologist*, 144(2), pp. i.

O'Hara, J.E. (Ed.) (2012). "The Tachinid Times 25 (Available for download at <http://www.nadsdiptera.org/Tach/WorldTachs/Times/Tach25.html>).", *The Tachinid Times*, 25, pp. 1-28. (Newsletter)

O'Hara, J.E. and Evenhuis, N.L. (2012). "Corrections to 'Nomenclatural studies toward a world list of Diptera genus-group names'.", *The Tachinid Times*, 25, pp. 15-16. (Newsletter)

O'Hara, J.E. (2012). "Looking back on 25 issues of *The Tachinid Times*.", *The Tachinid Times*, 25, pp. 1-2. (Newsletter)

O'Hara, J.E. (2012). "World genera of the Tachinidae (Diptera) and their regional occurrence. Version 7.0.", 75 pp., [Published on the Internet].

Sinclair, B.J., Cumming, J.M., Brooks, S.E., O'Hara, J.E., and Skevington, J.H. (2012). "Ottawa Dipterology (1937-1989): Festschrift commemorating the coordinators of the Manual of Nearctic Diptera and their contributions to building the Canadian National Collection of Insects. Part 2. (Foreword).", *Canadian Entomologist*, 144(1), pp. ii.

## 2011

Sinclair, B.J., Cumming, J.M., Brooks, S.E., O'Hara, J.E., and Skevington, J.H. (2011). "Ottawa Dipterology (1937-1989): Festschrift commemorating the coordinators of the Manual of Nearctic Diptera and their contributions to building the Canadian National Collection of Insects. Part 1. (Foreword).", *Canadian Entomologist*, 143(6), pp. i-ii.

O'Hara, J.E. (Ed.) (2011). "The Tachinid Times 24 (Available for download at <http://www.nadsdiptera.org/Tach/WorldTachs/Times/Tach24.html>).", *The Tachinid Times*, 24, pp. 1-32. (Newsletter)

O'Hara, J.E. (2011). "World genera of the Tachinidae (Diptera) and their regional occurrence. Version 4.0.", 71 pp. [Published on the Internet].

O'Hara, J.E. (2011). "Collecting and preserving tachinid legs for molecular study.", *The Tachinid Times*, 24, pp. 11-14. (Newsletter)

O'Hara, J.E. (2011). "World genera of the Tachinidae (Diptera) and their regional occurrence. Version 6.0.", 75 pp. [Published on the Internet].

O'Hara, J.E. and Cumming, J.M. (2011). *Directory of North American Dipterists*, North American Dipterists Society.



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## Research Publications:

2015

Olfert, O.O., Weiss, R.M., and Elliott, R.H. (2015). "Bioclimatic approach to assessing the potential impact of climate change on wheat midge (Diptera: Cecidomyiidae) in North America.", *The Canadian Entomologist*. doi : 10.4039/tce.2015.40

Floate, K.D., Watson, P.W., Coghlin, P.C., and Olfert, O.O. (2015). "Degree-day models for development of the dung beetles *Onthophagus nuchicornis*, *O. taurus* and *Digitonthophagus gazella* (Coleoptera: Scarabaeidae), and the likelihood of *O. taurus* establishment in southern Alberta, Canada.", *The Canadian Entomologist*, 147(5), pp. 617-627. doi : 10.4039/tce.2014.70

2014

Dixon, P.L., Cass, L., Vincent, C., and Olfert, O.O. (2014). "Implementation and Adoption of Integrated Pest Management in Canada: Insects.", in Peshin, R. and Pimentel, D. (eds.) - *Experiences with IPM, Transgenic Crops and Pesticide Use*, Springer, Chapter 9, pp. 221-252.

2013

Haye, T., Olfert, O.O., Weiss, R.M., Garipey, T.D., Broadbent, A.B., and Kuhlmann, U. (2013). "Bioclimatic analyses of distributions of a parasitoid *Peristenus digoneutis* and its host species *Lygus* spp. in Europe and North America.", *Agricultural and Forest Entomology*, 15(1), pp. 43-55. doi : 10.1111/j.1461-9563.2012.00590.x

Broadbent, A.B., Haye, T., Garipey, T.D., Olfert, O.O., and Kuhlmann, U. (2013). "*Lygus lineolaris*, tarnished plant bug.", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, pp. 221-227.

Gillespie, D.R., Olfert, O.O., and Cock, M.J.W. (2013). "Climate Change and Biological Control in Canada.", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 3, pp. 12-22.

Bahar, M.H., Soroka, J.J., Dosedall, L.M., and Olfert, O.O. (2013). "Occurrence of diamondback moth and its larval parasitoids in Saskatchewan, Canada.", *Biocontrol Science and Technology*, 23(3), pp. 724-729. doi : 10.1080/09583157.2013.790343

2012

Olfert, O.O., Weiss, R.M., Cárcamo, H.A., and Meers, S. (2012). "The Influence of Abiotic Factors on an Invasive Pest of Pulse Crops, *Sitona lineatus* (L.) (Coleoptera: Curculionidae), in North America.", *Psyche*, 2012(Article ID 746342). doi : 10.1155/2012/746342

Lemke, R.L., Malhi, S.S., Johnson, E.N., Brandt, S.A., Zentner, R.P., and Olfert, O.O. (2012). "Alternative Cropping Systems Study - Scott, Saskatchewan.", *Prairie Soils and Crops*, 5, pp. 74-84.

Olfert, O.O., Weiss, R.M., Cárcamo, H.A., Cárcamo, H., and Meers, S. (2012). "Actual and potential distribution of an invasive pest of pulse crops, *Sitona lineatus* (L.) (Coleoptera: Curculionidae), in North America.", *Psyche*, 2012(Article ID 746342), pp. 1-11.

2011

Elliott, R.H., Mann, L.W., and Olfert, O.O. (2011). "Calendar and degree-day requirements for emergence of adult *Macroglanes penetrans* (Kirby), an egg-larval parasitoid of wheat midge, *Sitodiplosis mosellana* (Géhin).", *Crop Protection*, 30(4), pp. 405-411. doi : 10.1016/j.cropro.2010.12.007

Dosedall, L.M., Soroka, J.J., and Olfert, O.O. (2011). "The Diamondback Moth in Canola and Mustard: Current Pest Status and Future Prospects.", *Prairie Soils and Crops*, 4, pp. 66-76.

Elliott, R.H., Olfert, O.O., and Hartley, S. (2011). "Management practices for wheat midge, *Sitodiplosis mosellana* (Géhin).", *Prairie Soils and Crops*, 4, pp. 8-13.

Fernandez, M.R., Ulrich, D.J., Brandt, K., Zentner, R.P., Wang, H., Thomas, A.G., and Olfert, O.O. (2011). "Crop management effects on root and crown rot of wheat in West-Central Saskatchewan, Canada.", *Agronomy Journal*, 103(3), pp. 756-765. doi : 10.2134/agnonj2010.0190

Dosdall, L.M., Cárcamo, H.A., Olfert, O.O., Meers, S., Hartley, S., and Gavloski, J.E. (2011). "Insect invasions of agroecosystems in the western Canadian prairies: case histories, patterns, and implications for ecosystem function.", *Biological Invasions*, 13(5), pp. 1135-1149. doi : 10.1007/s10530-011-9951-8

Mason, P.G., Weiss, R.M., Olfert, O.O., Appleby, M.E., and Landry, J.-F. (2011). "Actual and potential distribution of *Acrolepiopsis assectella* (Lepidoptera: Acrolepiidae), an invasive alien pest of *Allium* spp. In Canada.", *Canadian Entomologist*, 143(2), pp. 185-196. doi : 10.4039/n10-058

Zentner, R.P., Basnyat, P., Brandt, S.A., Thomas, A.G., Ulrich, D.J., Campbell, C.A., Nagy, C.N., Frick, B.L., Lemke, R.L., Malhi, S.S., Olfert, O.O., and Fernandez, M.R. (2011). "Effects of input management and crop diversity on economic returns and riskiness of cropping systems in the semi-arid Canadian Prairie.", *Renewable Agriculture and Food Systems*, 26(3), pp. 208-223. doi : 10.1017/s1742170510000591

Olfert, O.O., Weiss, R.M., and Kriticos, D.J. (2011). "Application of General Circulation Models to Assess the Potential Impact of Climate Change on Potential Distribution and Relative Abundance of *Melanoplus sanguinipes* (Fabricius) (Orthoptera: Acrididae) in North America", *Psyche*, 2011 (Article ID 980372). doi : 10.1155/2011/980372

## Other Science Related Publications:

2015

Olfert, O.O. and Otani, J.K. (2015). "Who Will be Bugging You in 2015?", Invited symposium speaker at Crop Sphere – Crop Production Show, Saskatoon, Canada, January 11-14, 2015. (Presentation)

Olfert, O.O., Meers, S., Cárcamo, H.A., and Hartley, S. (2015). "Pea leaf weevil in Alberta and Saskatchewan in 2014. 2014 Crop Variety Highlights and Insect Pest Forecasts.", *Saskatoon Research Centre Technical Bulletin*, 2015(1), pp. 18-19.

Olfert, O.O., Cárcamo, H.A., and Meers, S. (2015). "Wheat stem sawfly in Alberta in 2014. 2014 Crop Variety Highlights and Insect Pest Forecasts.", *Saskatoon Research Centre Technical Bulletin*, 2015(1), pp. 16-17.

Philip, H., Svendsen, E., Olfert, O.O., Olivier, C.Y., Cárcamo, H.A., Soroka, J.J., Otani, J.K., and Wist, T. (2015). *Field Crop and Forage Pests and their Natural Enemies in Western Canada – Identification and Management Field Guide*. (Report)

Olfert, O.O., Meers, S., Hartley, S., and Otani, J.K. (2015). "Cabbage seedpod weevil in Alberta and Saskatchewan for 2014. 2014 Crop Variety Highlights and Insect Pest Forecasts.", *Saskatoon Research Centre Technical Bulletin*, 2015(1), pp. 14-15.

Olfert, O.O., Elliott, R.H., Meers, S., and Hartley, S. (2015). "Forecast of wheat midge in Saskatchewan and Alberta for 2015. 2014 Crop Variety Highlights and Insect Pest Forecasts.", *Saskatoon Research Centre Technical Bulletin*, 2015(1), pp. 12-13.

Olfert, O.O. (2015). *Saskatchewan Entomology Research Summary*. Report to Western Committee on Crop Pests. Abbotsford, BC, October 21-23, 2015. 11 pp. (Report)

Kamchen, R., Olfert, O.O., Svenson, E., and Hummel, J.D. (2015). *Crops Guide - Boost your Beneficials*. Country Guide - April 2015: pp.46-47.. (Guide)

Elliott, R.H., Mann, L.W., Olivier, C.Y., Olfert, O.O., and Soroka, J.J. (2015). "Evaluation of new technologies and management practices for flea beetles and leafhoppers in canola. Industry Update. Saskatoon. February 9, 2015." (Technology transfer)

Olfert, O.O. and Otani, J.K. (2015). "2015 Insect Pest Update.", *Prairie Pest Monitoring Network Annual Meeting*, March 24, 2015. (Presentation)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). *Prairie Pest Monitoring Network - Bulletin – July 8, 2015 edition*. 2015-7:1-19. <https://drive.google.com/file/d/0B76STh680wP1WTFySHZsZmVqT3M/view>. (Report)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). *Prairie Pest Monitoring Network - Bulletin – September 3, 2015 edition*. 2015-15:1-13. <https://drive.google.com/file/d/0B76STh680wP1TVNHS1FIM1VNV2M/view>. (Report)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). *Prairie Pest Monitoring Network - Bulletin – August 26, 2015 edition*. 2015-14:1-14. <https://drive.google.com/file/d/0B76STh680wP1TVNHS1FIM1VNV2M/view>. (Report)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). *Prairie Pest Monitoring Network - Bulletin – August 19, 2015 edition*. 2015-13:1-14. <https://drive.google.com/file/d/0B76STh680wP1TVNHS1FIM1VNV2M/view>. (Report)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). *Prairie Pest Monitoring Network - Bulletin – August 12, 2015 edition*. 2015-12:1-16. <https://drive.google.com/file/d/0B76STh680wP1TVNHS1FIM1VNV2M/view>. (Report)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). Prairie Pest Monitoring Networke-Bulletin – May 27, 2015 edition. 2015-1:1-12. <https://docs.google.com/file/d/0B76STh680wP1Q3JKRTMtRjdSdEk/view>. (Report)

Kaye, T., Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). Prairie Pest Monitoring Networke-Bulletin – June 24, 2015 edition. 2015-5:1-17. <https://drive.google.com/file/d/0B76STh680wP1cnlxZ3RianFLclU/view>. (Report)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). Prairie Pest Monitoring Networke-Bulletin – June 17, 2015 edition. 2015-4:1-19. <https://drive.google.com/file/d/0B76STh680wP1cnlxZ3RianFLclU/view>. (Report)

Olfert, O.O. (2015). "Risk Warning Systems for IPM of insect pests in western Canada.", Joint Annual Meeting of the Société d'entomologie du Québec and the Entomological Society of Canada, Montreal, QC, Canada, November 8-11, 2015.

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). Prairie Pest Monitoring Networke-Bulletin – July 1, 2015 edition. 2015-6:1-17. <https://drive.google.com/file/d/0B76STh680wP1d2U5UmI4eWZyQ1U/view>. (Report)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). Prairie Pest Monitoring Networke-Bulletin – August 5, 2015 edition. 2015-11:1-13. <https://drive.google.com/file/d/0B76STh680wP1TVNHS1FIM1VNV2M/view>. (Report)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). Prairie Pest Monitoring Networke-Bulletin – June 3, 2015 edition. 2015-2:1-12. <https://drive.google.com/file/d/0B76STh680wP1Q016anRSMW9WRUk/view>. (Report)

Elliott, R.H., Mann, L.W., Olivier, C.Y., Olfert, O.O., and Soroka, J.J. (2015). "Evaluation of new technologies and management practices for flea beetles and leafhoppers in canola.", Invited webinar presentations to Canola Council of Canada agronomists, Saskatoon, Canada, April 10 and 24, 2015. (Presentation)

Elliott, R.H., Mann, L.W., and Olfert, O.O. (2015). "Influence of seeding date on flea beetle damage, flea beetle emergence and agronomic performance of five mustard and canola types.", Prairie Pest Monitoring Network Saskatoon, Saskatoon, Canada, March 24, 2015. (Presentation)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). Prairie Pest Monitoring Networke-Bulletin – July 15, 2015 edition. 2015-8:1-24. <https://drive.google.com/file/d/0B76STh680wP1TVNHS1FIM1VNV2M/view>. (Report)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). Prairie Pest Monitoring Networke-Bulletin – July 22, 2015 edition. 2015-9:1-17. <https://drive.google.com/file/d/0B76STh680wP1TVNHS1FIM1VNV2M/view>. (Report)

Erlandson, M.A., Coutu, C., Holowachuk, J., Olfert, O.O., Garipey, T.D., and Hegedus, D.D. (2015). "Developing genotyping-by-sequencing strategies for characterizing *Mamestra configurata* populations.", Joint Annual Meeting of Société d'entomologie du Québec and Entomological Society of Canada, Montreal, QC, Canada, November 8-11, 2015, Oral Presentation.

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). Prairie Pest Monitoring Networke-Bulletin – July 29, 2015 edition. 2015-10:1-16. <https://drive.google.com/file/d/0B76STh680wP1TVNHS1FIM1VNV2M/view>. (Report)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). Prairie Pest Monitoring Networke-Bulletin – June 10, 2015 edition. 2015-3:1-12. <https://docs.google.com/file/d/0B76STh680wP1Q3JKRTMtRjdSdEk/view>. (Report)

## 2014

Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Networke-Bulletin – May 7, 2014 edition. 2014-1:1-8. ([http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014May07\\_Week1\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014May07_Week1_WeeklyUpdate.pdf)). (Report)

Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Networke-Bulletin – June 18, 2014 edition. 2014-7:1-16. [http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jun18\\_Week7\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jun18_Week7_WeeklyUpdate.pdf). (Report)

Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Networke-Bulletin – July 16, 2014 edition. 2014-11:1-17. [http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jul16\\_Week11\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jul16_Week11_WeeklyUpdate.pdf). (Report)

Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Networke-Bulletin – July 2, 2014 edition. 2014-9:1-10. [http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jul02\\_Week9\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jul02_Week9_WeeklyUpdate.pdf). (Report)

Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Networke-Bulletin – June 25, 2014 edition. 2014-8:1-15. [http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jun25\\_Week8\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jun25_Week8_WeeklyUpdate.pdf). (Report)

- Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Network-Bulletin – June 11, 2014 edition. 2014-6:1-13.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jun11\\_Week6\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jun11_Week6_WeeklyUpdate.pdf). (Report)
- Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Network-Bulletin – June 4, 2014 edition. 2014-5:1-11.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jun04\\_Week5\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jun04_Week5_WeeklyUpdate.pdf). (Report)
- Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Network-Bulletin – May 28, 2014 edition. 2014-4:1-16.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014May28\\_Week4\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014May28_Week4_WeeklyUpdate.pdf). (Report)
- Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Network-Bulletin – May 14, 2014 edition. 2014-2:1-9.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014May14\\_Week2\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014May14_Week2_WeeklyUpdate.pdf). (Report)
- Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Network-Bulletin – July 23, 2014 edition. 2014-12:1-18.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jul23\\_Week12\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jul23_Week12_WeeklyUpdate.pdf). (Report)
- Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Network-Bulletin – May 21, 2014 edition. 2014-3:1-13.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014May21\\_Week3\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014May21_Week3_WeeklyUpdate.pdf). (Report)
- Olfert, O.O., Meers, S., Cárcamo, H.A., and Hartley, S. (2014). "Pea leaf weevil in Alberta and Saskatchewan in 2014. 2014 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2014(1), pp. 18-19.
- Cárcamo, H.A., Dosdall, L.M., Olfert, O.O., Meers, S., Gavloski, J.E., and Hartley, S. (2014). "Recent changes in insect communities associated with agricultural systems in the Prairies.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014, Invited Symposium.
- Cárcamo, H.A. and Olfert, O.O. (2014). "Control biológico de insectos plagas invasivas en cereales en las Praderas Canadienses.", Simposio en México, November 14, 2014.
- Wist, T., Olivier, C.Y., Gavloski, J.E., and Olfert, O.O. (2014). "Development of a dynamic action threshold for aphids in cereal crops.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014.
- Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Network-Bulletin – July 9, 2014 edition. 2014-10:1-8.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jul09\\_Week10\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jul09_Week10_WeeklyUpdate.pdf). (Report)
- Soroka, J.J., Andreassen, L.D., Olfert, O.O., and Weiss, R.M. (2014). "Distribution of swede midge on the Prairies.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014.
- Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Network-Bulletin – July 30, 2014 edition. 2014-13:1-14.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jul30\\_Week13\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jul30_Week13_WeeklyUpdate.pdf). (Report)
- Olfert, O.O., Cárcamo, H.A., Elliott, R.H., Gan, Y.T., McLaren, D.L., Olivier, C.Y., Otani, J.K., Peng, G., and Soroka, J.J. (2014). Detection, surveillance and management of weed, insect and disease pests that threaten the economic viability of crop production and the environmental health of prairie agro-ecosystems. Annual Report to Canola Science Cluster (4 pages). (Report)
- Cárcamo, H.A., Dosdall, L.M., Olfert, O.O., Meers, S., Gavloski, J.E., and Hartley, S. (2014). "Recent changes in insect communities associated with agricultural systems in the Prairies.", Invited Symposium, Saskatoon, Canada, November 6, 2014, Oral Presentation.
- Cárcamo, H.A. and Olfert, O.O. (2014). "Biological Control of invasive insect pests of cereals in the Canadian Prairies.", 37th Mexican Congress on Biological Control, Merida, México, November 6, 2014, Invited Symposium Oral Presentation.
- Johnson, E.N., Leeson, J.Y., Lemke, R.L., Olfert, O.O., and Moulin, A.P. (2014). "Effect of Cropping Diversity and Input System on Weed Populations in an 18-Year Cropping System Study.", 10th European Weed Research WRS Workshop on Physical and Cultural Weed Control, Alnarp, Sweden, March 16-19, 2014. (Abstract)

Otani, J.K. and Olfert, O.O. (2014). Development of reduced-risk strategies through coordinated monitoring, forecasting and risk warning systems for insect pests of field crops. Annual Report to WGRF (8 pages). (Report)

Erlanson, M.A., Theilmann, D.A., Hegedus, D.L., Donly, T., Garipey, T.D., and Olfert, O.O. (2014). Bertha armyworm (*Mamestra configurata*): Genomics, population dynamics and biodiversity of pest and pathogens. Annual Project Report to AAFC-Genomics. (Report)

Svendsen, E. and Olfert, O.O. (2014). Pest and Beneficial Insects and Mites of Field Crops in Western Canada – A Field Guide. Annual Report to Pest Management Centre (6 pages). (Report)

Olfert, O.O. (2014). "The entomological thread within agricultural research: Saskatoon 1918-2014.", Joint Annual Meeting of the Entomological Societies of Canada and Saskatchewan. Symposium: Arthropod "omics" – Impact on Management, Saskatoon, Canada, September 26-October 1, 2014.

Olfert, O.O., Meers, S., Hartley, S., and Otani, J.K. (2014). "Cabbage seedpod weevil in Alberta and Saskatchewan for 2014. 2014 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2014(1), pp. 14-15.

Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Network - Bulletin – August 5, 2014 edition. 2014-14:1-8.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Aug05\\_Week14\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Aug05_Week14_WeeklyUpdate.pdf). (Report)

Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Network - Bulletin – August 12, 2014 edition. 2014-15:1-9.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Aug12\\_Week15\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Aug12_Week15_WeeklyUpdate.pdf). (Report)

Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Network - Bulletin – August 20, 2014 edition. 2014-16:1-7.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Aug20\\_Week16\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Aug20_Week16_WeeklyUpdate.pdf). (Report)

Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Network - Bulletin – August 27, 2014 edition. 2014-17:1-9.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Aug27\\_Week17\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Aug27_Week17_WeeklyUpdate.pdf). (Report)

Otani, J.K., Soroka, J.J., and Olfert, O.O. (2014). "Swede midge in Emerging issues session – CanoLAB 2014.", Organized by the Canola Council of Canada & Alberta Canola Producers Commission, Olds, AB, Canada, February 19-21, 2014. (Presentation)

Olfert, O.O., Giffen, D.W., Hartley, S., Gavloski, J.E., Meers, S., and Otani, J.K. (2014). "The 2015 Prairie Grasshopper Forecast. 2014 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2014(1), pp. 10-11.

Olfert, O.O., Elliott, R.H., Meers, S., and Hartley, S. (2014). "Forecast of wheat midge in Saskatchewan and Alberta for 2015. 2014 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2014(1), pp. 12-13.

Olfert, O.O., Cárcamo, H.A., and Meers, S. (2014). "Wheat stem sawfly in Alberta in 2014. 2014 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2014(1), pp. 16-17.

Olfert, O.O., Meers, S., Gavloski, J.E., Hartley, S., and Otani, J.K. (2014). "Bertha armyworm in western Canada. 2014 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2014(1), pp. 8-9.

## 2013

Cárcamo, H.A., Meers, S., Dosdall, L.M., and Olfert, O.O. (2013). Management of lygus bugs and seedpod weevil in canola at the farm level. Final Report submitted to the Canola Council of Canada for Project #2010-020 of the Canola Agronomic Research Program. (Report)

Olfert, O.O., Giffen, D.W., Hartley, S., Vadrnais, M., Gavloski, J.E., Meers, S., and Otani, J.K. (2013). "The 2013 Prairie Grasshopper Forecast. 2012 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2013(1), pp. 10-11.

Olfert, O.O., Meers, S., Cárcamo, H.A., and Hartley, S. (2013). "Pea leaf weevil in Alberta and Saskatchewan in 2012. 2012 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2013(1), pp. 18-19.

Otani, J.K., Olfert, O.O., Weiss, R.M., and Giffen, D.W. (2013). "Canola surveying in the Peace River region.", Joint Annual Meeting of the Entomological Societies of Ontario and Canada, Guelph, Ontario, Canada, October 20-23, 2013, pp. 63.

Doane, J.F., Olfert, O.O., Elliott, R.H., Hartley, S., and Meers, S. (2013). "Sitodiplosis mosellana (Géhin), Wheat Midge (Diptera: Cecidomyiidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, Wallingford, UK.

Olfert, O.O., Cárcamo, H.A., and Meers, S. (2013). "Wheat stem sawfly in Alberta in 2012. 2012 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2013(1), pp. 16-17.

Olfert, O.O., Meers, S., Hartley, S., and Otani, J.K. (2013). "Cabbage seedpod weevil in Alberta and Saskatchewan for 2012. 2012 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2013(1), pp. 14-15.

Olfert, O.O., Elliott, R.H., Meers, S., Hartley, S., and Otani, J.K. (2013). "Forecast of wheat midge in Saskatchewan and Alberta for 2013. 2012 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2013(1), pp. 12-13.

Olfert, O.O., Meers, S., Gavloski, J.E., Hartley, S., and Otani, J.K. (2013). "Bertha armyworm in western Canada. 2012 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2013(1), pp. 8-9.

Munir, S., Dossall, L.M., Soroka, J.J., Olfert, O.O., and Andrahennadi, R. (2013). "Diamondback moth, *Plutella xylostella* (L.) (Lepidoptera: Plutellidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, Wallingford, UK.

## 2012

Olfert, O.O., Weiss, R.M., Turkington, T.K., Beckie, H.J., and Kriticos, D.J. (2012). "Bioclimatic approach to assessing the potential impact of climate change on representative crop pests in North America.", Topics in Canadian Weed Science, 8, pp. 47-70.

Otani, J.K., Meers, S., Olfert, O.O., and Giffen, D.W. (2012). "What's bugging you – an insect pest update for Alberta.", FarmTech 2012, Edmonton, AB, Canada, January 24, 2012, pp. 109-111.

Beckie, H.J., Weiss, R.M., Olfert, O.O., and Leeson, J.Y. (2012). "Range Expansion of Kochia (*Kochia scoparia*) in North America under a Changing Climate.", Topics in Canadian Weed Science, 8, pp. 33-46.

Olfert, O.O., Haye, T., Weiss, R.M., and Kuhlmann, U. (2012). "Insights into the Potential of Classical Biological Control in a Changing Climate.", Invited speaker at 24th International Congress of Entomology (ICE 2012): Phloemophagous insects: Strategies and impacts on plants, Daegu, South Korea, August 19-25, 2012.

Olfert, O.O., Weiss, R.M., and Haye, T. (2012). "Modeling the biological requirements of insects to assess the potential impact of climate change.", Entomological Society of Canada and the Entomological Society of Alberta 2012 Joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012. (Presentation)

Otani, J.K., Meers, S., Hartley, S., Gavloski, J.E., Dossall, L.M., Cárcamo, H.A., and Olfert, O.O. (2012). "Coordinated monitoring, forecasting and risk warning systems for field crop insects.", 24th International Congress of Entomology (ICE 2012) and International Organization for Biological Control (IOBC) Global Symposium, Daegu, South Korea, August 19-25, 2012.

Munir, S., Dossall, L.M., Soroka, J.J., and Olfert, O.O. (2012). "Impact of water-stressed host plant on oviposition choices of diamondback moth, *Plutella xylostella*.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #136. (Abstract)

Bahar, M.H., Soroka, J.J., Dossall, L.M., and Olfert, O.O. (2012). "Survival and development of diamondback moth and its parasitoid *Diadegma insulare* under various short-term high extreme temperature regimes.", Entomological Society of America (ESA) 60th Annual Meeting, Knoxville Convention Centre, Knoxville, TN, USA, November 11-14, 2012, #1024.

## 2011

Olfert, O.O., Giffen, D.W., Hartley, S., Vadnais, M., Gavloski, J.E., Meers, S., and Otani, J.K. (2011). "The 2011 Saskatchewan and Manitoba grasshopper forecast. 2010 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2011(1), pp. 10-11.

Olfert, O.O., Haye, T., Weiss, R.M., and Kuhlmann, U. (2011). "A Role for Bioclimate Modelling in Development of IPM Strategies: Case Study – Insights into the Potential of Classical Biological Control in a Changing Climate", OECD Workshop on Integrated Pest Management (IPM): Technology and Information, Berlin, Germany, October 16-19, 2011.

Olfert, O.O., Meers, S., Hartley, S., and Otani, J.K. (2011). "Cabbage seedpod weevil in Alberta and Saskatchewan for 2010. 2010 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2011(1), pp. 14-15.

Olfert, O.O., Elliott, R.H., Meers, S., and Hartley, S. (2011). "Forecast of wheat midge in Saskatchewan for 2011. 2010 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2011(1), pp. 12-13.

Mason, P.G., Weiss, R.M., and Olfert, O.O. (2011). "Predicting insect distributions: CLIMEX as a tool, Better Models – Better Assessments: The Use of Models in Plant Health and Biotechnology Risk Assessment.", Plant and Biotechnology Risk Assessment Unit, Canadian Food Inspection Agency (CFIA) Workshop, Lord Elgin Hotel, Ottawa, ON, Canada, February 22-23, 2011.

Floate, K.D., Watson, D.W., Weiss, R.M., and Olfert, O.O. (2011). "Introducing new species of dung beetles into Canada to improve pasture productivity.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting: Canadian Forum for Biological Control, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011.

Olfert, O.O., Meers, S., Gavloski, J.E., Hartley, S., Otani, J.K., and Clark, K. (2011). "Bertha armyworm in western Canada. 2010 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2011(1), pp. 8-9.

Olfert, O.O., Weiss, R.M., and Soroka, J.J. (2011). "Modeling Tools Provide Advance Warnings of Potential Distribution of Diamondback Moth and Crop Risk Associated with the Number of Generations.", OECD Workshop on Integrated Pest Management (IPM): Technology and Information, Berlin, Germany, October 16-19, 2011.

Olfert, O.O., Weiss, R.M., Soroka, J.J., and Dosdall, L.M. (2011). "Modeling Tools Provide Advance Warnings of Potential Distribution of Diamondback Moth and Crop Risk Associated with the Number of Generations.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, Abstract P 304, pp. 478. (Abstract)

Weiss, R.M. and Olfert, O.O. (2011). "Bioclimatic approaches to assessing the potential impact of present and future climate on insect distribution and abundance.", Entomological Society of Saskatchewan 2011 Spring Meeting, Saskatoon, SK, Canada, March 25, 2011.

Klein-Gebbinck, H.W., Turkington, T.K., Olfert, O.O., Weiss, R.M., Kriticos, D.J., Kutcher, H.R., Falk, K.C., and Strelkov, S.E. (2011). "Projected distribution and severity of clubroot of canola in the Canadian prairies under incremental temperature and precipitation, and potential climate change scenarios.", Climate Change and the Implications for Plant Science: The science, the impacts, and the options, University of Guelph, Guelph, ON, Canada, June 7-9, 2011.

Olfert, O.O., Cárcamo, H.A., and Meers, S. (2011). "Wheat stem sawfly in Alberta in 2010. 2010 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2011(1), pp. 16-17.

Olfert, O.O., Meers, S., Cárcamo, H.A., and Hartley, S. (2011). "Pea leaf weevil in Alberta and Saskatchewan in 2010. 2010 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2011(1), pp. 18-19.

Elliott, R.H., Mann, L.W., and Olfert, O.O. (2011). "Methods of forecasting emergence of adult wheat midge and its parasitoid, *M. penetrans*.", Prairie Pest Monitoring Network Annual Meeting, Saskatoon, SK, Canada, March 10, 2011.

Turkington, T.K., Klein-Gebbinck, H.W., Olfert, O.O., Weiss, L.M., Kriticos, D.J., Kutcher, H.R., Falk, K.C., and Strelkov, S.E. (2011). "Projected distribution and severity of clubroot of canola in the Canadian prairies.", *Phytopathology*, 101(6), pp. S179. (Abstract)

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## Research Publications:

2015

Saguez, J., Lemoyne, P., Giordanengo, P., Olivier, C.Y., Lasnier, J., Mauffette, Y., and Vincent, C. (2015). "Characterization of the feeding behavior of three *Erythroneura* species on grapevine by histological and DC-electrical penetration graph techniques.", *Entomologia Experimentalis et Applicata*, 157(2), pp. 227-240. doi : 10.1111/eea.12353

Soroka, J.J., Olivier, C.Y., Grenkow, L.F., and Séguin-Swartz, G.T. (2015). "Interactions between *Camelina sativa* and Insect Pests of Canola.", *The Canadian Entomologist*, 147(2), pp. 193-214. doi: 10.4039/tce.2014.42

2014

Olivier, C.Y., Elliott, R.H., Man, L., and Nordin, D. (2014). "Development of a rating scale for Aster yellow in canola.", *Canadian Plant Disease Survey*, 94, pp. 162-176.

Dumoncaux, T.J., Green, M., Hammond, C., Perez, E., and Olivier, C.Y. (2014). "Molecular Diagnostic Tools for Detection and Differentiation of Phytoplasmas Based on Chaperonin-60 Reveal Differences in Host Plant Infection Patterns.", *PLoS ONE*, 9(12: e116039). doi: 10.1371/journal.pone.0116039

Olivier, C.Y., Saguez, J., Stobbs, L.W., Lowery, D.T., Galka, B., Whybourne, K.J., Bittner, L.A., Chen, X., and Vincent, C. (2014). "Occurrence of phytoplasmas in leafhoppers and cultivated grapevines in Canada.", *Agriculture, Ecosystems and Environment*, 195, pp. 91-97. doi: 10.1016/j.agee.2014.05.008

Saguez, J., Olivier, C.Y., Hamilton, A., Lowery, D.T., Stobbs, L.W., Lasnier, J., Galka, B., Chen, X., Mauffette, Y., and Vincent, C. (2014). "Diversity and abundance of leafhoppers in Canadian vineyards.", *Journal of Insect Science*, 14(1: Article 73), pp. 20 pages. doi : 10.1093/jis/14.1.73

## Other Science Related Publications:

2015

Philip, H., Svendsen, E., Olfert, O.O., Olivier, C.Y., Cárcamo, H.A., Soroka, J.J., Otani, J.K., and Wist, T. (2015). *Field Crop and Forage Pests and their Natural Enemies in Western Canada – Identification and Management Field Guide*. (Report)

Saguez, J., Olivier, C.Y., Lasnier, J., and Vincent, C. (2015). "Phytoplasmes de la vigne: vers des pistes de solutions.", *Symposium Vigne et Vin, CRAAQ, Drummondville, QC, 10 février 2015*.

Saguez, J., Olivier, C.Y., Lasnier, J., Hamilton, A., Stobbs, L.W., and Vincent, C. (2015). *Biology and integrated management of leafhoppers and phytoplasma diseases in vineyards of eastern Canada*. Technical Bulletin A59-32/2015E-PDF, Agriculture and Agri-Food Canada, 67 p.

Olivier, C.Y., Elliott, R.H., Bahar, M.H., Mann, L.W., and Nordin, D. (2015). "Influence of soil moisture and leafhopper feeding densities on phytoplasma titres, aster yellow symptoms and seed yield of hybrid canola.", *International Rapeseed Congress, Saskatoon, Canada, July 2015*, Abstract and summary of proposed oral presentation.

Elliott, R.H., Mann, L.W., Olivier, C.Y., Olfert, O.O., and Soroka, J.J. (2015). "Evaluation of new technologies and management practices for flea beetles and leafhoppers in canola. Industry Update. Saskatoon. February 9, 2015." (Technology transfer)

Vincent, C., Olivier, C.Y., Lasnier, J., and Saguez, J. (2015). "Dix questions sur le système cicadelles/phytoplasmes/vignes.", *Antennae*, 22(2), pp. 3-6.

Elliott, R.H., Olivier, C.Y., Mann, L.W., and Nordin, D. (2015). "Evaluation of seed treatments for control of leafhoppers and suppression of aster yellows in hybrid canola.", *International Rapeseed Congress, Saskatoon, Canada, July 2015*. (Poster)

Elliott, R.H., Mann, L.W., Olivier, C.Y., Olfert, O.O., and Soroka, J.J. (2015). "Evaluation of new technologies and management practices for flea beetles and leafhoppers in canola.", *Invited webinar presentations to Canola Council of Canada agronomists, Saskatoon, Canada, April 10 and 24, 2015*. (Presentation)



Olivier, C.Y., Saguez, J., Dumonceaux, T.J., Lasnier, J., and Vincent, C. (2015). "New phytoplasma identified from grapevines and leafhoppers collected in vineyards of Quebec.", International Plant Protection Congress (IPPC) 2015, Berlin, Germany, August 25-27, 2015, Poster PPI 67. (Poster)

Olivier, C.Y., Saguez, J., Dumonceaux, T.J., Lasnier, J., and Vincent, C. (2015). "Fluctuations over time of phytoplasma diseases incidence in grapevines and in leafhoppers in Quebec and Ontario vineyards.", Entomological Society of America, Minneapolis, Minnesota, USA, November 18, 2015. (Poster)

Olivier, C.Y., Saguez, J., Dumonceaux, T.J., Lasnier, J., and Vincent, C. (2015). "Que transportent les cicadelles de la vigne au Québec?", Joint meeting, Entomological Society of Canada/ Société d'entomologie du Québec, Montréal, QC, Canada, November 10, 2015. (Poster)

Elliott, R.H., Olivier, C.Y., Mann, L.W., and Nordin, D. (2015). "Evaluation of seed treatments for control of leafhoppers and suppression of aster yellows in hybrid canola.", International Rapeseed Congress, Saskatoon, Canada, July 2015, Abstract and summary of proposed oral presentation.

## 2014

Olivier, C.Y., Vincent, C., Saguez, J., Dumonceaux, T.J., and Lasnier, J. (2014). "Phytoplasma biodiversity in grapevines and leafhoppers sampled in vineyards of Quebec.", Entomological Society of America 2014 Annual Meeting, Portland, Oregon, USA, November 18, 2014. (Poster)

Saguez, J., Olivier, C.Y., Lasnier, J., and Vincent, C. (2014). "Biodiversity of cicadellids in Quebec vineyards.", Joint meeting, Entomological Society of Canada/ Entomological Society of Saskatchewan, Saskatoon, Sask., Canada, September 30, 2014.

Saguez, J., Giordanengo, P., Olivier, C.Y., Lasnier, J., and Vincent, C. (2014). "Feeding behavior of three *Erythroneura* spp. (Cicadellidae) on grapevine.", Joint meeting, Entomological Society of Canada / Entomological Society of Saskatchewan, Saskatoon, Sask., Canada, September 30-October 1, 2014.

Olivier, C.Y., Stobbs, L.W., Lasnier, J., Saguez, J., and Vincent, C. (2014). "Phytoplasma diseases in Ontario vineyards: Review and future projects.", Ontario Pest Management Conference, University of Guelph, Guelph, ON, Canada, November 13, 2014.

Olfert, O.O., Cárcamo, H.A., Elliott, R.H., Gan, Y.T., McLaren, D.L., Olivier, C.Y., Otani, J.K., Peng, G., and Soroka, J.J. (2014). Detection, surveillance and management of weed, insect and disease pests that threaten the economic viability of crop production and the environmental health of prairie agro-ecosystems. Annual Report to Canola Science Cluster (4 pages). (Report)

Wist, T., Olivier, C.Y., Gavloski, J.E., and Olfert, O.O. (2014). "Development of a dynamic action threshold for aphids in cereal crops.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014.

Elliott, R.H. and Olivier, C.Y. (2014). "Evaluation of seed treatments for control of aster leafhoppers and suppression of aster yellows in canola.", Prairie Pest Monitoring Network, Saskatoon, Canada, March 25, 2014. (Presentation)

Olivier, C.Y. and Elliott, R.H. (2014). "Aster yellows diseases – research update.", Prairie Pest Monitoring Network, Saskatoon, Canada, March 25, 2014. (Presentation)

Saguez, J., Olivier, C.Y., Lasnier, J., and Vincent, C. (2014). "On en sait maintenant plus sur les maladies à phytoplasmes en vignobles Canadiens.", 141<sup>ème</sup> réunion de la Société d'entomologie du Québec, Wendake, QC., Canada, 7 novembre 2014. (Poster)

Olivier, C.Y., Dumonceaux, T.J., Hammond, C., Saguez, J., and Vincent, C. (2014). "New phytoplasma strains in Quebec vineyards.", Joint meeting, Entomological Society of Canada / Entomological Society of Saskatchewan, Saskatoon, Sask., Canada, September 30-October 1, 2014, Poster 26. (Poster)

## 2013

Bahar, M.H., Olivier, C.Y., Bekkaoui, D.R., Hegedus, D.L., and Soroka, J.J. (2013). "Detection, quantification and within-plant distribution of Aster yellows phytoplasmas through digital PCR (ddPCR).", 32<sup>nd</sup> new phytologist symposium, Universidad Católica, Puerto Madero Campus, Buenos Aires, Argentina, November 20-22, 2013, pp. 53.

## 2012

Floate, K.D., Broatch, J.S., Erlandson, M.A., Evenden, M.L., Gavloski, J.E., Hartley, S., Hummel, J.D., Laird, R.A., Meers, S., Olivier, C.Y., Otani, J.K., and Sharanowski, B. (2012). "New projects for control of cutworms (Lepidoptera: Noctuidae) affecting canola crops on the prairies.", Entomological Society of Canada 62<sup>nd</sup> and Entomological Society of Alberta 60<sup>th</sup> joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #61. (Abstract)

Olivier, C.Y., Vincent, C., Saguez, J., Galka, B., Weintraub, P.G., and Maixner, M. (2012). "Leafhoppers and Planthoppers: Their Bionomics, Pathogen Transmission and Management in Vineyards.", in Bostanian, N.J., Vincent, C., and Isaacs, R. (eds.) - Arthropod Management in Vineyards: Pests, Approaches, and Future Directions, Springer Dordrecht, The Netherlands, Chapter 11, pp. 253-270.

Peixoto, L.E., Maghodia, A.B., Olivier, C.Y., Galka, B., and Perlman, S.J. (2012). "Characterization of *Arsenophonus*, a widespread inherited bacterial endosymbiont of leafhoppers across Canada.", Annual Meeting of the Professional Pest Management Association of BC 2012, Simon Fraser University, Burnaby, BC, Canada, February 28, 2012. (Abstract)

Saguez, J., Vincent, C., Olivier, C.Y., and Giordanengo, P. (2012). "Leafhopper biodiversity in Canadian vineyards and feeding behavior of three *Erythroneura* species.", 24th International Congress of Entomology (ICE 2012) and International Organization for Biological Control (IOBC) Global Symposium, Daegu, South Korea, August 19-25, 2012, PS4TH045. (Poster)

Olivier, C.Y., Saguez, J., Galka, B., Stobbs, L.W., Lowery, D.T., and Vincent, C. (2012). "Prevalence of phytoplasma diseases in Canadian vineyards.", 24th International Congress of Entomology (ICE 2012) and International Organization for Biological Control (IOBC) Global Symposium, Daegu, South Korea, August 19-25, 2012, PS4TH066. (Poster)

## 2011

Peixoto, L.E., Maghodia, A.B., Olivier, C.Y., Galka, B., and Perlman, S.J. (2011). "Characterization of *Arsenophonus*, a widespread inherited bacterial endosymbiont of leafhoppers across Canada.", Joint Annual Meeting of the Entomological Society of Canada and Acadian Entomological Society, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011, pp. 77. (Presentation)

Olivier, C.Y., Galka, B., Pearce, A., and Séguin-Swartz, G.T. (2011). "Aster yellows phytoplasma strains infecting plants of *Camelina sativa* (L.) Crantz in Saskatchewan.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011, pp. 76. (Poster)

Maghodia, A.B., Olivier, C.Y., Galka, B., Peixoto, L.E., and Perlman, S.J. (2011). "Detection and Characterization of *Arsenophonus*, a widespread inherited bacterial endosymbiont of leafhoppers across Canada.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011. (Poster)

Olivier, C.Y., Galka, B., Vincent, C., Saguez, J., and Stobbs, L.W. (2011). "Biodiversity of Aster Yellow phytoplasma strains in *Macrosteles quadrilineatus* in Canada, based on the 16Sr gene sequencing.", Joint Annual Meeting of the Entomological Society of Canada and Acadian Entomological Society, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011, pp. 76. (Presentation)

Maghodia, A.B., Olivier, C.Y., Galka, B., Peixoto, L.E., and Perlman, S.J. (2011). "Detection and characterization of *Arsenophonus* in leafhoppers across Canada.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011, pp. 69. (Poster)

Saguez, J., Vincent, C., Olivier, C.Y., and Lasnier, J. (2011). "Cicadelles en vignobles québécois: un bilan.", 138e réunion annuelle de la Société d'Entomologie du Québec, Orford, QC, Canada, October 13-14, 2011, pp. 20. (Presentation)

Olivier, C.Y., Galka, B., Johnson, R., Green, M., Vincent, C., Saguez, J., Stobbs, L.W., and Greig, N. (2011). "Potential BN vectors in Canadian vineyards and their feeding behaviour on grapevines.", 2nd European Bois Noir Workshop, Castelbrando, Cison Di Valmarini, TV, Italy, February 27-March 1, 2011, pp. 111. (Poster)

Saguez, J., Vincent, C., Olivier, C.Y., and Giordanengo, P. (2011). "*Erythroneura* spp. (Cicadellid) feeding behaviour on grapevine.", Entomological Society of America (ESA) 59th Annual Meeting, Reno-Sparks Convention Center, Reno, NV, USA, November 13-16, 2011, D0311. (Poster)

Olivier, C.Y., Ghani, S., Galka, B., Séguin-Swartz, G.T., and Soroka, J.J. (2011). "Investigation of the use of *Burkholderia phytofirmans* strain PsJN for flea beetle control in canola.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, Abstract P 303, pp. 477.

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## Research Publications:

2014

Mori, B.A., Yoder, C., Otani, J.K., and Evenden, M.L. (2014). "Relationships among male *Coleophora deauratella* (Lepidoptera: Coleophoridae) pheromone-baited trap capture, larval abundance, damage and flight phenology.", *Agricultural and Forest Entomology*, 16(2), pp. 207-215. doi : 10.1111/afe.12050

2013

Otani, J.K. (2013). "Insect pests and beneficials within forage seed systems.", *Peace Forage Agronomy Update*, Rycroft, AB, Canada, April 9, 2013. (Presentation)

2011

Otani, J.K. and Cárcamo, H.A. (2011). "Biology and management of *Lygus* in canola.", *Prairie Soils and Crops*, 4, pp. 42-53.

Soroka, J.J. and Otani, J.K. (2011). "Arthropods of Legume Forage Crops.", in Floate, K.D. (ed.) - *Arthropods of Canadian Grasslands. Vol. 2: Inhabitants of a Changing Landscape*, Biological Survey of Canada (BSC), Chapter 10, pp. 239-264.

## Other Science Related Publications:

2015

Otani, J.K. (2015). Telephone interview on 14, 2015, for article in the "Daily Herald", local newspaper syndicated to Sun Media. Topic was grasshoppers in field crops. Interviewed by jocelyn.turner@sunmedia.com.

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). *Prairie Pest Monitoring Network - Bulletin* – August 19, 2015 edition. 2015-13:1-14. <https://drive.google.com/file/d/0B76STh680wP1TVNHS1FIM1VNV2M/view>. (Report)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). *Prairie Pest Monitoring Network - Bulletin* – August 12, 2015 edition. 2015-12:1-16. <https://drive.google.com/file/d/0B76STh680wP1TVNHS1FIM1VNV2M/view>. (Report)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). *Prairie Pest Monitoring Network - Bulletin* – August 5, 2015 edition. 2015-11:1-13. <https://drive.google.com/file/d/0B76STh680wP1TVNHS1FIM1VNV2M/view>. (Report)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). *Prairie Pest Monitoring Network - Bulletin* – July 29, 2015 edition. 2015-10:1-16. <https://drive.google.com/file/d/0B76STh680wP1TVNHS1FIM1VNV2M/view>. (Report)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). *Prairie Pest Monitoring Network - Bulletin* – July 22, 2015 edition. 2015-9:1-17. <https://drive.google.com/file/d/0B76STh680wP1TVNHS1FIM1VNV2M/view>. (Report)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). *Prairie Pest Monitoring Network - Bulletin* – July 15, 2015 edition. 2015-8:1-24. <https://drive.google.com/file/d/0B76STh680wP1TVNHS1FIM1VNV2M/view>. (Report)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). *Prairie Pest Monitoring Network - Bulletin* – July 8, 2015 edition. 2015-7:1-19. <https://drive.google.com/file/d/0B76STh680wP1WTfYSHZsZmVqT3M/view>. (Report)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). *Prairie Pest Monitoring Network - Bulletin* – July 1, 2015 edition. 2015-6:1-17. <https://drive.google.com/file/d/0B76STh680wP1d2U5UmI4eWZyQ1U/view>. (Report)

Otani, J.K. (2015). Radio Interview for the "Canola Show", a syndicated radio program to be broadcasted on April 10, 2015, on CJVRFM/CK750AM in Melfort, SK, and XM105FM Whitecourt, AB. Topic was the Prairie Pest Monitoring Network.

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). *Prairie Pest Monitoring Network - Bulletin* – August 26, 2015 edition. 2015-14:1-14. <https://drive.google.com/file/d/0B76STh680wP1TVNHS1FIM1VNV2M/view>. (Report)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). *Prairie Pest Monitoring Network - Bulletin* – May 27, 2015 edition. 2015-1:1-12. <https://docs.google.com/file/d/0B76STh680wP1Q3JKRTMtRjdSdEk/view>. (Report)

Kaye, T., Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). Prairie Pest Monitoring Network - Bulletin – June 24, 2015 edition. 2015-5:1-17. <https://drive.google.com/file/d/0B76STh680wP1cnlxZ3RianFLclU/view>. (Report)

Otani, J.K. (2015). Radio Interview for the "Canola Show", a syndicated radio program to be broadcasted on April 10, 2015, on CJVRFM/CK750AM in Melfort, SK, and XM105FM Whitecourt, AB. Topic was the Prairie Pest Monitoring Network

Carcamo, H.A., Otani, J.K., Harker, K.N., Reid, P., Broatch, J.S., Meers, S., Barkley, S., and Daniel, S. (2015). "Of Iygusa and canola: where is the threshold?", Entomological Society of Alberta Annual General Meeting, Jasper, AB, Canada, October 1-3, 2015.

Philip, H., Svendsen, E., Olfert, O.O., Olivier, C.Y., Cárcamo, H.A., Soroka, J.J., Otani, J.K., and Wist, T. (2015). Field Crop and Forage Pests and their Natural Enemies in Western Canada – Identification and Management Field Guide. (Report)

Yoder, C. and Otani, J.K. (2015). "Update on Forage Seed Production.", Agricultural Research and Extension Council of Alberta, Spirit River, Alberta, Canada, February 12, 2015. (Presentation)

Jorgensen, A. and Otani, J.K. (2015). "Red clover casebearer (Coleophora deauratella) monitoring in the Peace River region.", Smoky Applied Research and Demonstration Research Association's Annual General Meetings, Falher, Alberta, Canada, February 24, 2015, Invited speaker. (Poster)

Yoder, C., Gautier, T., Yaremko, V., and Otani, J.K. (2015). "Trinexapac-ethyl on Established Red and Alsike Clover Seed Crops.", Peace Region Forage Seed Association's Annual Field Tour, Beaverlodge, Alberta, Canada, July 7, 2015. (Poster)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). Prairie Pest Monitoring Network - Bulletin – June 17, 2015 edition. 2015-4:1-19. <https://drive.google.com/file/d/0B76STh680wP1cnlxZ3RianFLclU/view>. (Report)

Olfert, O.O. and Otani, J.K. (2015). "Who Will be Bugging You in 2015?", Invited symposium speaker at Crop Sphere – Crop Production Show, Saskatoon, Canada, January 11-14, 2015. (Presentation)

Yoder, C. and Otani, J.K. (2015). "Weed control in grass seed crops.", Fosters Seed and Feed Producer Meeting, Blueberry, BC, Canada, April 21, 2015. (Presentation)

Yoder, C., Azooz, R.H., Gautier, T., and Otani, J.K. (2015). "Fall Applications of Herbicides on Creeping Red Fescue Seed Fields for Control of Group 2 Resistant Narrow-leaved Hawks'-beard.", International Herbage Seed Group Newsletter, November(53). (Newsletter)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). Prairie Pest Monitoring Network - Bulletin – June 3, 2015 edition. 2015-2:1-12. <https://drive.google.com/file/d/0B76STh680wP1Q016anRSMW9WRUk/view>. (Report)

Yoder, C. and Otani, J.K. (2015). "Growth regulators and herbicides on grass seed crops.", Peace Region Forage Seed Association's Annual Field Tour, Beaverlodge, Alberta, Canada, July 7, 2015. (Presentation)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). Prairie Pest Monitoring Network - Bulletin – September 3, 2015 edition. 2015-15:1-13. <https://drive.google.com/file/d/0B76STh680wP1TVNHS1FIM1VNV2M/view>. (Report)

Yoder, C. and Otani, J.K. (2015). "Canadian grass seed production. Oregon Seed League Meeting, Salem Oregon, December 8, 2015. Insects and monitoring in agricultural field crops.", 2015 Provincial ASB Tour, Beaverlodge, Alberta, Canada, July 15-16, 2015. (Presentation)

Yoder, C. and Otani, J.K. (2015). Tolerance of Grass and Legume Seed Crops to Herbicides. (Distributed to Peace Region producers, Western Canadian Agronomists and Western Canadian Seed Trade. ~800).

Yoder, C. and Otani, J.K. (2015). "Nutrient Removal in Seed and Straw of Grass Seed Crops. (The Seed Head fact sheet #7. November 2015. Distributed to Peace Region producers, Western Canadian Agronomists and Western Canadian Seed Trade. ~800)." (Factsheet)

Olfert, O.O. and Otani, J.K. (2015). "2015 Insect Pest Update.", Prairie Pest Monitoring Network Annual Meeting, March 24, 2015. (Presentation)

Yoder, C. and Otani, J.K. (2015). "2015 Peace Region Grass and Legume Seed Production.", Forage Seed News, 2015 (November). (Newsletter)

Otani, J.K., Giffen, D.W., Svendsen, E., and Olfert, O.O. (2015). Prairie Pest Monitoring Network - Bulletin – June 10, 2015 edition. 2015-3:1-12. <https://docs.google.com/file/d/0B76STh680wP1Q3JKRTMtRjdSdEk/view>. (Report)

Otani, J.K., Costamagna, A., Szeitz, A., Cárcamo, H.A., and Wist, T. (2015). "Sticking with flea beetles in canola – Examining species, thresholds and beyond.", Joint Annual Meeting of the Société d'entomologie du Québec and the Entomological Society of Canada, Montreal, QC, Canada, November 8-11, 2015, pp. 20. (Poster)

Otani, J.K. (2015). "Insect pest monitoring updates.", Agricultural Research and Extension Council of Alberta (ARECA) Meetings, Spirit River, Alberta, Canada.

Erlandson, M.A., Floate, K.D., and Otani, J.K. (2015). DNA markers help identify cutworm species. AAFC's Weekly Science Story – April 1, 2015.

- Costamagna, A., Cárcamo, H.A., and Otani, J.K. (2015). "Management of flea beetles in the Canadian Prairies.", 2015 Entomological Society of America, November 8-11, 2015.
- Olfert, O.O., Meers, S., Hartley, S., and Otani, J.K. (2015). "Cabbage seedpod weevil in Alberta and Saskatchewan for 2014. 2014 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2015(1), pp. 14-15.
- Otani, J.K., Szeitz, A., Costamagna, A., Cárcamo, H.A., and Wist, T. (2015). "Sticking with flea beetles in canola – Examining species, thresholds and beyond.", Joint Annual Meeting of the Société d'entomologie du Québec and the Entomological Society of Canada, Montreal, QC, Canada, November 8-11, 2015, pp. 20.
- Otani, J.K. (2015). "Wheat midge in 2014 and beyond.", Smoky Applied Research and Demonstration Research Association's Annual General Meetings, Falher, Alberta, Canada, February 24, 2015.
- Otani, J.K. (2015). "Insects and monitoring in canola.", PEACEpalooza, Beaverlodge, Alberta, Canada, June 25, 2015.
- Otani, J.K. (2015). "Insect update and ongoing research.", Peace Region Forage Seed Association's Annual Field Tour, Beaverlodge, Alberta, Canada, July 7, 2015.
- Otani, J.K. (2015). "Insects and monitoring in agricultural field crops.", 2015 Provincial ASB Tour, Beaverlodge, Alberta, Canada, July 15-16, 2015.
- Otani, J.K. (2015). "Beneficial arthropods in canola.", Canola Discovery Forum – Pollinator Workshop, Canmore, Alberta, Canada, October 29, 2015.
- Jorgensen, A. and Otani, J.K. (2015). "Red clover casebearer (*Coleophora deauratella*) monitoring in the Peace River region.", Smoky Applied Research and Demonstration Research Association's Annual General Meetings, Falher, Alberta, Canada, February 24, 2015. (Poster)
- Cárcamo, H.A., Otani, J.K., Harker, N., Reid, P., Broatch, J.S., Meers, S., Barkley, S., and Daniels, S. (2015). "Of lygus and canola: Where is the threshold?", Entomological Society of Alberta Annual General Meeting, Jasper, AB, Canada, October 1-3, 2015.

## 2014

- Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Network - Bulletin – July 16, 2014 edition. 2014-11:1-17.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jul16\\_Week1\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jul16_Week1_WeeklyUpdate.pdf). (Report)
- Otani, J.K. (2014). "2014 Annual Peace Canola Survey.", The Northern Horizon (October 24, 2014), pp. 36-37. (Newsletter)
- Hummel, J.D., Otani, J.K., Broatch, J.S., Reid, P., Erlandson, M.A., Benn, A., Loberg, K., Dufton, S., and Floate, K.D. (2014). "Cutworm outbreaks in Alberta.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014, pp. 16.
- Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Network - Bulletin – August 27, 2014 edition. 2014-17:1-9.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Aug27\\_Week17\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Aug27_Week17_WeeklyUpdate.pdf). (Report)
- Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Network - Bulletin – August 20, 2014 edition. 2014-16:1-7.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Aug20\\_Week16\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Aug20_Week16_WeeklyUpdate.pdf). (Report)
- Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Network - Bulletin – August 12, 2014 edition. 2014-15:1-9.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Aug12\\_Week15\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Aug12_Week15_WeeklyUpdate.pdf). (Report)
- Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Network - Bulletin – August 5, 2014 edition. 2014-14:1-8.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Aug05\\_Week14\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Aug05_Week14_WeeklyUpdate.pdf). (Report)
- Wanigasekara, U., Otani, J.K., Broatch, J.S., Hummel, J.D., and Sharanowski, B. (2014). "The parasitoid community associated with economically important cutworms in Canada.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014, pp. 37.
- Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Network - Bulletin – July 30, 2014 edition. 2014-13:1-14.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jul30\\_Week13\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jul30_Week13_WeeklyUpdate.pdf). (Report)

Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Networke-Bulletin – July 23, 2014 edition. 2014-12:1-18.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jul23\\_Week12\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jul23_Week12_WeeklyUpdate.pdf). (Report)

Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Networke-Bulletin – July 9, 2014 edition. 2014-10:1-8.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jul09\\_Week10\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jul09_Week10_WeeklyUpdate.pdf). (Report)

Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Networke-Bulletin – July 2, 2014 edition. 2014-9:1-10.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jul02\\_Week9\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jul02_Week9_WeeklyUpdate.pdf). (Report)

Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Networke-Bulletin – June 25, 2014 edition. 2014-8:1-15.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jun25\\_Week8\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jun25_Week8_WeeklyUpdate.pdf). (Report)

Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Networke-Bulletin – June 18, 2014 edition. 2014-7:1-16.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jun18\\_Week7\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jun18_Week7_WeeklyUpdate.pdf). (Report)

Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Networke-Bulletin – June 11, 2014 edition. 2014-6:1-13.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jun11\\_Week6\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jun11_Week6_WeeklyUpdate.pdf). (Report)

Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Networke-Bulletin – June 4, 2014 edition. 2014-5:1-11.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jun04\\_Week5\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014Jun04_Week5_WeeklyUpdate.pdf). (Report)

Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Networke-Bulletin – May 28, 2014 edition. 2014-4:1-16.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014May28\\_Week4\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014May28_Week4_WeeklyUpdate.pdf). (Report)

Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Networke-Bulletin – May 21, 2014 edition. 2014-3:1-13.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014May21\\_Week3\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014May21_Week3_WeeklyUpdate.pdf). (Report)

Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Networke-Bulletin – May 7, 2014 edition. 2014-1:1-8.  
([http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014May07\\_Week1\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014May07_Week1_WeeklyUpdate.pdf)). (Report)

Hummel, J.D., Otani, J.K., Broatch, J.S., Reid, P., Erlandson, M.A., Benn, A., Loberg, K., Dufton, S., and Floate, K.D. (2014). "Cutworm outbreaks in Alberta.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014, pp. 16. (Poster)

Otani, J.K., Floate, K.D., Hervet, V.A.D., Hummel, J.D., Broatch, J.S., Reid, P., Erlandson, M.A., Evenden, M.L., Meers, S., Barkley, S., Laird, R.A., Sharanowski, B., Hartley, S., and Gavloski, J.E. (2014). "Cutworm update.", Agronomy Update Conference 2006, Red Deer, AB, Canada, January 10-11, 2006, pp. 5.

Fernandez, C., Carcamo, H., Cárcamo, H.A., Laird, R.A., Mason, P.G., Otani, J.K., and Lachance, S. (2014). "Ecological interactions between lygus bugs and *Peristenus*: an approach in southern Alberta.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014, pp. 37.

Otani, J.K. (2014). "2013 & 2014 monitoring and wheat midge updates for the BC Peace.", BC Grain Producers Association AGM, February 12, 2014. (Presentation)

Otani, J.K., Olfert, O.O., Giffen, D.W., and Weiss, R.M. (2014). Prairie Pest Monitoring Networke-Bulletin – May 14, 2014 edition. 2014-2:1-9.  
[http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014May14\\_Week2\\_WeeklyUpdate.pdf](http://www.westernforum.org/Documents/IPMN%20Weekly%20Updates/2014%20IPMN%20weekly%20updates/2014May14_Week2_WeeklyUpdate.pdf). (Report)

Yoder, C. and Otani, J.K. (2014). Tolerance of Grass and Legume Seed Crops to Herbicides (document). Distributed to Peace Region producers, Western Canadian Agronomists and Western Canadian Seed Trade. ~750. (Report)

Otani, J.K. and Olfert, O.O. (2014). Development of reduced-risk strategies through coordinated monitoring, forecasting and risk warning systems for insect pests of field crops. Annual Report to WGRF (8 pages). (Report)

- Holowachuk, J., Sieminska, E.A., Otani, J.K., and Erlandson, M.A. (2014). "Development of DNA marker technology for identification of common cutworm species in the cutworm complex attacking canola in western Canada.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28 - October 1, 2014, pp. 41.
- Fernández, D.C., Cárcamo, H.A., Laird, R.A., Mason, P.G., Otani, J.K., and Lachance, S. (2014). "Ecological interactions between lygus bugs and *Peristenus*: an approach in southern Alberta.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28 - October 1, 2014.
- Olfert, O.O., Cárcamo, H.A., Elliott, R.H., Gan, Y.T., McLaren, D.L., Olivier, C.Y., Otani, J.K., Peng, G., and Soroka, J.J. (2014). Detection, surveillance and management of weed, insect and disease pests that threaten the economic viability of crop production and the environmental health of prairie agro-ecosystems. Annual Report to Canola Science Cluster (4 pages). (Report)
- Olfert, O.O., Giffen, D.W., Hartley, S., Gavloski, J.E., Meers, S., and Otani, J.K. (2014). "The 2015 Prairie Grasshopper Forecast. 2014 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2014(1), pp. 10-11.
- Hummel, J.D., Otani, J.K., Broatch, J.S., Reid, P., Erlandson, M.A., Benn, A., Loberg, K., Dufton, S., and Floate, K.D. (2014). "Where the cutworms are: Three years of cutworm reports and collections in Alberta.", 62nd Annual Meeting of the Entomological Society of Alberta, Lethbridge, AB, Canada, October 16-18, 2014.
- Azooz, R.H., Yoder, C., and Otani, J.K. (2014). "Group 2 Herbicide Resistance: Narrow-leaved hawk's-beard in Creeping Red Fescue Seed Fields.", 2014 Peace Region Forage Seed Association Annual General Meeting. (Poster)
- Yoder, C., Azooz, R.H., Johnson, T.S., and Otani, J.K. (2014). "Fall Applications of Herbicides on Creeping Red Fescue Seed Fields for Control of Group 2 Resistant Narrow-leaved hawk's-beard.", 2014 Peace Region Forage Seed Association Annual General Meeting. (Poster)
- Yoder, C. and Otani, J.K. (2014). "Weed Control in Forage Seed Crops.", Foster Forage Seed Meeting, Blueberry, British Columbia, Canada, April 22, 2014. (Presentation)
- Olfert, O.O., Meers, S., Hartley, S., and Otani, J.K. (2014). "Cabbage seedpod weevil in Alberta and Saskatchewan for 2014. 2014 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2014(1), pp. 14-15.
- Yoder, C. and Otani, J.K. (2014). Fall Applications of Herbicides on Creeping Red Fescue Seed Fields for Control of Group 2 Resistant Narrow-leaved Hawks-beard. (Report)
- Olfert, O.O., Meers, S., Gavloski, J.E., Hartley, S., and Otani, J.K. (2014). "Bertha armyworm in western Canada. 2014 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2014(1), pp. 8-9.
- Otani, J.K. (2014). "Wheat midge and 2013-14 pest monitoring updates.", Ag-Service Board Meeting, Bonanza, AB, Canada, March 5, 2014. (Presentation)
- Otani, J.K., Floate, K.D., Hervet, V.A.D., Hummel, J.D., Broatch, J.S., Reid, P., Erlandson, M.A., Evenden, M.L., Meers, S., Barkley, S., Laird, R.A., Sharanowski, B., Hartley, S., and Gavloski, J.E. (2014). "Cutworm update.", Agronomy Update, Red Deer, AB, Canada, January 12, 2014. (Presentation)
- Yoder, C. and Otani, J.K. (2014). "Forage Seed Production in The Peace River Region.", Richardson Summer Tour, Beaverlodge, Alberta, Canada, July 9, 2014. (Presentation)
- Otani, J.K., Soroka, J.J., and Olfert, O.O. (2014). "Swede midge in Emerging issues session – CanoLAB 2014.", Organized by the Canola Council of Canada & Alberta Canola Producers Commission, Olds, AB, Canada, February 19-21, 2014. (Presentation)
- Hummel, J.D., Otani, J.K., Broatch, J.S., Reid, P., Erlandson, M.A., Benn, A., Loberg, K., Dufton, S., and Floate, K.D. (2014). "Where the cutworms are: Three years of cutworm reports and collections in Alberta.", 2014 Entomological Society of Alberta AGM, Canmore, AB, Canada, October 25, 2014. (Poster)
- Otani, J.K. (2014). "Interesting Insect Issues: A research and pest update for the Peace River region.", Alberta Canola Producers Commission's Regional Meetings, Rycroft, Alberta, Canada, November 26, 2014. (Presentation)
- Dufton, S., Benn, A., Erlandson, M.A., Floate, K.D., and Otani, J.K. (2014). "2014 CARP cutworm project summary: Peace River region.", Alberta Canola Producers Commission's Regional Meetings, Rycroft, Alberta, Canada, November 26, 2014. (Presentation)
- Otani, J.K. (2014). "Interesting Insect Issues: A research and pest update for the Peace River region.", Alberta Canola Producers Commission's Regional Meetings, Falher, Alberta, Canada, November 27, 2014. (Presentation)
- Dufton, S., Benn, A., Erlandson, M.A., Floate, K.D., and Otani, J.K. (2014). "2014 CARP cutworm rearing project summary: Peace River region.", Alberta Canola Producers Commission's Regional Meetings, Falher, Alberta, Canada, November 27, 2014. (Presentation)

Otani, J.K. (2014). "Insect pest monitoring updates.", Agricultural Research and Extension Council of Alberta (ARECA) Meetings, Spirit River, Alberta, Canada, February 12, 2015. (Presentation)

Otani, J.K. (2014). "Wheat midge in 2014 and beyond.", Smoky Applied Research and Demonstration Research Association's Annual General Meetings, Falher, Alberta, Canada, February 24, 2015. (Presentation)

## 2013

Otani, J.K. (2013). "Insect Pest Update.", All Crops Field Tour of AAFC-Beaverlodge Research Farm, Beaverlodge, AB, Canada, July 4, 2013. (Presentation)

Otani, J.K. (2013). "IPM Program and pest update for 2013.", BC Grain Producers Association AGM, Dawson Creek, BC, Canada, February 12, 2013. (Presentation)

Otani, J.K. (2013). "IPM Program and Activities.", BC climate change action initiative workshops (#3), Taylor, BC, Canada, February 6, 2013. (Presentation)

Otani, J.K., Olfert, O.O., Weiss, R.M., and Giffen, D.W. (2013). "Canola surveying in the Peace River region.", Joint Annual Meeting of the Entomological Societies of Ontario and Canada, Guelph, Ontario, Canada, October 20-23, 2013, pp. 63.

Otani, J.K. (2013). "Pests and predators – avoiding friendly fire.", Peace Pest Update, Falher, AB, Canada, March 28, 2013. (Presentation)

Cárcamo, H.A. and Otani, J.K. (2013). Refine and validate economic threshold for lygus bugs in canola production in Alberta (Project Code: PRR12-030). Agriculture and Agri-Food Canada, Pest Management Centre, Reduced Risk Pesticide Program, Final Report 2012-2013, March 31, 2013. (Report)

Otani, J.K. (2013). "Wheat midge in northern Alberta – a research update.", Prairie Pest Monitoring Network Meeting, Saskatoon, SK, Canada, March 19, 2013. (Presentation)

Olfert, O.O., Meers, S., Hartley, S., and Otani, J.K. (2013). "Cabbage seedpod weevil in Alberta and Saskatchewan for 2012. 2012 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2013(1), pp. 14-15.

Otani, J.K. (2013). "Wheat midge in northern Alberta – a research update.", Prairie Pest Monitoring Network Meeting, Saskatoon, SK, Canada, March 19, 2013.

Otani, J.K., O'Donovan, J.T., Yoder, C., Azooz, R.H., and Burton, S.L. (2013). Competitive contract production of forage seed in western Canada (DIAP# PRO-05147/AGR-05846). AAFC's Developing Innovative Agri-Products Initiative. Final Report 2010-2013, April 19, 2013. (Report)

Olfert, O.O., Elliott, R.H., Meers, S., Hartley, S., and Otani, J.K. (2013). "Forecast of wheat midge in Saskatchewan and Alberta for 2013. 2012 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2013(1), pp. 12-13.

Olfert, O.O., Giffen, D.W., Hartley, S., Vadnais, M., Gavloski, J.E., Meers, S., and Otani, J.K. (2013). "The 2013 Prairie Grasshopper Forecast. 2012 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2013(1), pp. 10-11.

Olfert, O.O., Meers, S., Gavloski, J.E., Hartley, S., and Otani, J.K. (2013). "Bertha armyworm in western Canada. 2012 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2013(1), pp. 8-9.

Otani, J.K. (2013). "Pests and predators – avoiding friendly fire.", Peace Pest Update., Falher, AB, Canada, March 28, 2013. (Presentation)

## 2012

Otani, J.K., Meers, S., Olfert, O.O., and Giffen, D.W. (2012). "What's bugging you – an insect pest update for Alberta.", Farm Tech 2012, Edmonton, AB, Canada, January 24, 2012, pp. 109-111.

Mori, B.A., Evenden, M.L., Otani, J.K., and Yoder, C. (2012). "A research update on the Red clover casebearer.", The Back Forty – SARDA & AESA Newsletter, 2012 (February), pp. 1 & 4.

Soroka, J.J., Otani, J.K., Gavloski, J.E., and Elliott, R.H. (2012). "The biology and control of flea beetles in Western Canadian canola crops: Is a species shift in progress?", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #180. (Abstract)

Otani, J.K. and Yoder, C. (2012). "Cutworm monitoring in the Peace River region.", Forage Agronomy Update 2012, Nisku, AB, Canada, February 8-9, 2012, pp. 10-11.

Otani, J.K., Yoder, C., and Barbarich, J. (2012). "Cutworms in the Peace River region.", The Back Forty – SARDA & AESA Newsletter, 2012 (February), pp. 11.



Otani, J.K. (2012). "Pest and natural enemies – up close and personal.", CanoLAB 3D Workshop, St. Albert, AB, Canada, March 5, 2012.

Otani, J.K. and Yoder, C. (2012). "Curious cutworm incidence in the Peace.", 2012 Peace Region Seed Association Production and Marketing Seminar, Fairview AB, Canada, March 15, 2012.

Yoder, C., Azooz, R.H., and Otani, J.K. (2012). "Forage Seed Program Update.", Peace Region Forage Seed Association Industry Field Tour, Beaverlodge, AB, Canada, July 10, 2012.

Otani, J.K., Meers, S., Hartley, S., Gavloski, J.E., Dossdall, L.M., Cárcamo, H.A., and Olfert, O.O. (2012). "Coordinated monitoring, forecasting and risk warning systems for field crop insects.", 24th International Congress of Entomology (ICE 2012) and International Organization for Biological Control (IOBC) Global Symposium, Daegu, South Korea, August 19-25, 2012.

Mori, B.A., Evenden, M.L., Otani, J.K., and Yoder, C. (2012). "Red clover casebearer update.", The Back Forty – SARDA & AESA Newsletter (February 2012), pp. 1-4. (Newsletter)

Soroka, J.J., Elliott, R.H., Otani, J.K., and Gavloski, J.E. (2012). "Changing flea beetle species – what you see isn't what you had but does it matter?", Saskatchewan Ministry of Agriculture Agronomy Update 2012, Saskatoon, SK, Canada, December 14, 2012. (Presentation)

Otani, J.K. (2012). "Pest update.", Peace Region Forage Seed Association Annual Field Tour, Fort St. John, BC, Canada, July 4, 2012.

Otani, J.K. (2012). "An 2012 insect update for the Peace River region.", Alberta Canola Producers Commission's Regional Meetings, LaCrete, AB, Canada, November 21, 2012. (Presentation)

Otani, J.K. (2012). "An 2012 insect update for the Peace River region.", Alberta Canola Producers Commission's Regional Meetings, Falher, AB, Canada, November 28, 2012. (Presentation)

Floate, K.D., Broatch, J.S., Erlandson, M.A., Evenden, M.L., Gavloski, J.E., Hartley, S., Hummel, J.D., Laird, R.A., Meers, S., Olivier, C.Y., Otani, J.K., and Sharanowski, B. (2012). "New projects for control of cutworms (Lepidoptera: Noctuidae) affecting canola crops on the prairies.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #61. (Abstract)

Otani, J.K. (2012). "An 2012 insect update for the Peace River region.", Alberta Canola Producers Commission's Regional Meetings, Sexsmith, AB, Canada, November 29, 2012. (Presentation)

## 2011

Otani, J.K. (2011). "Barley and Bugs.", 2011 Alberta Pulse Growers Zone 4 & Barley Commission Region 6 Joint Annual Meeting, Falher, AB, Canada, November 29, 2011.

Soroka, J.J., Otani, J.K., and Cárcamo, H.A. (2011). "Survey to detect potential flea beetle (Coleoptera: Chrysomelidae) species composition shift in Canadian oilseed rape fields.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, Abstract P 290, pp. 465.

Olfert, O.O., Meers, S., Gavloski, J.E., Hartley, S., Otani, J.K., and Clark, K. (2011). "Bertha armyworm in western Canada. 2010 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2011(1), pp. 8-9.

Olfert, O.O., Giffen, D.W., Hartley, S., Vadnais, M., Gavloski, J.E., Meers, S., and Otani, J.K. (2011). "The 2011 Saskatchewan and Manitoba grasshopper forecast. 2010 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2011(1), pp. 10-11.

Olfert, O.O., Meers, S., Hartley, S., and Otani, J.K. (2011). "Cabbage seedpod weevil in Alberta and Saskatchewan for 2010. 2010 Crop Variety Highlights and Insect Pest Forecasts.", Saskatoon Research Centre Technical Bulletin, 2011(1), pp. 14-15.

Otani, J.K. (2011). "Insects of 2010 and 2011.", 2011 Peace Forage Agronomy Update, Rycroft, AB, Canada, February 23, 2011. (Presentation)

Otani, J.K. and Yoder, C. (2011). "Coleophora deauratella in red clover.", 2011 Alberta Pest Surveillance Network Meeting, Grande Prairie, AB, March 31, 2011. (Presentation)

Otani, J.K. and Yoder, C. (2011). "Pest status of the red clover casebearer (Lepidoptera: Coleophoridae: Coleophora deauratella) in clover seed production.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011, pp. 76.

Evenden, M.L., Mori, B.A., Otani, J.K., and Yoder, C. (2011). "The development of pheromone-based management for the red clover casebearer in Alberta.", Peace Region Forage Seed Association AGM, Fort St. John, BC, Canada, March 22, 2011.

Otani, J.K. (2011). "Insect update.", 2011 Direct Seeding Workshop, North Peace Applied Research Association, Fairview, AB, Canada, January 12, 2011. (Presentation)

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## Research Publications:

2015

Artegoitia, V.M., de Veth, M.J., Harte, F., Ouellet, D.R., and Girard, C.L. (2015). "Short communication: Casein hydrolysate and whey proteins as excipients for cyanocobalamin to increase intestinal absorption in the lactating dairy cow.", *Journal of Dairy Science (JDS)*, 98(11), pp. 8128-8132. doi: 10.3168/jds.2015-9678

Larsen, M., Galindo, C.E., Ouellet, D.R., Maxin, G., Kristensen, N.B., and Lapierre, H. (2015). "Abomasal amino acid infusion in postpartum dairy cows: Effect on whole-body, splanchnic, and mammary amino acid metabolism.", *Journal of Dairy Science (JDS)*, 98(11), pp. 7944-7961. doi: 10.3168/jds.2015-9439

Galindo, C.E., Larsen, M., Ouellet, D.R., Maxin, G., Pellerin, D., and Lapierre, H. (2015). "Abomasal amino acid infusion in postpartum dairy cows: Effect on whole-body, splanchnic, and mammary glucose metabolism.", *Journal of Dairy Science (JDS)*, 98(11), pp. 7962-7974. doi: 10.3168/jds.2014-9013

2014

Martineau, R., Côrtes, C., Ortigues-Marty, I., Ouellet, D.R., and Lapierre, H. (2014). "Evaluation of equations predicting the net portal appearance of amino acid nitrogen in ruminants.", *Journal of Dairy Science (JDS)*, 97(3), pp. 1670-1681. doi: 10.3168/jds.2013-7249

Martineau, R., Ouellet, D.R., and Lapierre, H. (2014). "The effect of feeding canola meal on concentrations of plasma amino acids.", *Journal of Dairy Science (JDS)*, 97(3), pp. 1603-1610. doi: 10.3168/jds.2013-7125

2013

Ouellet, D.R., Valkeners, D., and Lapierre, H. (2013). "Effects of metabolizable protein supply on N efficiency; plasma amino acid concentrations in dairy cows.", in Oltjen, J.W., Kebreab, E. and Lapierre, H. (eds.) - *Energy and protein metabolism and nutrition in sustainable animal production*. EAAP publication No. 134., Wageningen Academic Publishers, The Netherlands, pp. 453-454.

Martineau, R., Ouellet, D.R., and Lapierre, H. (2013). "Feeding canola meal to dairy cows: A meta-analysis on lactational responses.", *Journal of Dairy Science (JDS)*, 96(3), pp. 1701-1714. doi: 10.3168/jds.2012-5740

Artegoitia, V.M., de Veth, M.J., Harte, F., Ouellet, D.R., and Girard, C.L. (2013). "Casein and whey protein as delivery methods for synthetic vitamin B12 to increase intestinal absorption in lactating dairy cows.", *Journal of Dairy Science (JDS)*, 96(E-Suppl. 1), pp. 505.

Maxin, G., Ouellet, D.R., and Lapierre, H. (2013). "Ruminal degradability of dry matter, crude protein, and amino acids in soybean meal, canola meal, corn, and wheat dried distillers grains.", *Journal of Dairy Science (JDS)*, 96(8), pp. 5151-5160. doi: 10.3168/jds.2012-6392

Maxin, G., Ouellet, D.R., and Lapierre, H. (2013). "Effect of substitution of soybean meal by canola meal or distillers grains in dairy rations on amino acid and glucose availability.", *Journal of Dairy Science (JDS)*, 96(12), pp. 7806-7817. doi: 10.3168/jds.2013-6976

Larsen, M., Galindo, C.E., Ouellet, D.R., Maxin, G., Kristensen, N.B., and Lapierre, H. (2013). "Effect of abomasal amino acid infusion on splanchnic metabolism in postpartum transition dairy cows.", in Oltjen, J.W., Kebreab, E. and Lapierre, H. (eds.) - *Energy and protein metabolism and nutrition in sustainable animal production*. EAAP publication No. 134., Wageningen Academic Publishers, The Netherlands, pp. 409-410.

Maxin, G., Ouellet, D.R., and Lapierre, H. (2013). "Contribution of amino acids to glucose and lactose synthesis in lactating dairy cows.", in Oltjen, J.W., Kebreab, E. and Lapierre, H. (eds.) - *Energy and protein metabolism and nutrition in sustainable animal production*. EAAP publication No. 134., Wageningen Academic Publishers, The Netherlands, pp. 443-445.

Galindo, C.E., Larsen, M., Ouellet, D.R., Maxin, G., Pellerin, D., and Lapierre, H. (2013). "Effect of amino acid supply on whole body and tissue glucose kinetics in postpartum dairy cows.", in Oltjen, J.W., Kebreab, E. and Lapierre, H. (eds.) - *Energy and protein metabolism and nutrition in sustainable animal production*. EAAP publication No. 134., Wageningen Academic Publishers, The Netherlands, pp. 451-452.

Lapierre, H., Lemosquet, S., and Ouellet, D.R. (2013). "Contribution of essential amino acids to glucose metabolism and lactose secretion in late lactation dairy cows.", in Oltjen, J.W., Kebreab, E. and Lapierre, H. (eds.) - Energy and protein metabolism and nutrition in sustainable animal production. EAAP publication No. 134., Wageningen Academic Publishers, The Netherlands, pp. 447-448.

2011

Martineau, R., Sauvant, D., Ouellet, D.R., Côrtes, C., Vemet, J., Ortigues-Marty, I., and Lapierre, H. (2011). "Relation of net portal flux of nitrogen compounds with dietary characteristics in ruminants: A meta-analysis approach.", *Journal of Dairy Science (JDS)*, 94(6), pp. 2986-3001. doi : 10.3168/jds.2010-3438

Galindo, C.E., Ouellet, D.R., Pellerin, D., Lemosquet, S., Ortigues-Marty, I., and Lapierre, H. (2011). "Effect of amino acid or casein supply on whole-body, splanchnic, and mammary glucose kinetics in lactating dairy cows.", *Journal of Dairy Science (JDS)*, 94(11), pp. 5558-5568. doi : 10.3168/jds.2010-3978

Faucitano, L., Berthiaume, R.R., D'Amours, M., Pellerin, D., and Ouellet, D.R. (2011). "Effects of corn grain particle size and treated soybean meal on carcass and meat quality characteristics of beef steers finished on a corn silage diet.", *Meat Science*, 88(4), pp. 750-754. doi : 10.1016/j.meatsci.2011.03.008

## Other Science Related Publications :

2015

Ouellet, D.R., Maxin, M., and Lapierre, H. (2015). "Urea kinetics in dairy cows fed soybean meal (SBM), canola meal (CM), corn high protein dried distillers grains (HPDDG) or wheat dried distillers grains with solubles (WDDGS).", *Journal of Dairy Science (JDS)*, 98(Suppl. 2), pp. 462. (Abstract)

Ouellet, D.R. and Lapierre, H. (2015). "Endogenous Nitrogen Secretion in Dairy Cows: Transaction along the digestive tract and implication in amino acid requirements.", 29th ADSA Discover Conference on Amino Acid Requirements, Chicago, USA, May 26-29, 2015.

Lapierre, H. and Ouellet, D.R. (2015). "How the efficiency of utilization of histidine varies with supply in dairy cows?", *Journal of Dairy Science (JDS)*, 98(Suppl. 2), pp. 609. (Abstract)

Lapierre, H., Ouellet, D.R., and Martineau, R. (2015). "Challenges to determine the true net supply of amino acids.", 29th ADSA Discover Conference on Amino Acid Requirements, Chicago, USA, May 26-29, 2015.

2014

Ouellet, D.R., Lobley, G.E., and Lapierre, H. (2014). "Histidine requirement of dairy cows determined by the indicator amino acid oxidation (AAO) technique.", *Journal of Dairy Science (JDS)*, 97(E-Suppl.1), pp. 757. (Abstract)

Lapierre, H., Ouellet, D.R., and Lobley, G.E. (2014). "Estimation of histidine requirement in lactating dairy cows.", *Journal of Dairy Science (JDS)*, 97(E-Suppl.1), pp. 757. (Abstract)

Lapierre, H., Doepel, L., Pacheco, D., and Ouellet, D.R. (2014). "Amino acid requirement and post-absorptive metabolism in cattle: implications for ration formulation.", Florida Ruminant Nutrition Symposium, University of Florida, Florida, USA, pp. 167-168.

Ouellet, D.R. and Lapierre, H. (2014). Endogenous secretions in dairy cows - Advance Report (Period: October 22th, 2013 – July 21th, 2014). (Report)

Lapierre, H., Ouellet, D.R., Fournier, A., and Pellerin, D. (2014). "Comment maximiser l'utilisation de l'azote des vaches laitières: répercussions environnementales et monétaires.", 38e Symposium sur les bovins laitiers. CRAAQ, Québec, QC, Canada, pp. 35-53.

2013

Lapierre, H., Doepel, L., Pacheco, D., and Ouellet, D.R. (2013). "Update on protein and amino acid requirements for lactating dairy cows.", Eastern Nutrition Conference, Animal Nutrition Association of Canada, Québec, Canada, pp. 225-236.

Ouellet, D.R., Tremblay, G.F., and Mustafa, A.F. (2013). "Evaluation of DM, NDF, and starch ruminal degradabilities of corn hybrids: A three-year study.", *Advances in Dairy Technology (Western Canadian Dairy Seminar Proceedings)*, 25, pp. 387. (Abstract)

2012

Ouellet, D.R., Tremblay, G.F., and Mustafa, A.F. (2012). "Evaluation of DM, NDF, and starch ruminal degradabilities of corn silage hybrids: A three-year study.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012. (Abstract)

Lapierre, H., Doepel, L., and Ouellet, D.R. (2012). "Update on protein and amino acid requirements for lactating dairy cows (no.864).", ADSA-AMPA-ASAS-CSAS-WSASAS Joint Annual Meeting, Phoenix, AZ, USA, July 15-19, 2012. (Presentation)

## 2011

Lapierre, H., Raggio, G., Ouellet, D.R., Martineau, R., and Doepel, L. (2011). "The study of amino acid metabolism, from absorption to milk protein secretion.", III Simposio internacional avanço em técnicas de pesquisa em nutrição para ruminantes, Pirassununga, Brazil, March 24-25, 2011, pp. 115-136.

Ouellet, D.R. and Chiquette, J. (2011). "Effect of dietary nitrogen and yeast supplementation on apparent diet digestibility and microbial population in the rumen content of dairy lactating cows.", Journal of Animal Science, 89(Suppl. 1), pp. 372. (Abstract)

Lapierre, H., Ouellet, D.R., Doepel, L., and Lobleby, G.E. (2011). "Lysine in dairy cows: From digestion to milk protein.", 2011 Dairy Cattle Nutrition Workshop, Penn State, Holiday Inn, Grantville, PA, USA, November 9-10, 2011, pp. 19-25. (Workshop)

Ouellet, D.R. and Chiquette, J. (2011). "Effect of dietary nitrogen levels and yeast supplementation on apparent diet digestibility and microbial population in the rumen content of dairy lactating cows.", 1er Symposium du Centre de recherche et de développement sur le bovin laitier et le porc: Parlons science au CRDBLP! / 1st Symposium of the Dairy and Swine Research and Development Centre: Let's Talk Science at the DSRDC!, Sherbrooke, QC, Canada, June 7, 2011, pp. 24/29.

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## Research Publications:

2016

Harris, L.J., Balcerzak, M., Johnston, A., Schneiderman, D., and Ouellet, T. (2016). "Host-preferential *Fusarium graminearum* gene expression during infection of wheat, barley, and maize.", *Fungal Biology*, 120, pp. 111-123. doi : 10.1016/j.funbio.2015.10.010

Gou, L., Hattori, J., Fedak, G., Balcerzak, M., Sharpe, A.G., Visendi, P., Edwards, D.J., Tinker, N.A., Wei, Y.-M., Chen, G-Y., and Ouellet, T. (2016). "Development and validation of *Thinopyrum elongatum* expressed molecular markers specific for the long arm of chromosome 7E.", *Crop Science*, 56, pp. 1-10. doi : 10.2135/cropsci2015.03.0184

2015

Long, X.-Y., Balcerzak, M., Gulden, S.M., Cao, W., Fedak, G., Wei, Y.-M., Zheng, Y.-L., Somers, D.J., and Ouellet, T. (2015). "Expression profiling identifies differentially expressed genes associated with the fusarium head blight resistance QTL 2DL f from the wheat variety Wuhan-1.", *Physiological and Molecular Plant Pathology*, 90, pp. 1-11. doi : 10.1016/j.pmp.2015.02.002

Subramaniam, R., Narayanan, S., Walkowiak, S., Wang, L., Joshi, M., Rocheleau, H., Ouellet, T., and Harris, L.J. (2015). "Leucine metabolism regulates TRI6 expression and affects deoxynivalenol production and virulence in *Fusarium graminearum*.", *Molecular Microbiology*, 98(4), pp. 760-769. doi : 10.1111/mmi.13155

Wójcik, P.I., Ouellet, T., Balcerzak, M., and Dzwiniel, W. (2015). "Identification of biomarker genes for resistance to a pathogen by a novel method for meta-analysis of single-channel microarray datasets.", *Journal of Bioinformatics and Computational Biology*, 13(4): Article number 1550013, pp. 1-19. doi : 10.1142/S0219720015500134

2014

Ravensdale, M., Rocheleau, H.J., Wang, L., Nasmith, C.G., Ouellet, T., and Subramaniam, R. (2014). "Components of priming-induced resistance to fusarium head blight in wheat revealed by two distinct mutants of *Fusarium graminearum*.", *Molecular Plant Pathology*, 15(9), pp. 948-956. doi : 10.1111/mpp.12145

Qi, P.-F., Wei, Y.-M., Ouellet, T., Chen, Q., Wang, Z., Wei, Z., and Zheng, Y.-L. (2014). "Identification of a Group of Novel  $\gamma$ -Gliadin Genes.", *Journal of Integrative Agriculture*, 13(2), pp. 290-298. doi : 10.1016/S2095-3119(13)60358-5

Luo, K., Zhang, G., Wang, C., Ouellet, T., Wu, J., Zhu, Q., and Zhao, H. (2014). "Candidate Genes Expressed in Tolerant Common Wheat With Resistant to English Grain Aphid.", *Journal of Economic Entomology*, 107(5), pp. 1977-1984. doi : 10.1603/EC14112

2013

Harris, L.J., Ouellet, T., and Subramaniam, R. (2013). "Applying proteomics to investigate the interactions between pathogenic *Fusarium* species and their hosts.", in Brown, D.W. and Proctor, R.H. (eds.) - *Fusarium: Genomics, Molecular and Cellular Biology*, Caister Academic Press, Chapter 5.

Qi, P.-F., Chen, Q., Ouellet, T., Le, C.-X., Ai, J., Wei, Y.-M., Wang, J.-R., and Zheng, Y.-L. (2013). "Identification of 40k $\gamma$ -secalin genes.", *Journal of Genetics*. doi : 10.1007/s12041-013-0231-5

2012

Balcerzak, M., Harris, L.J., Subramaniam, R., and Ouellet, T. (2012). "The feruloyl esterase gene family of *Fusarium graminearum* is differentially regulated by aromatic compounds and hosts.", *Fungal Biology*, 116(4), pp. 478-488. doi : 10.1016/j.funbio.2012.01.007

Qi, P.-F., Johnston, A., Balcerzak, M., Rocheleau, H.J., Harris, L.J., Long, X.-Y., Wei, Y.-M., Zheng, Y.-L., and Ouellet, T. (2012). "Effect of salicylic acid on *Fusarium graminearum*, the major causal agent of fusarium head blight in wheat.", *Fungal Biology*, 116(3), pp. 413-426. doi : 10.1016/j.funbio.2012.01.001

Foroud, N.A., Ouellet, T., Laroche, A., Oosterveen, B., Jordan, M.C., Ellis, B.E., and Eudes, F. (2012). "Differential transcriptome analyses of three wheat genotypes reveal different host response pathways associated with Fusarium head blight and trichothecene resistance.", *Plant Pathology*, 61(2), pp. 296-314. doi: 10.1111/j.1365-3059.2011.02512.x

2011

Laroche, A., Penniket, C., Frick, M., Genswein, B.M.A., Thomas, D.K., Puchalski, B., Graf, R.J., Selinger, L.B., Robert, L.S., Ouellet, T., Singh, J., and Gaudet, D.A. (2011). "Gene expression in Triticale.", in Chibar, R.N. and Dexter, J. (eds.) - *Wheat Science Dynamics: Challenges and Opportunities*, Agrobias International, Jodhpur, India, pp. 653-657.

Gaudet, D.A., Wang, Y., Frick, M., Puchalski, B., Penniket, C., Ouellet, T., Robert, L.S., Singh, J., and Laroche, A. (2011). "Low temperature induced defence gene expression in winter wheat in relation to resistance to snow moulds and other wheat diseases.", *Plant Science*, 180(1), pp. 99-110. doi: 10.1016/j.plantsci.2010.07.023

Miller, S.S., Watson, E.M., Lazebnik, J., Gulden, S.M., Balcerzak, M., Fedak, G., and Ouellet, T. (2011). "Characterization of an alien source of resistance to Fusarium head blight transferred to Chinese Spring wheat.", *Botany*, 89(5), pp. 301-311. doi: 10.1139/B11-017

Qi, P.-F., Wei, Y.-M., Chen, Q., Ouellet, T., Ai, J., Chen, G.-Y., Li, W., and Zheng, Y.-L. (2011). "Identification of novel  $\alpha$ -gliadin genes.", *Genome Biology*, 54(3), pp.244-252. doi: 10.1139/g10-114

## Other Science Related Publications:

2016

Ouellet, T., Gou, L., Konkin, D., Hattori, J., Tekieh, F., Wolfe, D.F., Balcerzak, M., Chalabian, F., Vrana, J., Kubaláková, M., Doležel, J., Tinker, N.A., Sharpe, A.G., and Fedak, G. (2016). "Towards cloning of the FHB-resistance locus from *Triticum elongatum* chromosome 7EL.", XIV Plant and Animal Genome Conference, San Diego, CA, USA, January 2016. (Poster)

2015

Eranthodi, A., Subramaniam, R., Ouellet, T., Rampitsch, C., Schultz, E.A., and Foroud, N.A. (2015). "Towards the identification and characterization of pathogen-associated molecular patterns from the *Fusarium graminearum* secretome.", 1st Lethbridge Research Centre Graduate Student Symposium, Lethbridge, AB, Canada, November 26, 2015.

Eranthodi, A., Subramaniam, R., Rampitsch, C., Ouellet, T., Schultz, E.A., and Foroud, N.A. (2015). "Generation of *Fusarium graminearum* mutants to screen candidate pathogen-associated molecular patterns.", National Fusarium Head Blight Forum, St. Louis, MO, USA, December 6-8, 2015. (Poster)

Eranthodi, A., Subramaniam, R., Ouellet, T., Rampitsch, C., Schultz, E.A., and Foroud, N.A. (2015). "Fusarium graminearum mutant screening towards identification of pathogen-associated molecular patterns in the Fusarium head blight-wheat interaction.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015, Oral Presentation.

Pan, Y., Ouellet, T., Fauteux, F., Tulpan, D., Tchagang, A., and Phan, S. (2015). "Analysis of hub genes associated with wheat FHB defense.", 2nd Annual Science Meeting of the Canadian Wheat Association, Saskatoon, Canada, July 14-16, 2015. (Poster)

Pan, Y., Ouellet, T., Phan, S., Tchagang, A., Fauteux, F., and Tulpan, D. (2015). "Digitization of Trait Representation in Microarray Data Analysis of Wheat Infected by *Fusarium graminearum*.", *Computational Intelligence in Bioinformatics and Computational Biology*, C-15050.

Ouellet, T. et al. (2015). Gene expression in wheat heads treated with *Fusarium graminearum* mutants that produce a priming-induced resistance to fusarium head blight. GEO accession #GSE69509, deposited in the Gene Expression Omnibus (GEO) of the public database NCBI.

Subramaniam, R., Wang, L., and Ouellet, T. (2015). Gene expression in wheat heads treated with the mutant noxAB $\Delta$  of *Fusarium graminearum*, which produces a priming-induced resistance to fusarium head blight. GEO accession #GSE69490, deposited in the Gene Expression Omnibus (GEO) of the public database NCBI.

Ouellet, T., Rocheleau, H., and Subramaniam, R. (2015). Gene expression in wheat heads treated with the mutant tri6 $\Delta$  of *Fusarium graminearum*, which produces a priming-induced resistance to fusarium head blight. GEO accession #GSE69437, deposited in the Gene Expression Omnibus (GEO) of the public database NCBI.

Ravensdale, M., Wang, L., Rocheleau, H., Ouellet, T., and Subramaniam, R. (2015). Gene expression during priming-induced resistance to fusarium head blight in wheat as revealed by two distinct mutants of *Fusarium graminearum*. GEO accession #GSE55653, deposited in the Gene Expression Omnibus (GEO) of the public database NCBI.

Ouellet, T. et al. (2015). Gene expression during early infection by *Fusarium graminearum* of wheat lines susceptible and resistant to fusarium head blight. GEO accession #GSE54556, deposited in the Gene Expression Omnibus (GEO) of the public database NCBI. This accession is a SuperSeries that contain expression data for 7 separate gene expression experiments, including gene expression for the susceptible wheat cultivar Roblin when inoculated with *F. graminearum* strains producing or not DON, the resistant cultivars Wuhan 1, NuyBay and Dream, and 7 breeding lines segregating for 3 fusarium head blight resistance QTLs. Accession numbers for the individual experiments are GSE36283 and GSE54550 to GSE54555.

## 2014

Fedak, G., Wolfe, D., Chi, D., Ouellet, T., Cao, W., and Xue, A.G. (2014). "Process of transferring fhb resistance from *Thinopyrum elongatum* to spring wheat.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

Ouellet, T. and Wang, L. (2014). Gene expression during early infection of the susceptible spring wheat cultivar Roblin with *Fusarium graminearum*, the major causal agent of fusarium head blight in wheat. GEO accession #GSE36283, deposited in the Gene Expression Omnibus (GEO) of the public database NCBI.

Ouellet, T., Balcerzak, M., Leung, W.W.Y., Martin, T., and Gulden, S.M. (2014). "DON induces genes that increase wheat susceptibility to *Fusarium* head blight in wheat.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

## 2013

Ouellet, T., Balcerzak, M., Leung, W.W.Y., Hattori, J., Martin, T., Gulden, S.M., Wójcik, P.I., Dzwiniel, W. (2013). "DON Induces Genes that Increase Wheat Susceptibility to *Fusarium* Head Blight in Wheat.", National *Fusarium* Head Blight Forum, Milwaukee, WI, USA, December 3-5, 2013, pp. 76.

Wójcik, P.I., Ouellet, T., Dzwiniel, W., and Balcerzak, M. (2013). "Identification of biomarker genes for resistance to a pathogen by a novel method for meta-analysis of single-channel microarray datasets.", NGS & Bioinformatics Summit Europe, Berlin, Germany, October 7-8, 2013, Poster.

Ouellet, T., Balcerzak, M., Rocheleau, H.J., Wang, L., Wójcik, P., Wójcik, P.I., and Dzwiniel, W. (2013). "Comparison of *Fusarium* head blight-resistant and -susceptible wheat using global expression profiling.", 7th International *Triticeae* Symposium, Chengdu, China, June 9-14, 2013, Talk, pp. 37.

## 2012

Ouellet, T., Balcerzak, M., Leung, W.W.Y., Hattori, J., Martin, T., and Gulden, S.M. (2012). "The mycotoxin, Deoxynivalenol, induces genes that increase susceptibility to *Fusarium* head blight in wheat.", 10th International Plant Molecular Biology (IPMB) Congress, Jeju, South Korea, October 21-26, 2012. (Poster)

Hattori, J., Chao, S., Ouellet, T., Jellen, E.N., Jackson, E.W., Oliver, R.E., Lazo, G.R., and Tinker, N.A. (2012). "Inter-genome distances in hexaploid oat and wheat estimated from single copy candidate genes.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

## 2011

Harris, L.J., Balcerzak, M., Schneiderman, D., Johnson, A., and Ouellet, T. (2011). "Transcriptome profiles of *F. graminearum* during infection of wheat, barley, and maize.", 26th Fungal Genetics Conference (26th FCG), Asilomar, CA, USA, March 15-20, 2011, Poster.

Fedak, G., Cao, W., Chi, D., Somers, D.J., Miller, S.S., Ouellet, T., Xue, A.G., Gilbert, J., Savard, M.E., and Voldeng, H.D. (2011). "New sources of resistance to *Fusarium* head blight and their modes of action.", 2011 National *Fusarium* Head Blight Forum, Hyatt Regency Hotel, St. Louis, MO, USA, December 4-6, 2011, pp. 19.

Allard, G.C., Subramaniam, R., Ouellet, T., Harris, L.J., and Singh, J. (2011). "Rapid screening of *Arabidopsis* mutants to identify transporter genes for resistance to *Fusarium graminearum*.", 7th Canadian Workshop on *Fusarium* Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 100.

Subramaniam, R., Nasmith, C.G., Ouellet, T., Wang, L., and Rocheleau, H.J. (2011). "Novel strategies to combat *Fusarium* head blight.", 7th Canadian Workshop on *Fusarium* Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 64.

Ouellet, T., Balcerzak, M., Martin, T., and Gulden, S.M. (2011). "Wheat genes induced by DON are associated with susceptibility to *Fusarium* head blight (FHB).", 7th Canadian Workshop on *Fusarium* Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 54.

Foroud, N.A., Ouellet, T., Ellis, B.E., Jordan, M.C., Laroche, A., and Eudes, A. (2011). "Signalling mechanisms mediating resistance and susceptibility to *Fusarium* head blight in wheat.", 7th Canadian Workshop on *Fusarium* Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 53.

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## Research Publications:

2013

Nimmo, J., Lynch, D.H., and Owen, J. (2013). "Quantification of nitrogen inputs from biological nitrogen fixation to whole farm nutrient budgets of two dairy farms in Atlantic Canada.", *Nutrient Cycling in Agroecosystems*, 96(1), pp. 93-105. doi : 10.1007/s10705-013-9579-4

## Other Science Related Publications:

2015

Zebarth, B.J., Moreau, G., Smith, A.M., Toner, P., Cambouris, A.N., Goyer, C., Owen, J., and Burton, D.L. (2015). "Yield variation in potato fields: Lessons learned so far.", 2015 Crop Update Session, Fredericton, NB, Canada, January 13-14, 2015.

2014

Owen, J. and LeBlanc, S. (2014). "Producing High Quality Organic Sweet Corn in the Maritimes/Production de maïs sucré biologique de grande qualité dans les Maritimes.", published by Agriculture and Agri-Food Canada. (Factsheet)

Owen, J., Hann, S.W.R., and Dosskey, M. (2014). "Variable-width buffers to reduce sediment pollution from potato production on steep slopes of Black Brook Watershed using AgBufferBuilder.", 2nd European Agroforestry Conference, Cottbus, Germany, July 4-6, 2014.

Owen, J. (2014). "Woody Biomass for Energy.", ThinkFarm NS Energy Crops Workshop, Windsor, NS, Canada, February 19, 2014. (Presentation)

Owen, J. and Hann, S.W.R. (2014). "Variable-width buffers to prevent field sediment run-off in potato production on steep slopes.", Northeast Potato Technology Forum, Fredericton, NB, Canada, March 13-14, 2014. (Presentation)

Owen, J., Poppy, L.B., Pollock, T., English, B., Schroeder, W.R., and Soolanayakanahally, R.Y. (2014). "Seabuckthorn: breeding for commercial production and phytochemical profile, and incorporation in agroforestry systems in Canada.", 2nd EURAF Conference, Cottbus, Germany, June 4-6, 2014.

2013

Owen, J. and Ceplis, D. (2013). "Gender Equality Mainstreaming in Agricultural Development.", Invited speaker at Cape Breton University workshop for Nigerian Gender and Vegetable Crop Researchers, May 23, 2013. (Presentation)

Dixon, P.L., Zvalo, V., Fillmore, S.A.E., LeBlanc, S., Madore, L., Mellish, S., Owen, J., Parsons, C.K., Pemberton, R., and Power, T. (2013). "Update on the use of long-lasting insect netting to control the cabbage maggot.", Joint Annual Meeting of the Entomological Societies of Ontario and Canada, Guelph, Ontario, Canada, October 20-23, 2013.

Dixon, P.L., Zvalo, V., Fillmore, S.A.E., LeBlanc, S., Madore, L., Mellish, S., Owen, J., Parsons, C.K., Pemberton, R., and Power, T. (2013). "Managing the cabbage maggot using long-lasting insect netting." (Factsheet)

Owen, J., LeBlanc, S., Dixon, P.L., Parsons, C.K., Madore, L., Zvalo, V., Mellish, S., and Pemberton, R. (2013). Row covers as physical barriers in brassica vegetable crops to control cabbage maggot (*Delia radicum* L.): Final Report for AAFC Pesticide Risk Reduction Program. Project Code: PRR10-220. (Report)

Owen, J. and Hann, S.W.R. (2013). "Fixed versus Variable-Width Buffers to Prevent Field Run-Off Pollution on High Slopes.", Benton Ridge Experimental Farm Open House, July 24, 2013. (Poster)

Owen, J., McDonald, M.R., Pritchard, M.K., Ceplis, D., Abubakari, A.-H., Mahunu, G., Idun, I., and Kumah, P. (2013). "Strong partnerships achieve big successes in Ghana's impoverished Upper West Region.", Invited speaker at Cape Breton University workshop for Nigerian Gender and Vegetable Crop Researchers, May 23, 2013. (Presentation)



## 2012

Abubakari, A.-H., McDonald, M.R., Ceplis, D., Mahunu, G., Owen, J., Idun, I., Kumah, P., Pritchard, M.K., Nyarko, G., and Appiah, F. (2012). "Fostering sustainable engagement of the youth in the agri-food sector: Opportunities and challenges for youth employment in Ghana.", Young People, Farming and Food, Accra, Ghana, March 19-21, 2012.

Dixon, P.L., Fillmore, S.A.E., LeBlanc, S., Madore, L., Melish, S., Owen, J., Parsons, C.K., Pemberton, R., Power, T., and Zvalo, V. (2012). "Row covers as physical barriers to control cabbage maggot (*Delia radicum*) in rutabaga.", Ontario Fruit and Vegetable Grower Association Conference, February, 2012. (Poster)

Zvalo, V., Kalt, W., Shi, J., Fillmore, S.A.E., and Owen, J. (2012). "Sweet Potatoes (*Ipomoea batatas*) of Diverse Colours Grown in Atlantic Canada.", 2nd Symposium on Horticulture in Europe (SHE 2012), Angers, France, July 1-5, 2012. (Poster)

## 2011

Dixon, P.L., Fillmore, S.A.E., LeBlanc, S., Madore, L., Melish, S., Owen, J., Parsons, C.K., Pemberton, R., Power, T., and Zvalo, V. (2011). "Row covers as physical barriers to control cabbage maggot (*Delia radicum*) in rutabaga.", Entomological Society of Canada-Acadian Entomological Society Joint Annual Meeting, Halifax, N.S., Canada, November, 2011. (Poster)

Owen, J., McDonald, M.R., Pritchard, M.K., Ceplis, D., Abubakari, A.-H., Mahunu, G., Idun, I., and Kumah, P. (2011). "Strong partnerships achieve big successes: Ten years of partnership between the Canadian Society for Horticultural Science (CSHS) and the Ghana Institute of Horticulturists (GhIH) in Ghana's impoverished Upper West Region.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

Owen, J. and LeBlanc, S. (2011). "Innovative agronomic techniques for growing profitable high quality organic sweet corn.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

Owen, J., LeBlanc, S., and Fillmore, S.A.E. (2011). "Seasonal contribution of nitrogen from compost in application year and subsequent years to broccoli in a long term organic rotation experiment.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

Dixon, P.L., Fillmore, S.A.E., LeBlanc, S., Madore, L., Melish, S., Owen, J., Parsons, C.K., Pemberton, R., Power, T., and Zvalo, V. (2011). "Rutabaga, (*Brassica napus* var. *napobrassica* L. Reichenb.), cv. Laurentian, York and pest Cabbage maggot (*Delia radicum* (L.)).", Pest Management Research Report.

Owen, J. and Ceplis, D. (2011). Gender Equality Mainstreaming (GEM) report for 2011 AIC AGM, Halifax, July 17, 2011. (Report)

Owen, J., Fillmore, S.A.E., Sanderson, K.R., Nurse, R.E., Mercier, G., Charles, M.T., and Benoît, D.-L. (2011). An eastern Canada Research Network for the study of organic vegetable rotational cropping systems: Project Final Report. March 31, 2011. (Report)

Owen, J., LeBlanc, S., and Pemberton, R. (2011). Physical barriers to control cabbage maggot (*Delia radicum* L.) in brassica vegetable crops: Final Report for AAFC Pesticide Risk Reduction Program. Project Code: PRR10-170. (Report)

Lynch, D., Main, M., Nimmo, J., and Owen, J. (2011). Final Report, NBAC Project NB0158CO "Whole Farm Nutrient Budgets", March 31, 2011. (Report)

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## Research Publications:

2015

Page, E.R. and Nurse, R.E. (2015). "Comparing physical, chemical, and cold stratification methods for alleviating dormancy of giant ragweed (*Ambrosia trifida*) seeds", *Weed Technology*, 29(2), pp. 311-317. doi : 10.1614/WT-D-14-00061.1

Page, E.R. and Nurse, R.E. (2015). "Cropping systems and the prevalence of giant ragweed (*Ambrosia trifida*): From the 1950's to present.", *Field Crops Research*, 184, pp. 104-111. doi : 10.1016/j.fcr.2015.09.013

2012

Page, E.R., Cerrudo, D., Westra, P., Loux, M.M., Smith, K., Foresman, C., Wright, H., and Swanton, C.J. (2012). "Why early season weed control is important in maize.", *Weed Science*, 60(3), pp. 423-430. doi : 10.1614/WS-D-11-00183.1

Cerrudo, D., Page, E.R., Tollenaar, M., Stewart, G., and Swanton, C.J. (2012). "Mechanisms of yield loss in Maize caused by weed competition.", *Weed Science*, 60(2), pp. 225-232. doi : 10.1614/WS-D-11-00127.1

Green-Tracewicz, E., Page, E.R., and Swanton, C.J. (2012). "Light Quality and the Critical Period for Weed Control in Soybean.", *Weed Science*, 60(1), pp. 86-91. doi : 10.1614/WS-D-11-00072.1

2011

Page, E.R., Liu, W., Cerrudo, D., Lee, E.A., and Swanton, C.J. (2011). "Shade avoidance influences stress tolerance in maize.", *Weed Science*, 59(3), pp. 326-334. doi : 10.1614/WS-D-10-00159.1

Cressman, S.T., Page, E.R., and Swanton, C.J. (2011). "Weeds and the Red to Far-Red Ratio of Reflected Light: Characterizing the Influence of Herbicide Selection, Dose, and Weed Species.", *Weed Science*, 59(3), pp. 424-430. doi : 10.1614/WS-D-10-00166.1

## Other Science Related Publications:

2015

Page, E.R. and Nurse, R.E. (2015). "Giant ragweed (*Ambrosia trifida* L.) seed production and reproductive allometry in maize (*Zea mays* L.) and soybean (*Glycine max* (L.) Merr.)", Meeting of the Weed Science Society of America, Lexington, KY, USA, February 9-12, 2015. (Poster)

Page, E.R. and Nurse, R.E. (2015). "Cropping systems and the prevalence of giant ragweed (*Ambrosia trifida*): from the 1950's to present giant ragweed.", Meeting of the Weed Science Society of America, Lexington, KY, USA, February 9-12, 2015, Oral Presentation.

2014

Nurse, R.E., Page, E.R., and Obeid, K. (2014). "The critical weed-free period in grain amaranth and quinoa.", 68th Canadian Weed Science Society Meeting. (Abstract)

Page, E.R. and Nurse, R.E. (2014). "Giant ragweed (*Ambrosia trifida* L.) fecundity and reproductive allometry in maize (*Zea mays* L.) and soybean (*Glycine max* (L.) Merr.)", 68th Canadian Weed Science Society Meeting, Montreal, QC, Canada, November 17-20, 2014. (Poster)

Page, E.R. and Nurse, R.E. (2014). "Cropping systems and the prevalence of giant ragweed (*Ambrosia trifida* L.): from the 1950's to present giant ragweed.", 68th Canadian Weed Science Society Meeting, Montreal, QC, Canada, November 17-20, 2014. (Abstract)

2013

Page, E.R. and Nurse, R.E. (2013). "Comparing physical, chemical and cold stratification methods for alleviating seed dormancy in Giant Ragweed (*Ambrosia trifida* L.).", Joint meeting of the Canadian Weed Science Society and Weed Science Society of Canada, Vancouver, BC, Canada, February 3-7, 2013. (Poster)

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## Research Publications:

2015

Kaur, R., Syan, H.S., Jabaji, S., Pageau, D., and Singh, J. (2015). "Dynamics of Soil Fungal Population in Herbicide Resistant Canola Fields.", *International Journal of Plant & Soil Science*, 7(6), pp. 338-347. doi: 10.9734/IJPSS/2015/18828

Paré, M., Lafond, J., and Pageau, D. (2015). "Best Management Practices in Northern Agriculture: A Twelve-Year Rotation and Soil Tillage Study in Saguenay-Lac-Saint-Jean.", *Soil & Tillage Research*, 150, pp. 83-92. doi: 10.1016/j.still.2015.01.012

Bélanger, G., Ziadi, N., Pageau, D., Grant, C.A., Högnäsbacka, M., Virkajärvi, P., Hu, Z.Y., Lu, J., Lafond, J., and Nyiraneza, J. (2015). "A Model of Critical Phosphorus Concentration in the Shoot Biomass of Wheat.", *Agronomy Journal*, 107(3), pp. 963-970. doi: 10.2134/agronj14.0451

Bélanger, G., Ziadi, N., Pageau, D., Grant, C.A., Lafond, J., and Nyiraneza, J. (2015). "Shoot Growth, Phosphorus-Nitrogen Relationships, and Yield of Canola in Response to Mineral Phosphorus Fertilization.", *Agronomy Journal*, 107(4), pp. 1458-1464. doi: 10.2134/agronj15.0050

Yan, W., Frégeau-Reid, J.A., Martin, R.A., Pageau, D., and Mitchell Fetch, J.W. (2015). "How many test locations and replications are needed in crop variety trials in a target region?", *Euphytica*, 202(3), pp. 361-372. doi: 10.1007/s10681-014-1253-7

Choo, T.-M., Martin, R.A., ter Beek, S.M., MacDonald, D., Scott, P., Dion, Y., Rioux, S., Pageau, D., and Abdel-Aal, E.-S.M. (2015). "AAC purpose barley.", *Canadian Journal of Plant Science*, 95(3), pp. 599-602. doi: 10.4141/CJPS-2014-395

Peng, G., Pageau, D., Strelkov, S.E., Gossen, B.D., Hwang, S.F., and Lahlali, R.L. (2015). "A >2-year break from susceptible canola reduces *Plasmodiophora brassicae* resting spores in heavily infested soil and maximizes canola yield.", *European Journal of Agronomy*, 70, pp. 78-84. doi: 10.1016/j.eja.2015.07.007

Dorval, I., Vanasse, A., Pageau, D., and Dion, Y. (2015). "Seeding rate and cultivar effects on yield, yield components and grain quality of spring spelt in eastern Canada.", *Canadian Journal of Plant Science*, 95(5), pp. 841-849. doi: 10.4141/CJPS-2014-439

Choo, T.-M., ter Beek, S.M., Martin, R.A., MacDonald, D., Scott, P., Dion, Y., Rioux, S., Pageau, D., Frégeau-Reid, J., and Abdel-Aal, E.-S.M. (2015). "AAC starbuck hullless barley.", *Canadian Journal of Plant Science*, 95(3), pp. 595-598. doi: 10.4141/CJPS-2014-371

2014

Peng, G., Lahlali, R.L., Hwang, S.F., Pageau, D., Hynes, R.K., McDonald, M.R., Gossen, B.D., and Strelkov, S.E. (2014). "Crop rotation, cultivar resistance, and fungicides/biofungicides for managing clubroot (*Plasmodiophora brassicae*) on canola.", *Canadian Journal of Plant Pathology*, 36(S1), pp. 99-112. doi: 10.1080/07060661.2013.860398

Deora, A.D., Gossen, B.D., Hwang, S.F., Pageau, D., Howard, R.J., Walley, F.L., and McDonald, M.R. (2014). "Effect of boron on clubroot of canola in organic and mineral soils and on residual toxicity to rotational crops.", *Canadian Journal of Plant Science*, 94(1), pp. 109-118. doi: 10.4141/cjps2013-002

Syan, H.S., Prasher, S.O., Pageau, D., and Singh, J. (2014). "Dissipation and persistence of major herbicides applied in transgenic and non-transgenic canola production in Quebec.", *European Journal of Soil Biology*, 63, pp. 21-27. doi: 10.1016/j.ejsobi.2014.04.003

2013

Beres, B.L., Pozniak, C.J., Eudes, F., Graf, R.J., Randhawa, H.S., Salmon, D.F., McLeod, G.J., Dion, Y., Irvine, R.B., Voldeng, H.D., Martin, R.A., Pageau, D., Comeau, A., DePauw, R.M., Phelps, S.M., and Spaner, D.M. (2013). "A Canadian Ethanol Feedstock Study to Benchmark the Relative Performance of Triticale. I. Agronomics.", *Agronomy Journal*, 105, pp. 1695-1706. doi: 10.2134/agronj2013.0192

Tremblay, G.F., Bélanger, G., Pelletier, S., Lajeunesse, J., and Pageau, D. (2013). "Dietary Cation–Anion Difference of Forage Species after Chloride Fertilization.", *Agronomy Journal*, 105(2), pp. 455-462. doi : 10.2134/agronj2012.0355

Peng, G., Pageau, D., Hwang, S.F., Lahlali, R.L., Hynes, R.K., Anderson, K., Strelkov, S.E., McDonald, M.R., Gossen, B.D., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., and McGregor, L. (2013). "Assessment of crop rotation in combination with cultivar resistance or a biofungicide seed treatment for control of clubroot on canola.", 10th International Congress of Plant Pathology, Beijing International Convention Center, Beijing, China, August 25-30, 2013.

Beres, B.L., Pozniak, C.J., Bressler, D., Gibreel, A., Eudes, F., Graf, R.J., Randhawa, H.S., Salmon, D.F., McLeod, G.J., Dion, Y., Irvine, R.B., Voldeng, H.D., Martin, R.A., Pageau, D., Comeau, A., DePauw, R.M., Phelps, S.M., and Spaner, D.M. (2013). "A Canadian Ethanol Feedstock Study to Benchmark the Relative Performance of Triticale: II. Grain Quality and Ethanol Production.", *Agronomy Journal*, 105, pp. 1707-1720. doi: 10.2134/agronj2013.0193

Peng, G., Pageau, D., Strelkov, S.E., Lahlali, R.L., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Turkington, T.K., Falk, K.C., Yu, F.Q., McGregor, L., Hupka, D., and Geissler, H.J. (2013). "Assessment of crop rotation, cultivar resistance and *Bacillus subtilis* biofungicide for control of clubroot on canola.", 6th International Symposium on Brassica and 18th Crucifer Genetics Workshop, Catania, Sicily, Italy, November 12-16, 2012, Published on *Acta Hort.* 1005:591–598.

## 2011

Séguin, P., Tremblay, G., Pageau, D., Liu, W., and Turcotte, P. (2011). "Soybean lutein concentration: impact of crop management and genotypes.", *Crop Science*, 51(3), pp. 1151-1160. doi: 10.2135/cropsci2010.08.0491

Pageau, D. and Lajeunesse, J. (2011). "Effect of seeding date on oilseed flax grown in a cool climate.", *Canadian Journal of Plant Science*, 91(1), pp. 29-35. doi: 10.4141/CJPS10021

Yan, W., Pageau, D., Frégeau-Reid, J.A., Lajeunesse, J., Goulet, J., Durand, J., and Marois, D. (2011). "Oat mega-environments and test locations in Quebec.", *Canadian Journal of Plant Science*, 91(4), pp. 643-649. doi: 10.4141/CJPS10139

Yan, W., Pageau, D., Frégeau-Reid, J.A., and Durand, J. (2011). "Assessing the Representativeness and Repeatability of Test Locations for Genotype Evaluation.", *Crop Science*, 51(4), pp. 1603-1610. doi: 10.2135/cropsci2011.01.0016

## Other Science Related Publications:

### 2015

Colton-Gagnon, K., Pageau, D., Duval, B., and Menkovic, E. (2015). *Hernie des crucifères dans la culture du canola. Réseau d'Avertissement Phytosanitaire. Avertissement No. 34. Août 2015. 3 pages.*

Beres, B.L., Pageau, D., Dion, Y., Turkington, T.K., Lupwayi, N.Z., Lamey, F.J., Ellert, B.H., and Smith, E.G. (2015). "Rotational diversity effects in a cereal-based cropping system.", *Canadian Journal of Plant Science*. (Abstract)

Turkington, T.K., Xi, K., Peng, G., and Pageau, D. (2015). "The impact of crop rotation and fungicide application on wheat leaf disease severity and crop productivity.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015. (Abstract)

Labrie, G., Pageau, D., and Vanasse, A. (2015). "IPM Strategies Against Insect Pests of Canola in Eastern Canada (cabbage seed pod weevils and pollen beetles).", *ECODA-Canola Workshop*, Montreal, QC, Canada, April 29, 2015.

Beres, B.L., Pageau, D., Dion, Y., Turkington, T.K., Lupwayi, N.Z., Lamey, F.J., Ellert, B.H., and Smith, E.G. (2015). "Rotational Diversity Effects in a Cereal-Based Cropping System.", *Botany 2015*, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015.

Pageau, D., Labrie, G., and Vanasse, A. (2015). "IPM Strategies Against Insect Pests of Canola in Eastern Canada (flea beetles).", *ECODA-Canola Workshop*, Montreal, QC, Canada, April 29, 2015, Presentation.

Rioux, S., Mimee, B., and Pageau, D. (2015). "Quelles sont les maladies à surveiller en grandes cultures?", *Journée d'information grandes cultures: du semis à la récolte. Club agroenvironnemental de la Rive-Nord (CARN) en collaboration avec la Direction régionale de la Capitale-Nationale du MAPAQ, Deschambault, 18 février 2015. (Presentation)*

Pageau, D., Verville, F., Vanasse, A., and Chantigny, M.H. (2015). "Les engrais verts: efficaces ou non?", *Conférence présentée à la Journée Grandes Cultures – Saguenay-Lac-St-Jean, St-Bruno, QC, Canada, 25 février 2015. (Presentation)*

Rioux, S., Mimee, B., and Pageau, D. (2015). "Les maladies à surveiller dans les cultures de céréales, de soya et de canola.", *Journée du producteur charlevoisien. Club agroenvironnemental de la Rive-Nord (C.A.R.N.) en collaboration avec la Direction régionale de la Capitale-Nationale du MAPAQ, Baie-Saint-Paul, Canada, 9 avril, 2015. (Presentation)*

- Turkington, T.K., Xi, K., Peng, G., and Pageau, D. (2015). "The impact of crop rotation and fungicide application on wheat leaf disease severity and crop productivity.", *Canadian Journal of Plant Pathology*. (Abstract)
- Dalton, J., Gossen, B.D., Al-Daoud, F., Pageau, D., and McDonald, M.R. (2015). "Decline in the concentration of resting spores of *Plasmodiophora brassicae* following a susceptible crop.", *Botany 2015, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015*.
- Parent, C., Roy, M., Colton-Gagnon, K., Labrie, G., Pageau, D., and Bilodeau, L. (2015). Les traitements de semences du canola contre les altises. Réseau d'Alerte Phytosanitaire. Bulletin d'information No. 16. Juin 2015. 3 pages.
- Vaillancourt, M., Vanasse, A., Chantigny, M.H., Pageau, D., and Angers, D.A. (2015). "Impact of cover crops and organic and mineral fertilization on canola yields and nitrogen uptake.", *Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, McGill University, Montreal, QC, Canada, July 5-10, 2015*.
- Dalton, J., Gossen, B.D., Al-Daoud, F., Pageau, D., and McDonald, M.R. (2015). "Decline in resting spores of *Plasmodiophora brassicae* with cropping interval.", *Ontario Pest Management Conference 2015, Presentation*.
- Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., Johnson, E.N., Pageau, D., Shirliffe, S.J., Gulden, R.H., Rowsell, J., Hall, L.M., and Willenborg, C.J. (2015). "Cultural techniques for integrated wild oat management.", *Canadian Weed Science Society Meeting, Edmonton, AB, Canada, November 23-26, 2015, Oral presentation. (Abstract)*
- Vaillancourt, M., Vanasse, A., and Pageau, D. (2015). "Canola Nutrient Management - The effects of green manure of clover combined with mineral or organic fertilization on canola productivity.", *ECODA-Canola Workshop, Montreal, QC, Canada, April 29, 2015, Presentation*.
- Maillard, É., Chantigny, M.H., Angers, D.A., Lévesque, G., Lafond, G.P., Pageau, D., Bitman, S., and Hunt, D.W.A. (2015). "Réduire son empreinte carbone grâce aux lisiers.", *Le Producteur de Lait Québécois*, 36(1), pp. 45-48.
- Dalton, J., Gossen, B.D., Al-Daoud, F., Pageau, D., and McDonald, M.R. (2015). "Decline in the concentration of resting spores of *Plasmodiophora brassicae* following a susceptible crop.", *14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015*.
- Parent, C., Roy, M., Colton-Gagnon, K., Pageau, D., and Bilodeau, L. (2015). Les altises dans la culture du canola: biologie, dépistage et stratégies d'intervention. Réseau d'Alerte Phytosanitaire. Bulletin d'information No. 15. Juin 2015. 6 pages.
- Pageau, D. (2015). "Effect of Sulfur and Nitrogen application on spring canola production grown under a cool climate.", *Botany 2015, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015. (Poster)*

## 2014

- Giroux, M., Vanasse, A., Bourgeois, G., Dion, Y., Rioux, S., Pageau, D., Zoghli, S., Parent, C., and Vachon, E. (2014). "Évaluation de modèles prévisionnels de la fusariose de l'épi chez le blé sous les conditions de culture du Québec.", *Conférence présentée à la Journée d'Information scientifique sur les Grandes Cultures, Drummondville, QC, Canada, 20 Février 2014*.
- Dorval, I., Vanasse, A., Pageau, D., Dion, Y., Martel, S., and Vachon, E. (2014). "Épeautre de printemps et d'automne: résultats des essais de cultivars et de densité de semis.", *Conférence présentée à la Journée d'Information scientifique sur les Grandes Cultures, Drummondville, QC, Canada, 20 Février 2014*.
- Verville, F., Vanasse, A., Chantigny, M.H., Pageau, D., and Tremblay, G. (2014). "Effets des engrais verts et de leur période d'enfouissement sur les rendements du blé.", *Conférence présentée à la Journée d'Information scientifique sur les Grandes Cultures, Drummondville, QC, Canada, 20 Février 2014*.
- Paré, M., Lafond, J., and Pageau, D. (2014). "Rotation des cultures annuelles et travail du sol en climat nordique: Quelle combinaison semble la plus profitable au Saguenay-Lac-Saint-Jean?", *Conférence présentée au congrès annuel de l'Association Québécoise des Spécialistes en Science du Sol (AQSSS), Victoriaville, QC, Canada, 26-29 mai 2014*.
- Verville, F., Vanasse, A., Chantigny, M.H., Pageau, D., and Tremblay, G. (2014). "Effets des engrais verts et de leur période d'enfouissement sur les rendements du blé.", *Conférence présentée au congrès annuel de l'Association Québécoise des Spécialistes en Science du Sol (AQSSS), Victoriaville, QC, Canada, 26-29 mai 2014*.
- Rioux, S., Labrie, G., Mimee, B., Pageau, D., Gilbert, G., and Colton-Gagnon, K. (2014). "Maladies et insectes en grandes cultures: portrait de la situation 2012-2014.", *Journée d'information scientifique Innovagrains-CRAAQ, Boucherville, QC, Canada, 20 novembre 2014*.
- Pageau, D., Rioux, S., Vanasse, A., and Blackwell, B.A. (2014). "La fusariose de l'épi, un ennemi coriace!", *Journée d'information de la Financière Agricole du Saguenay-Lac-St-Jean, Alma, QC, Canada, 27 mars 2014*.
- Pageau, D., Labrie, G., and Vanasse, A. (2014). "Le canola et ses ennemis.", *Journée d'information de la Financière Agricole du Saguenay-Lac-St-Jean, Alma, QC, Canada, 27 mars 2014*.
- Lafond, J., Angers, D.A., Pageau, D., and Lajeunesse, J. (2014). "Impact de la rotation, du travail du sol et de la source d'éléments nutritifs sur les rendements en plantes fourragères et céréales.", *Conférence présentée au congrès annuel de l'Association Québécoise des Spécialistes en Science du Sol (AQSSS), Victoriaville, QC, Canada, 26-29 mai 2014*.

Pageau, D. (2014). "Biologie des ravageurs du canola (Altises et Melligèthes) en lien avec l'efficacité des traitements phytosanitaires.", Journée d'information sur les ravageurs et les maladies du canola, Laterrière, QC, Canada, 2 juillet 2014.

Pageau, D. (2014). "La production de canola.", Table sectorielle en Grandes cultures du MAPAQ, Alma, QC, Canada, 10 septembre 2014.

Pageau, D. (2014). "Le défi des céréales d'automne.", Conférence présentée à la journée d'information en agroenvironnement du Groupe Multiconseil Agricole du Saguenay-Lac-St-Jean., Lac-à-la-Croix, QC, Canada, 28 octobre 2014.

Rioux, S., Vanasse, A., Pageau, D., and Blackwell, B.A. (2014). "Les traitements fongicides dans les champs de céréale.", Clubs conseils en agroenvironnement Beauce Agri-Nature, Saint-Joseph-de Beauce, QC, Canada, 18 novembre AM 2014.

Pageau, D., Rioux, S., and Vanasse, A. (2014). "La fusariose et autres maladies des céréales.", CEGEP d'Alma aux étudiants inscrits dans le cadre du programme « Exploitation agricole », Alma, QC, Canada, 10 avril 2014.

Lafond, J., Angers, D.A., Pageau, D., and Lajeunesse, J. (2014). "Effets de la rotation, du travail du sol et de la source d'éléments nutritifs sur les rendements en plantes fourragères et céréales.", Congrès annuel de l'AQSSS à Victoriaville, Québec, Canada, du 26 au 29 mai 2014.

Pageau, D., Rioux, S., Vanasse, A., and Blackwell, B.A. (2014). "Les maladies des céréales: comment les combattre.", Journée d'information de la Financière Agricole du Saguenay-Lac-St-Jean, Alma, QC, Canada, 27 mars 2014.

Pageau, D., Rioux, S., Vanasse, A., and Blackwell, B.A. (2014). "Les champs de céréale ont-ils vraiment besoin de traitements fongicides?", La Journée d'information du Syndicat des producteurs de Cultures Commerciales du Saguenay-Lac-St-Jean, Alma, QC, Canada, 19 mars 2014.

Pageau, D., Labrie, G., and Vanasse, A. (2014). "Adaptation de la régie de culture du canola en fonction des nouveaux ravageurs.", Journée de sensibilisation et d'information sur la culture de canola, Alma, QC, Canada, 21 janvier 2014.

Ma, B.-L., Yan, W., Pageau, D., Vera, C.L., and Herath, A. (2014). "Does Phosphorus Uptake Affect Crop Lodging in Oat Genotypes?", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

Beres, B.L., Pageau, D., Dion, Y., Turkington, T.K., Lupwayi, N.Z., Lamey, F.J., Ellert, B.H., and Smith, E.G. (2014). "Rotational Diversity Effects in a Triticale-Based Cropping System.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

Ma, B.-L., Frégeau-Reid, J.A., Pageau, D., Vera, C.L., and Yan, W. (2014). "β-Glucan, Oil, and Protein of Oats as Affected by Variety, Location, and N Application.", American Oat Workers Conference 2014, Ottawa Marriott Hotel, Ottawa, ON, Canada, July 13-16, 2014.

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Baron, V.S., Blackshaw, R.E., Hall, L.M., Johnson, E.N., Willenborg, C.J., Shirliffe, S.J., Gulden, R.H., Kobler, J.F., and Pageau, D. (2014). "Delaying herbicide resistance with integrated wild oat (*Avena fatua*) management.", 2014 Weed Science Society of America (WSSA) and the Canadian Weed Science Society (CWSS) Annual Meeting, Vancouver, B.C., Canada, February 3-6, 2014. (Abstract)

Rioux, S., Vanasse, A., Pageau, D., and Blackwell, B.A. (2014). "Les traitements fongicides dans les champs de céréale.", Clubs conseils en agroenvironnement Beauce Agri-Nature, Saint-Joseph-de Beauce, QC, Canada, 18 novembre AM 2014.

## 2013

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2013). "Assessment of crop rotation, resistance and *Bacillus subtilis* for management of clubroot on canola.", *Canadian Journal of Plant Pathology*, 35, pp. 112. (Abstract)

Peng, G., Lahlali, R.L., Hynes, R.K., Boyetchko, S.M., Gossen, B.D., Hwang, S.F., Pageau, D., McDonald, M.R., and Strelkov, S.E. (2013). "*Plasmodiophora brassicae* Woronin, Clubroot of Crucifers (*Plasmodiophoraceae*).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Wallingford, UK, Chapter 65.

Ziadi, N., Bélanger, G., Grant, C.A., Cade-Menun, B.J., Lalande, R., Hamel, C., Lafond, J., Lajeunesse, J., Pageau, D., Tremblay, G.F., and Zhang, T.Q. (2013). Soil and plant phosphorus assessment and modeling in Canadian agro-ecosystems. Final report SAGES#1475. (Report)

Labrie, G., Duval, B., Bilodeau, L., Vanasse, A., and Pageau, D. (2013). "Ravageurs du canola portrait de la situation.", Conférence présentée à la Journée Innovation et Progrès en Agro-alimentaire au Centre-du-Québec., Bécancour, QC, Canada, 27 février 2013. (Presentation)

Zoghalmi, S., Bergeron, M., Moore, H., Labrie, G., Pageau, D., Robert, L.S., Robert, L.S., Tardif, E., and Tremblay, G. (2013). Guide de production du canola. Publication de la Fédération des Producteurs de Cultures Commerciales du Québec. 12 pages. (Report)

Rioux, S., Vanasse, A., Pageau, D., and Blackwell, B.A. (2013). "Les champs de céréales ont-ils vraiment besoin de traitements fongicides? Journée Analyse de groupe Grandes cultures.", Groupe conseil agricole Pékouagan du Réseau agri-conseils du Saguenay-Lac-Saint-Jean, Saint-Félicien, QC, Canada, 28 novembre 2013.

Pageau, D., Lajeunesse, J., Lafond, J., Rioux, S., and Blackwell, B.A. (2013). "Effet des rotations sur le contenu en désoxynivalénol (DON) chez les céréales.", Conférence présentée lors du Colloque sur les Céréales, Beloeil, QC, Canada, 11 décembre 2013.

Pageau, D., Labrie, G., and Vanasse, A. (2013). "La production du canola : des problèmes à surmonter.", Conférence présentée à la Journée Grandes Cultures du Groupe Conseil Agricole Saguenay-Lac-St-Jean, Alma, QC, Canada, 28 novembre 2013. (Presentation)

Giroux, M., Vanasse, A., Bourgeois, G., Dion, Y., Rioux, S., Pageau, D., Zoghliami, S., Parent, C., and Vachon, E. (2013). "Évaluation de modèles prévisionnels de la fusariose de l'épi chez le blé dans les conditions de culture du Québec.", Assemblée annuelle de la Société de protection des plantes du Québec, Québec, QC, Canada, 5 et 6 juin 2013.

Pageau, D., Labrie, G., and Vanasse, A. (2013). "Quelques résultats récents sur le canola.", Conférence présentée à la Journée Grandes Cultures – MAPAQ, St-Bruno, QC, Canada, 1 mars 2013. (Presentation)

Peng, G., Lahlali, R.L., Hwang, S.F., Pageau, D., Hynes, R.K., McDonald, M.R., Gossen, B.D., and Strelkov, S.E. (2013). "Integrated management of clubroot on canola with crop rotation, cultivar resistance, and fungicides/biofungicides.", International Clubroot Workshop, Edmonton, AB, Canada, June 2013, Oral presentation, pp. 7. (Workshop)

Pageau, D., Lajeunesse, J., and Lafond, J. (2013). "Optimizing Canola Production/Optimiser la culture du canola.", Conférence présentée au Atlantic Cereal & Oilseed Symposium/Symposium sur les céréales et oléagineuses de l'Atlantique., Fredericton, NB, Canada, 13-14 février 2013. (Presentation)

Pageau, D., Labrie, G., and Vanasse, A. (2013). "Management of canola diseases and insects/Gestion des maladies et des insectes du canola.", Conférence présentée au Atlantic Cereal & Oilseed Symposium/Symposium sur les céréales et oléagineuses de l'Atlantique., Fredericton, NB, Canada, 13-14 février 2013. (Presentation)

Pageau, D., Labrie, G., and Vanasse, A. (2013). "Une régie adaptée pour la culture du canola.", Conférence présentée à la Journée Innovation et Progrès en Agro-alimentaire au Centre-du-Québec., Bécancour, QC, Canada, 27 février 2013.

Giroux, M., Vanasse, A., Bourgeois, G., Dion, Y., Rioux, S., and Pageau, D. (2013). "Évaluation de modèles prévisionnels du risque de fusariose de l'épi chez le blé dans les conditions de culture du Québec.", Conférence présentée au 81<sup>ème</sup> Congrès de l'ACFAS - Association francophone pour le savoir, Québec, QC, Canada, 6-10 mai 2013.

Giroux, M., Vanasse, A., Bourgeois, G., Dion, Y., Rioux, S., Pageau, D., Zoghliami, S., Parent, C., and Vachon, E. (2013). "Évaluation de modèles prévisionnels de la fusariose de l'épi chez le blé dans les conditions de culture du Québec.", Conférence présentée à la Journée d'Information scientifique sur les Grandes Cultures, Drummondville, QC, Canada, 21 Février 2013.

Peng, G., Pageau, D., Strelkov, S.E., Lahlali, R.L., Gossen, B.D., Anderson, K., Hwang, S.F., McDonald, M.R., Yu, F.Q., Falk, K.C., Turkington, T.K., Hynes, R.K., Boyetchko, S.M., and McGregor, L. (2013). "Management of clubroot disease on canola with crop rotation combined with host resistance or biofungicide seed dressing.", *Canadian Journal of Plant Pathology*, 35, pp. 519. (Abstract)

Rioux, S., Pageau, D., Vanasse, A., Dion, Y., and Blackwell, B.A. (2013). "Devrait-on utiliser des fongicides dans les céréales?", *Dans Revue Grandes Cultures*, 23(3), pp. 16-17.

Giroux, M., Vanasse, A., Bourgeois, G., Dion, Y., Rioux, S., Pageau, D., Zoghliami, S., Parent, C., and Vachon, E. (2013). "Evaluation of Predictive Models for Wheat Fusarium Head Blight under Growing Conditions of Quebec, Canada.", 12th European Fusarium Seminar: Fusarium – Mycotoxins, Taxonomy, Genomics, Biosynthesis, Pathogenicity, Resistance, Disease control, Bordeaux, France, May 12-16, 2013.

## 2012

Peng, G., Lahlali, R.L., Hwang, S.F., Pageau, D., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Boyetchko, S.M., and Strelkov, S.E. (2012). "Fungicides/biofungicides, cultivar resistance, crop rotation for control of clubroot on canola.", Clubroot Summit 2012, Edmonton, AB, Canada, March 6, 2012, Invited presentation.

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2012). "Assessment of crop rotation, resistance and *Bacillus subtilis* for management of clubroot on canola.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: *Can. J. Plant Pathol.* (2013) 35(1), pp. 112.

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2012). "Crop rotation, cultivar resistance, and biofungicide seed dressing for clubroot control on canola.", 6th International Symposium on Brassica and 18th Crucifer Genetics Workshop, Catania, Sicily, Italy, November 12-16, 2012.



Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., and McGregor, L. (2012). "Control of clubroot on canola with crop rotation in combination with biofungicide seed dressing and varietal resistance.", Joint Meeting of CPS Saskatchewan Group and Plant Pathological Society of Alberta, Canada, November, 2012, (Presentation).

Peng, G., Lahlali, R.L., Pageau, D., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2012). "Assessment of crop rotation and host resistance in combination with *Bacillus subtilis* for management of clubroot on canola.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: Canadian Journal of Plant Pathology, 35(1), pp.122.

Yan, W., Frégeau-Reid, J.A., Mitchell Fetch, J.W., Pageau, D., Martin, R.A., Rowsell, J., Beattie, A.D., and Cummiskey, A. (2012). "Breeding for an "ideal" Milling Oat: Challenges and Strategies.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012.

Frégeau-Reid, J.A., Yan, W., Martin, R.A., Cummiskey, A., Pageau, D., Sibbitt, D., De Haan, B., Thomas, S., and Morasse, I. (2012). "Associations among grain yield, groat percentage, and beta-glucan in two oat genetic populations.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

## 2011

Grant, C.A., Beres, B.L., Malhi, S.S., Pageau, D., Lafond, J., Schoenau, J.J., Walley, F.L., Heard, J., Flaten, D.N., Hellegards, B., and Sahota, T.S. (2011). "New developments in nutrition research for canola.", Canola Research Summit meeting, Winnipeg, MB, Canada, April 12-13, 2011.

Rioux, S., Pageau, D., Vanasse, A., and Blackwell, B.A. (2011). "Les fongicides en production céréalière : utiles ou inutiles?", Journée d'information en grandes cultures au Saguenay-Lac-St-Jean, Alma, QC, Canada, March 15, 2011.

Rioux, S., Pageau, D., Vanasse, A., and Blackwell, B.A. (2011). "Évaluation de fongicides dans les cultures de céréales.", Journée d'information scientifique sur les grandes cultures, Drummondville, QC, Canada, February 17, 2011.

Pageau, D., Lajeunesse, J., Rioux, S., Vanasse, A., and Blackwell, B.A. (2011). "Les maladies du canola et des céréales: mieux vaut prévenir que guérir!", Journée Végétale – La Coop 2011, Alma, QC, Canada, November 30, 2011.

Peng, G., Hynes, R.K., Hwang, S.F., Pageau, D., McDonald, M.R., Gossen, B.D., and Boyetchko, S.M. (2011). "Assessment of microbial biofungicides for control of clubroot on canola.", Clubroot Summit 2011, Saskatoon, SK, Canada, March 9, 2011.

Peng, G., Hynes, R.K., Boyetchko, S.M., Gossen, B.D., and Pageau, D. (2011). "Biocontrol of canola.", Clubroot Summit 2011, Saskatoon, SK, Canada, March 9, 2011, Invited presentation.

Peng, G., Yu, F.Q., Hynes, R.K., Pageau, D., McDonald, M.R., and Gossen, B.D. (2011). "Managing clubroot and blackleg on canola in western Canada - current status of research.", Anhui Academy of Agricultural Science Seminar, Anhui Academy of Agricultural Science, Hefei, China, November 14, 2011. (Presentation)

Peng, G., Lahlali, R.L., Hwang, S.F., Hynes, R.K., McDonald, M.R., Pageau, D., Gossen, B.D., Strelkov, S.E., and McGregor, L. (2011). "Control of clubroot on canola using the biofungicide Serenade plus cultivar resistance.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, pp. 1134-1137.

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## Research Publications:

2015

Campos, D.B., Alborno, M.S., Papa, P., Palin, M.-F., Bordignon, V., and Murphy, B.D. (2015). "Relationship between adiponectin and fertility in the female pig.", *Reproduction, Fertility and Development*, 27(3), pp. 458-470. doi : 10.1071/RD13201

Hallé, C., Goff, A.K., Petit, H.V., Blouin, R., and Palin, M.-F. (2015). "Effects of different n-6:n-3 fatty acid ratios and of enterolactone on gene expression and PG secretion in bovine endometrial cells.", *British Journal of Nutrition*, 113(1), pp. 56-71. doi : 10.1017/S0007114514003304

Perruchot, M.H., Lefaucheur, L., Louveau, I., Mobuchon, L., Palin, M.-F., Farmer, C., and Gondret, F. (2015). "Delayed muscle development in small pig fetuses around birth cannot be rectified by maternal early feed restriction and subsequent overfeeding during gestation.", *Animal*, 9(12), pp. 1996-2005. doi : 10.1017/S1751731115001202

Jafarika, M., Méthot, S., Maignel, L., Fortin, F.-A., Wyss, S., Sullivan, B., and Palin, M.-F. (2015). "Association of adiponectin and adiponectin receptor genes with sow productivity estimated breeding values.", *Molecular Biology Reports*. doi : 10.1007/s11033-015-3917-3

Bueno-Dalto, D., Roy, M., Audet, I., Palin, M.-F., Guay, F., Lapointe, J., and Matte, J.J. (2015). "Interaction between vitamin B6 and source of selenium on the response of the selenium-dependent glutathione peroxidase system to oxidative stress induced by oestrus in pubertal pig.", *Journal of Trace Elements in Medicine and Biology*, 32, pp. 21-29. doi : 10.1016/j.jtemb.2015.05.002

Farmer, C., Palin, M.-F., Lösel, D., Rehfeldt, C., and Kalbe, C. (2015). "Impact of diet deprivation and subsequent over-allowance of gestating sows on mammary gland and skeletal muscle development of their offspring at puberty.", *Livestock Science*, 175, pp. 113-120. doi : 10.1016/j.livsci.2015.02.006

Lima, L.S., Palin, M.-F., Santos, G.T., Benchaar, C., and Petit, H.V. (2015). "Effects of supplementation of flax meal and flax oil on mammary gene expression and activity of antioxidant enzymes in mammary tissue, plasma and erythrocytes of dairy cows.", *Livestock Science*, 176, pp. 196-204. doi : 10.1016/j.livsci.2015.03.015

de Marchi, F.E., Palin, M.-F., Santos, G.T.D., Lima, L.S., Benchaar, C., and Petit, H.V. (2015). "Flax meal supplementation on the activity of antioxidant enzymes and the expression of oxidative stress- and lipogenic-related genes in dairy cows infused with sunflower oil in the abomasum.", *Animal Feed Science and Technology*, 199, pp. 41-50. doi : 10.1016/j.anifeedsci.2014.10.018

2014

Palin, M.-F., Côrtes, C., Benchaar, C., Lacasse, P., and Petit, H.V. (2014). "mRNA Expression of lipogenic enzymes in mammary tissue and fatty acid profile in milk of dairy cows fed flax hulls and infused with flax oil in the abomasum.", *British Journal of Nutrition*, 111(6), pp. 1011-1020. doi : 10.1017/S0007114513003589

Farmer, C., Palin, M.-F., and Martel-Kennes, Y. (2014). "Impact of diet deprivation and subsequent over-allowance during gestation on mammary gland development and lactation performance.", *Journal of Animal Science*, 92(1), pp. 141-151. doi : 10.2527/jas.2013-6558

Lima, L.S., Palin, M.-F., Santos, G.T.D., Benchaar, C., Lima, L.C.R., Chouinard, P.Y., and Petit, H.V. (2014). "Effect of flax meal on the production performance and oxidative status of dairy cows infused with flax oil in the abomasum.", *Livestock Science*, 170, pp. 53-62. doi : 10.1016/j.livsci.2014.09.023

Will, K., Kuzinski, J., Palin, M.-F., Hildebrandt, J.-P., and Rehfeldt, C. (2014). "A second look at leptin and adiponectin actions on the growth of primary porcine myoblasts under serum-free conditions.", *Archiv Tierzucht*, 57(29), pp. 1-10. doi : 10.7482/0003-9438-57-029

Farmer, C., Lapointe, J., and Palin, M.-F. (2014). "Effects of the plant extract silymarin on prolactin concentrations, mammary gland development, and oxidative stress in gestating gilts.", *Journal of Animal Science*, 92(7), pp. 2922-2930. doi : 10.2527/jas.2013-7118

2013

Will, K., Kuzinski, J., Kalbe, C., Palin, M.-F., and Rehfeldt, C. (2013). "Effects of leptin and adiponectin on the growth of porcine myoblasts are associated with changes in p44/42 MAPK signaling", *Domestic Animal Endocrinology*, 45(4), pp. 196-205. doi : 10.1016/j.domaniend.2013.09.002

Schogor, A.L.B., Palin, M.-F., dos Santos, G.T.D., Benchaar, C., Lacasse, P., and Petit, H.V. (2013). "Mammary gene expression and activity of antioxidant enzymes and oxidative indicators in the blood, milk, mammary tissue and ruminal fluid of dairy cows fed flax meal.", *British Journal of Nutrition*, 110(10), pp. 1743-1750. doi: 10.1017/S0007114513001220

Cory, A.T., Price, C.A., Lefebvre, R., and Palin, M.-F. (2013). "Identification of single nucleotide polymorphisms in the bovine follicle-stimulating hormone receptor and effects of genotypes on superovulatory response traits.", *Animal Genetics*, 44(2), pp. 197-201. doi: 10.1111/j.1365-2052.2012.02380.x

2012

Will, K., Kalbe, C., Kuzinski, J., Lösel, D., Viergutz, T., Palin, M.-F., and Rehfeldt, C. (2012). "Effects of leptin and adiponectin on proliferation and protein metabolism of porcine myoblasts.", *Histochemistry and Cell Biology*, 138(2), pp. 271-287. doi : 10.1007/s00418-012-0949-9

Farmer, C., Palin, M.-F., Theil, P.K., Sørensen, M.T., and Devillers, N. (2012). "Milk production in sows from a teat in second parity is influenced by whether it was suckled in first parity.", *Journal of Animal Science*, 90(11), pp. 3743-3751. doi : 10.2527/jas.2012-5127

Farmer, C., Palin, M.-F., and Martel-Kennes, Y. (2012). "Impact of diet deprivation and subsequent over-allowance during prepuberty. Part 1. Effects on growth performance, metabolite status, and mammary gland development in gilts.", *Journal of Animal Science*, 90(3), pp. 863-871. doi : 10.2527/jas.2011-4131

Farmer, C., Palin, M.-F., and Martel-Kennes, Y. (2012). "Impact of diet deprivation and subsequent over-allowance during prepuberty. Part 2. Effects on mammary gland development and lactation performance of sows.", *Journal of Animal Science*, 90(3), pp. 872-880. doi : 10.2527/jas.2011-4480

Côrtes, C., Palin, M.-F., Gagnon, N., Benchaar, C., Lacasse, P., and Petit, H.V. (2012). "Mammary gene expression and activity of antioxidant enzymes and concentration of the mammalian lignan enterolactone in milk and plasma of dairy cows fed flax lignans and infused with flax oil in the abomasum.", *British Journal of Nutrition*, 108(8), pp. 1390-1398. doi : 10.1017/S0007114511006829

2011

Lefèvre, P.L.C., Palin, M.-F., and Murphy, B.D. (2011). "Polyamines on the reproductive landscape.", *Endocrine Reviews*, 32(5), pp. 694-712. doi: 10.1210/er.2011-0012

Lefèvre, P.L.C., Palin, M.-F., Chen, G., Turecki, G., and Murphy, B.D. (2011). "Polyamines Are Implicated in the Emergence of the Embryo from Obligate Diapause.", *Endocrinology*, 152(4), pp. 1627-1639. doi: 10.1210/en.2010-0955

Lefèvre, P.L.C., Palin, M.-F., Beaudry, D., Dobias-Goff, M.V., Desmarais, J.A., Llerena V., E.M., and Murphy, B.D. (2011). "Uterine Signaling at the Emergence of the Embryo from Obligate Diapause.", *American Journal of Physiology: Endocrinology and Metabolism*, 300(5), pp. E800-E808. doi: 10.1152/ajpendo.00702.2010

## Other Science Related Publications:

2015

Farmer, C., Palin, M.-F., and Vignola, M. (2015). "Body condition of gilts at the end of gestation affects their mammary development.", *ADSA-ASAS 2015 JAM (Joint Annual Meeting)*, Orlando, Florida, USA, July 12-16, 2-15, Invited Conference, pp. 101. (Abstract)

Gonzalo, E., Palin, M.-F., Letourneau-Montminy, M.P., Narcy, A., and Pomar, C. (2015). "Effects of phosphorus and calcium depletion-repletion periods on intestinal and renal expression of genes associated with Ca, P and vitamin D metabolism in pigs.", *13th Digestive Physiology of Pigs (DPP) Symposium*, Kliczkow, Poland, May 19-21, 2015, Abstract #338. (Abstract)

D'Astous-Pagé, J., Gariépy, C., Blouin, R., Cliché, S., Sullivan, B., and Palin, M.-F. (2015). "Carnosine levels in the porcine longissimus muscle and its association with meat quality traits and carnosine-related genes expression.", *Canadian Society of Animal Science (CSAS) and Canadian Meat Council Annual Joint Meeting*, Ottawa, Canada, May 6-7, 2015, Abstract P22-GS. (Abstract)

Gonzalo, E., Letourneau-Montminy, M.P., Crenshaw, J.D., Palin, M.-F., Narcy, A., and Pomar, C. (2015). "Dietary phosphorus and calcium deficiency (depletion) and recovery (repletion) sequences can allow to optimize mineral utilization in growing pigs.", *Eastern Nutrition Conference*, Montreal, Canada, May 13-14, 2015.

Farmer, C., Palin, M.-F., and Vignola, M. (2015). "Body condition of gilts at the end of gestation affects their mammary development.", *Journal of Animal Science*, 93(Suppl 3), pp. 218. (Abstract)

## 2014

Palin, M.-F., Jafarikia, M., Gariépy, C., Fortin, F.-A., Maignel, L., Wyss, S., and Sullivan, B. (2014). "Association of SNPs and Haplotypes in Adiponectin and Adiponectin Receptors with Pig Meat Quality Traits.", 10th World Congress on Genetics Applied to Livestock Production (WCGALP), Vancouver, Canada, August 17-22, 2014. (Abstract)

Petit, H.V., de Lima, L.S., Palin, M.-F., Santos, G.T.D., and Benchaar, C. (2014). "Effect of Antioxidants from Flax meal on the Oxidative Status of Dairy Cows Infused With Flax Oil in the Abomasum.", Joint International Symposium on the Nutrition of Herbivores/International Symposium on Ruminant Physiology (ISNH/ISRP), Canberra, Australia, September 8-12, 2014, In: *Proc. Aust. Soc. Anim. Prod.* 30:83.

dos Santos, G.T.D., de Marchi, F.E., de Lima, L.S., Palin, M.-F., Benchaar, C., and Petit, H.V. (2014). "Activity of Antioxidant Enzymes in Dairy Cows Infused with Sunflower Oil in the Abomasum: Effect of Antioxidants from Flax Meal.", Joint International Symposium on the Nutrition of Herbivores/International Symposium on Ruminant Physiology (ISNH/ISRP), Canberra, Australia, September 8-12, 2014, In: *Proc. Aust. Soc. Anim. Prod.* 30:68.

Farmer, C., Palin, M.-F., and Martel-Kennes, Y. (2014). "Compensatory feeding of gestating gilts does not affect mammary development of their offspring at puberty.", *Journal of Animal Science*, 92(E-Suppl. 2), pp. 204. (Abstract)

## 2013

Santos, G.T., Schogor, A.L.B., Palin, M.-F., Benchaar, C., and Petit, H.V. (2013). "Lipoperoxidation in body fluids of dairy cows fed flax meal.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, (Abstract), pp. 146.

Schogor, A.L.B., Palin, M.-F., Benchaar, C., Santos, G.T., and Petit, H.V. (2013). "Mammary gene expression in Holstein cows upon flax meal supplementation.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, (Abstract), pp. 144.

Petit, H.V., Schogor, A.L.B., Benchaar, C., Palin, M.-F., and Santos, G.T.D. (2013). "Enterolactone production and its correlation among body fluids in cows fed flax meal.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, pp. 142.

Petit, H.V., Schogor, A.L.B., Benchaar, C., Palin, M.-F., and Santos, G.T. (2013). "Enterolactone production and its correlation among body fluids in cows fed flax meal.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, Abstract, pp. 142 (Abstract).

Schogor, A.L.B., Petit, H.V., Benchaar, C., Palin, M.-F., and Santos, G.T.D. (2013). "Enterolactone concentration in body fluids and  $\beta$ -glucosidase activity in the rumen and in faeces of dairy cows fed flax meal.", World Conference on Animal Production (11th WCAP), Beijing, China, October 15-20, 2013.

Schogor, A.L.B., Petit, H.V., Benchaar, C., Palin, M.-F., and Santos, G.T.D. (2013). "Activity of antioxidant enzymes in dairy cows fed increasing levels of flax meal.", World Conference on Animal Production (11th WCAP), Beijing, China, October 15-20, 2013.

Farmer, C., Palin, M.-F., and Martel-Kennes, Y. (2013). "Compensatory feeding of gestating gilts: effects on mammary gland development and lactation.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, pp. 202.

Kuzinski, J., Will, K., Kalbe, C., Palin, M.-F., and Rehfeldt, C. (2013). "Adiponectin and leptin actions on DNA synthesis and cell death of porcine myoblasts are dependent on the cellular milieu and related to ERK 1/2 signaling.", The 15th European Congress of Endocrinology (ECE), Copenhagen, Denmark, April 27-May 1, 2013, *Endocrine Abstracts* Vol. 32, Abstract #P757.

Palin, M.-F., Prado, R.M., Beaudry, D., and Petit, H.V. (2013). "Effects of feeding linola and flax supplements to dairy cows on the day 17 embryo transcriptome.", 7th Congress of the International Society of Nutri-genetics/Nutri-genomics (ISNN), Quebec City Convention Centre, Quebec City, Canada, October 5-8, 2013.

Prado, R.M., Prado, I.N., Santos, G.T., Benchaar, C., Palin, M.-F., and Petit, H.V. (2013). "Milk production and composition and blood and liver parameters of dairy cows fed various fat sources.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, (Abstract), pp. 411.

Petit, H.V., Schogor, A.L.B., Benchaar, C., Palin, M.-F., Santos, G.T., and Prado, R.M. (2013). "Intake, feed efficiency and milk composition of cows fed flax meal.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, (Abstract), pp. 143.

## 2012

Palin, M.-F., Bordignon, V., and Murphy, B.D. (2012). "Adiponectin and the control of female reproductive functions.", in Litwack, G. (ed.) - *Adiponectin: Vitamins & Hormones*. Vol. 90, Academic Press, Chapter 10, pp. 239-287.

Palin, M.-F., Hallé, C., Goff, A.K., Petit, H.V., and Blouin, R. (2012). "Effects of the Omega-6/Omega-3 Fatty Acid Ratios and of Enterolactone on Dairy Cow Endometrial Cells.", Society for the Study of Reproduction 45th Annual Meeting and 18th Ovarian Workshop, Pennsylvania State University, State College, PA, USA, August 12-15, 2012, Abs. 338. (Abstract)

Lapointe, J. and Palin, M.-F. (2012). "Nutrigenomics: What? Why? and What's in it for me?", 30th Anniversary Jefe Symposium, Saint-Hyacinthe, QC, Canada, August 29, 2012. (Presentation)

Lapointe, J., Roy, M., Audet, I., Beaudry, D., Palin, M.-F., Quesnel, H., Guay, F., and Matte, J.J. (2012). "Organic selenium and vitamin B6 synergize to up-regulate glutathione peroxidases (GPx) expression in dietary supplemented gilts.", Society for the Study of Reproduction 45th Annual Meeting and 18th Ovarian Workshop, Pennsylvania State University, State College, PA, USA, August 12-15, 2012, Abs. 469. (Abstract)

Palin, M.-F., Gariépy, C., Méthot, S., Beaudry, D., Cliché, S., Leblanc, C., Fortin, F.-A., Jafarikia, M., Maignel, L., Wyss, S., and Sullivan, B. (2012). "mRNA abundance of selected genes in the loin muscle of pigs with divergent carcass and meat quality traits.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012, Abs. C64. (Poster)

Palin, M.-F., Gariépy, C., Méthot, S., Beaudry, D., Cliché, S., Leblanc, C., Fortin, F.-A., Jafarikia, M., Maignel, L., Wyss, S., and Sullivan, B. (2012). "Candidate genes mRNA abundance in the longissimus muscle of pigs with divergent carcass and meat quality traits.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2012 Annual Conference and Technical Symposium, Québec City, QC, Canada, May 29-June 1, 2012, pp. 10. (Abstract)

Will, K., Kalbe, C., Kuzinski, J., Lösel, D., Vieregutz, T., Palin, M.-F., and Rehfeldt, C. (2012). "Limited effects of leptin and adiponectin on proliferation and protein metabolism of porcine myoblasts under serum-free culture conditions.", 15th International and 14th European Congress of Endocrinology, Florence, Italy, May 5-9, 2012, Published in: *Endocrine Abstracts* (2012) 29, pp. 1224. (Abstract)

Banerje, A., Lefèvre, P.L.C., Palin, M.-F., and Murphy, B.D. (2012). "Polyamines dictate emergence from obligate embryonic diapause.", 5ème Symposium du Réseau Québécois en Reproduction (RQR), Québec City, QC, Canada, November 14-15, 2012.

Palin, M.-F., Gariépy, C., Méthot, S., Beaudry, D., Cliché, S., Leblanc, C., Fortin, F.-A., Jafarikia, M., Maignel, L., Wyss, S., and Sullivan, B. (2012). "Grappe porcine: Expression des gènes dans la longe de porcs présentant différents caractères de carcasse et de qualité de la viande.", Journée des innovations – Expo-congrès du porc du Québec (à la rencontre de l'innovation et de la production porcine), Lévis, QC, Canada, April 4, 2012. (Poster)

Palin, M.-F., Hallé, C., Goff, A.K., Petit, H.V., and Blouin, R. (2012). "Effects of the Omega-6/Omega-3 Fatty Acid Ratios and of Enterolactone on Dairy Cow Endometrial Cells.", AAFC Scientific Symposium: Let's talk science at DSRDC, Sherbrooke, QC, Canada, November 28, 2012. (Poster)

Palin, M.-F., Gariépy, C., Méthot, H., Beaudry, D., Cliché, S., Leblanc, C., Fortin, F.-A., Jafarikia, M., Maignel, L., and Sullivan, B. (2012). "Grappe Porcine: Expression de gènes sélectionnés dans la longe de porc présentant différents caractères de carcasses et de qualité de viande.", Journée des Innovations. Conseil Canadien des Viandes, Congrès Annuel, Québec City, QC, Canada, June 1, 2012.

Palin, M.-F. (2012). "mRNA abundance of selected genes in the loin muscle of pigs with divergent carcass and meat quality traits.", Meeting of the Canadian Centre for Swine Improvement (CCSI), Ottawa, ON, Canada, May 3-4, 2012.

Palin, M.-F., Gariépy, C., Méthot, S., Beaudry, D., Cliché, S., Leblanc, C., Fortin, F.-A., Jafarikia, M., Maignel, L., Wyss, S., and Sullivan, B. (2012). "mRNA abundance of selected genes in the longissimus muscle of pigs with divergent carcass and meat quality traits.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2012 Annual Conference and Technical Symposium, Québec City, QC, Canada, May 29-June 1, 2012. (Abstract)

Palin, M.-F. (2012). "Swine Cluster: mRNA abundance of selected genes in the loin muscle of pigs with divergent carcass and meat quality traits.", Canadian Centre for Swine Improvement (CCSI) Genetic Committee meeting, Ottawa, ON, Canada, May 3-4, 2012. (Presentation)

Petit, H.V., do Prado, R.N., Palin, M.-F., and Benchaar, C. (2012). "Milk production, milk composition and blood parameters of cows fed whole flaxseed or whole linola.", *Journal of Dairy Science* (JDS), 95(Suppl. 2), pp. 611 (#W318). (Abstract)

2011

Will, K., Kalbe, C., Palin, M.-F., and Rehfeldt, C. (2011). "Effects of leptin and adiponectin on DNA synthesis and protein metabolism of porcine myoblasts.", 7th International Congress on Farm Animal Endocrinology (ICFAE 2011), Bern, Switzerland, August 24-26, 2011. (Abstract)

Roy, M., Audet, I., Palin, M.-F., Quesneville, H., Guay, F., and Matte, J.J. (2011). "Dietary sources of selenium in nulliparous sows: The importance of vitamin B6 status for some aspects of antioxidant status and ovulation during the peri-estrus period.", *Journal of Animal Science*, 89(E-Suppl. 1), pp. 508 (#W202). (Abstract)

Palin, M.-F., Beaudry, D., Vallée, M., Bissonnette, N., Murphy, B.D., and Petit, H.V. (2011). "Development of a two-species cDNA microarray for transcriptional profiling of sow reproductive traits.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011, Published in: J. Anim. Sci., 91(3), pp. 476-477.

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## **Research Publications:**

2014

Murmu, J., Wilton, M., Allard, G.C., Pandeya, R.S., Desveaux, D., Singh, J., and Subramaniam, R. (2014). "Arabidopsis GOLDEN2-LIKE (GLK) transcription factors activate jasmonic (JA)-dependent disease susceptibility to the biotrophic pathogen *Hyaloperonospora arabidopsidis*, as well as JA-independent plant immunity against the necrotrophic pathogen *Botrytis cinerea*.", *Molecular Plant Pathology*, 15(2), pp. 174-184. doi : 10.1111/mpp.12077

2013

Graf, R.J., Beres, B.L., Laroche, A., Gaudet, D.A., Eudes, F., Pandeya, R.S., Badea, A., and Randhawa, H.S. (2013). "Emerson hard red winter wheat.", *Canadian Journal of Plant Science*, 93(4), pp. 741-748. doi : 10.4141/CJPS2012-262

Graf, R.J., Beres, B.L., Randhawa, H.S., Gaudet, D.A., Badea, A., Laroche, A., Eudes, F., and Pandeya, R.S. (2013). "AAC Gateway hard red winter wheat.", *Canadian Journal of Plant Science*, 93(3), pp. 541-548. doi : 10.4141/CJPS2012-266

## **Other Science Related Publications:**

2011

Murmu, J., Singh, J., Wilton, M., Allard, G.C., Kirkham, C., Pandeya, R.S., Desveaux, D., and Subramaniam, R. (2011). "GLK transcription factors - an integral component of plant defense in Arabidopsis.", *Canadian Society of Plant Physiologists Eastern Regional Meeting & Plant Development Workshop / Congrès de la Société Canadienne de Physiologie Végétale & Congrès de Développement Végétale (Congrès Régional de l'Est)*, Carleton University, Ottawa, ON, Canada, December 2-3, 2011, CS-2, pp. 20.

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## Research Publications:

2015

Panneton, B., Phillon, V., and Chouinard, G. (2015). "Spray Deposition with Conventional Nozzles, Low-Drift Nozzles, or Permanent Sprinklers for Controlling Apple Orchard Pests.", *Transactions of the ASABE*, 58(3), pp. 607-619. doi : 10.13031/trans.58.10916

Tardif-Paradis, C., Simard, M.-J., Leroux, G.D., Panneton, B., Nurse, R.E., and Vanasse, A. (2015). "Effect of planter and tractor wheels on row and inter-row weed populations.", *Crop Protection*, 71, pp. 66-71. doi : 10.1016/j.cropro.2015.01.026

2014

Longchamps, L., Panneton, B., Simard, M.-J., and Leroux, G.D. (2014). "An Imagery-based Weed Cover Threshold Established Using Expert Knowledge.", *Weed Science*, 62(1), pp. 177-185. doi : 10.1614/WS-D-13-00050.1

Longchamps, L., Panneton, B., Simard, M.-J., and Leroux, G.D. (2014). "Spatial aggregation of broadleaf and grass weeds in corn fields and its impact on site-specific weed management.", in Gonzales-de-Santos, P. and Ribeiro, A. (eds.) - *Second International Conference on Robotics and associated High-technologies and Equipment for Agriculture and forestry*, May 21-23, Madrid.

2013

Panneton, B., Clément, A., and Lagacé, L. (2013). "Potential of fluorescence spectroscopy for the characterisation of maple syrup flavours.", *Journal of the Science of Food and Agriculture*. doi : 10.1002/jsfa.6172

Longchamps, L., Panneton, B., Simard, M.-J., and Leroux, G.D. (2013). "A technique for high-accuracy ground-based continuous weed mapping at field scale.", *Transactions of the ASABE*, 56(6), pp. 1523-1533. doi : 10.13031/trans.56.10110

2012

Longchamps, L., Panneton, B., Simard, M.-J., and Leroux, G.D. (2012). "Could weed sensing in corn interrows result in efficient weed control?", *Weed Technology*, 26(4), pp. 649-656. doi : 10.1614/wt-d-12-00030.1

De Rainville, F.-M., Durand, A., Fortin, F.-A., Tanguy, K., Maldague, X., Panneton, B., and Simard, M.-J. (2012). "Bayesian classification and unsupervised learning for isolating weeds in row crops.", *Pattern Analysis & Applications*. doi : 10.1007/s10044-012-0307-5

2011

Bouroubi, M.Y., Tremblay, N., Vigneault, P., Bélec, C., Panneton, B., and Guillaume, S. (2011). "Optimal Nitrogen Reference P lots Locations for Corn Using NDVI and Soil Apparent Electrical Conductivity.", *Lecture notes in Computer Science*, 6782, pp. 356-368. doi : 10.1007/978-3-642-21928-3\_25

Tremblay, N., Bouroubi, M.Y., Panneton, B., Vigneault, P., and Guillaume, S. (2011). "Space, time, remote sensing and optimal nitrogen fertilization rates - A fuzzy logic approach.", in Clay, E.C. and Shanahan, J.F. (eds.) - *GIS Applications in Agriculture, Volume Two: Nutrient Management for Energy Efficiency*, CRC Press, pp. 101-121.

Panneton, B., Guillaume, S., Samson, G., and Roger, J.-M. (2011). "Discrimination of Corn from Monocotyledonous Weeds with Ultraviolet (UV) Induced Fluorescence.", *Applied Spectroscopy*, 65(1), pp. 10-19. doi : 10.1366/10-06100

## Other Science Related Publications:

2015

Panneton, B., Bizeau, A., and Simard, M.-J. (2015). "A 3D view of weeds in horticultural crops.", *Weed Science Society of America meeting 2014*, Lexington, Kentucky, USA, February 9-13, 2015. (Poster)



Panneton, B. and Cambouris, A.N. (2015). "Precision Horticulture: Current status and the way forward.", Conférence présentée le 9 juillet 2015 lors de la journée scientifique du Centre de Recherche et de Développement en Horticulture de Saint-Jean-Sur-Richelieu. (Presentation)

## 2014

Panneton, B. (2014). Essai de correction de spectre. Rapport confidentiel de recherche. CRDH, Agriculture et Agroalimentaire Canada. 9p. (Report)

Panneton, B. and Bizeau, A. (2014). "Merging RGB and NIR imagery for mapping weeds and crop in 3D.", 2014 ASABE – CSBE/SCGAB Annual International Meeting.

Panneton, B. (2014). ALD sur scores d'ACP pour le défaut Bourgeon dans la sève. Rapport confidentiel de recherche. CRDH, Agriculture et Agroalimentaire Canada. 7p. (Report)

Panneton, B. (2014). Volume d'air échantillonné – Capture de spores. Rapport confidentiel de recherche – CRDH, Agriculture et Agroalimentaire Canada. (Report)

Clément, A., Panneton, B., Martin, N., and Lagacé, L. (2014). "Maple syrup quality control benefits from advances in technology.", *Canadian Food Insights*, 2(2), pp. 35-36.

## 2013

Panneton, B. (2013). Amélioration du seuil de détection avec les Rotorods. Rapport confidentiel de recherche – CRDH, Agriculture et Agroalimentaire Canada. (Report)

## 2012

Longchamps, L., Panneton, B., Simard, M.-J., and Leroux, G.D. (2012). "Development of a quick diagnosis method to target fields with better potential for site-specific weed management.", 11th International Conference on Precision Agriculture (ICPA), Indianapolis, IN, USA, July 15-18, 2012. (Abstract)

Simard, M.-J., Panneton, B., Tardif-Paradis, C., Leroux, G.D., Nurse, R.E., and Vanasse, A. (2012). "Do unseeded corn or soybean rows have more weeds?", Canadian Weed Science Society 66th Annual Meeting, Fairmont Hotel, Winnipeg, MB, Canada, November 12-15, 2012. (Abstract)

Longchamps, L., Panneton, B., Simard, M.-J., and Leroux, G.D. (2012). "Row versus inter-row weed cover in rainfed corn fields.", Weed Science Society of America Meeting, Waikoloa, Hawaii, USA, February 7-10, 2012. (Abstract)

## 2011

Lagacé, L., Panneton, B., Clément, A., and Martin, N. (2011). "Advances in off-flavors and adulteration detection in maple syrup.", 2011 North American Maple Syrup Council (NAMSC) and International Maple Syrup Institute (IMSI) Annual Meetings, Frankenmuth, MI, USA, October 23-28, 2011.

Tremblay, N., Bouroubi, M.Y., Panneton, B., Vigneault, P., and Guillaume, S. (2011). "Space, Time, Remote Sensing and Optimal Nitrogen Fertilization Rates – A Fuzzy Logic Approach.", in Clay, E.C. and Shanahan, J.F. (eds.) - GIS Applications in Agriculture, Volume Two: Nutrient Management for Energy Efficiency, CRC Press, pp. 101-122.

Panneton, B. (2011). "Precision Agriculture and Weed Control in Horticulture.", in Cloutier, D.C. and Leblanc, M.L. (eds.) - Topics in Canadian Weed Science, Vol. 6. Physical weed control: Progress and Challenges, Canadian Weed Science Society – Société canadienne de malherbiologie, Sainte-Anne-de-Bellevue, QC, pp. 103-108.

Bouroubi, M.Y., Tremblay, N., Vigneault, P., Bélec, C., Panneton, B., and Guillaume, S. (2011). "Fuzzy Logic Approach for Spatially Variable Nitrogen Fertilization of Corn Based on Soil, Crop and Precipitation Information.", in Murgante, B., Gervasi, O., Iglesias, A., Tanari, D., and Apduhan, B.O. (eds.) - Computational Science and Its Applications - ICCSA 2011. Series: Lecture Notes in Computer Science, Vol. 6785, Springer, pp. 356-368.

Simard, M.-J., Panneton, B., Leroux, G.D., Vanasse, A., and Nurse, R.E. (2011). "Can Inter-row Soil Disturbance at Seeding Lead to Efficient Localized Weed Control Using Plant Cover Detection?", 51st Annual Meeting of the Weed Science Society of America (WSSA), Hilton Portland & Executive Tower Hotel, Portland, OR, USA, February 7-10, 2011. (Poster)

Panneton, B., Piché, M., Pilon, V., and Chouinard, G. (2011). "Leaf deposition with fixed sprinklers, low drift and conventional nozzles in apple orchard.", 2011 ASABE Annual International Meeting, Louisville, KY, USA, August 7-11, 2011, Vol. 3, pp. 2563-2573.

Sinfort, C., Panneton, B., and Meidet, A. (2011). "Spatial influence of spraying applications on water quality: The case of the Gibeault-Delisle watershed (Quebec).", 2011 ASABE Annual International Meeting, Louisville, KY, USA, August 7-11, 2011, Vol. 2, pp. 1696-1707.

Sinfort, C. and Panneton, B. (2011). "How to deal with pesticide drift and water contamination in LCA? A geo-referenced approach brings some answers.", Environmental & Integrated Assessment of Complex Systems Conference (EcoTech&Tools), Montpellier, France, November 30-December 2, 2011.

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## Research Publications:

2013

Bittman, S., Hunt, D.E., Swift, M.-L., Casler, M.D., Undersander, D.J., and Papadopoulos, A.P. (2013). "How to Improve Nutrient Efficiency of Whole Dairy Farms.", in Bittman, S and Hunt, D. (eds.) - Cool Forages - Advanced management of temperate forages, Pacific Field Corn Association, Agassiz, BC, Canada.

2012

Castilla, N., Baeza, E.J., and Papadopoulos, A.P. (2012). Greenhouse technology and management: Second Edition., CABI Publishing. (Book)

Papadopoulos, A.P., Yaganza, E.-S., Hao, X.M., Martynenko, A., Ramados, M., Saha, U.K., Ehret, D.L., Dorais, M., and Kholsa, S. (2012). "Effects of Oxygen Super-Saturated Nutrient Solutions on Greenhouse Tomato.", Acta Horticulturae (ISHS), 952, pp. 713-720.

2011

Papadopoulos, A.P., Madhiyazhagan, R., Hao, X.M., Khosla, S., Ehret, D.L., and Lin, W.-C. (2011). "Integrated systems for the production of organic greenhouse tomatoes.", Acta Horticulturae (ISHS), 893, pp. 1201-1208.

Aberkani, K., Hao, X.M., de Halleux, D., Papadopoulos, A.P., Dorais, M., and Vineberg, S. (2011). "Energy saving achieved by retractable liquid foam between double polyethylene films covering greenhouses.", Transactions of the ASABE, 54(1), pp. 275-284.

## Other Science Related Publications:

2012

Hao, X.M., Dorais, M., Ehret, D.L., and Papadopoulos, A.P. (2012). Dynamic plant-based environment control to improve energy use efficiency in greenhouse crop production. Final A-Base Research Project (2008-12) Report, 13 pages. (Report)

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## Research Publications:

2015

Aluko, R.E., Girgih, A.T., He, R., Malomo, S., Li, H., Offengenden, M., Wu, J., and Papadopoulos, Y.A. (2015). "Structural and functional characterization of yellow field pea seed (*Pisum sativum* L.) protein-derived antihypertensive peptides.", *Food Research International*. doi : 10.1016/j.foodres.2015.03.029

Papadopoulos, Y.A., Christie, B.R., McRae, K.B., Gehl, D.T., and Fillmore, S.A.E. (2015). "Pratt timothy.", *Canadian Journal of Plant Science*, 95(5), pp. 1047-1048. doi : 10.4141/CJPS-2015-054

2014

Wile, A., Burton, D.L., Sharifi, M., Lynch, D., Main, M., Papadopoulos, Y.A., and Coulman, B.E. (2014). "Effect of nitrogen fertilizer application rate on yield, methane and nitrous oxide emissions from switchgrass (*Panicum virgatum* L.) and reed canary grass (*Phalaris arundinacea* L.).", *Canadian Journal of Soil Science*, 94(2), pp. 129-137. doi : 10.4141/cjss2013-058

Simili da Silva, M., Tremblay, G.F., Bélanger, G., Lajeunesse, J., Papadopoulos, Y.A., Fillmore, S.A.E., and Jobim, C.C. (2014). "Forage energy to protein ratio of several legume-grass complex mixtures.", *Animal Feed Science and Technology*, 188, pp. 17-27. doi : 10.1016/j.anifeedsci.2013.11.006

2013

Simili da Silva, M., Tremblay, G.F., Bélanger, G., Lajeunesse, J., Papadopoulos, Y.A., Fillmore, S.A.E., and Jobim, C.C. (2013). "Energy to protein ratio of grass-legume binary mixtures under frequent clipping.", *Agronomy Journal*, 105(2), pp. 482-492. doi : 10.2134/agnonj2012.0281

Khan, W., Palanisamy, R., Critchley, A.T., Smith, D.L., Papadopoulos, Y.A., and Prithviraj, B. (2013). "Ascophyllum nodosum Extract and Its Organic Fractions Stimulate Rhizobium Root Nodulation and Growth of *Medicago sativa* (Alfalfa).", *Communications in Soil Science and Plant Analysis*, 44(5), pp. 900-908. doi : 10.1080/00103624.2012.744032

Casler, M.D., Papadopoulos, Y.A., Bittman, S., Mathison, R.D., Min, D.H., Robins, J.G., Chemey, J.H., Acharya, S.N., Belesky, D.P., Bowley, S., Coulman, B.E., Drapeau, R., Ehlerke, N.J., Hall, M.H., Leep, R.H., Michaud, R., Rowsell, J., Shewmaker, G.E., Teutsch, C.D., and Coblenz, W.K. (2013). "Sparse-flowering Orchardgrass is Stable Across Temperate North America.", *Crop Science*, 53(5), pp. 1870-1877. doi : 10.2135/cropsci2013.01.0055

Casler, M.D., Undersander, D.J., Papadopoulos, Y.A., Bittman, S., Hunt, D.W.A., Mathison, R.D., Min, D.H., Robins, J.G., Chemey, J.H., Acharya, S.N., Belesky, D.P., Bowley, S., Coulman, B.E., Drapeau, R., Ehlerke, N.J., Hall, M.H., Leep, R.H., Michaud, R., Rowsell, J., Shewmaker, G.E., Teutsch, C.D., and Coblenz, W.K. (2013). "Sparse-flowering orchardgrass represents an improvement in forage quality during reproductive growth.", *Crop Science*, 54(1), pp. 421-429. doi : 10.2135/cropsci2013.04.0227

Papadopoulos, Y.A., Duynisveld, J.L., McElroy, M.S., Fillmore, S.A.E., and Fredeen, A.H. (2013). "Pasture Naturalization in Cool Forages.", - *Advanced management of temperate forages*, Chapter 11, pp. 50.

2012

Thilakarathna, R.M.M.S., Papadopoulos, Y.A., Fillmore, S.A.E., and Prithviraj, B. (2012). "Genotypic Differences in Root Hair Deformation and Subsequent Nodulation for Red Clover under Different Additions of Starter N Fertilization.", *Journal of Agronomy and Crop Science*, 198(4), pp. 295-303. doi : 10.1111/j.1439-037X.2012.00505.x

McElroy, M.S., Papadopoulos, Y.A., and Adl, S.M. (2012). "Complexity and composition of pasture swards affect plant productivity and soil organisms.", *Canadian Journal of Plant Science*, 92(4), pp. 687-697. doi : 10.4141/CJPS2011-147

Papadopoulos, Y.A., McElroy, M.S., Fillmore, S.A.E., McRae, K.B., Duynisveld, J.L., and Fredeen, A.H. (2012). "Sward complexity and grass species composition affects the performance of grass-white clover pasture mixtures.", *Canadian Journal of Plant Science*, 92(6), pp. 1199-1205. doi : 10.4141/cjps2012-015

Thilakarathna, R.M.M.S., Papadopoulos, Y.A., Rodd, A.V., Gunawardena, A.H.L.A.N., Fillmore, S.A.E., and Prithviraj, B. (2012). "Characterizing nitrogen transfer from red clover populations to companion bluegrass under field conditions.", *Canadian Journal of Plant Science*, 92(6), pp. 1163-1173.

2011

Miller-Garvin, J.E., Hansen, J.L., Ehke, N.J., Papadopoulos, Y.A., Smith, R.R., Bergstrom, G.C., Wunsch, M.J., Kalb, D.W., Tillapaugh, B.P., Crawford, J.L., and Viands, D.R. (2011). "Improving birdsfoot trefoil for resistance to Fusarium wilt.", *Crop Science*, 51(2), pp. 585-591. doi: 10.2135/cropsci2010.04.0232

## Other Science Related Publications:

2015

Dos Passos Bernardes, A., Bélanger, G., Tremblay, G.F., Papadopoulos, Y.A., Fillmore, S.A.E., Lajeunesse, J., and Duynisveld, J.L. (2015). "Dix-huit associations d'une légumineuse avec une graminée évaluées au pâturage pendant trois ans à plusieurs sites.", *Journée d'information scientifique sur les bovins laitiers et les plantes fourragères*, Drummondville, QC, Canada, 25 février 2015, Présentation.

Tremblay, G.F., da Silva, M.S., Bélanger, G., Lajeunesse, J., Papadopoulos, Y.A., Fillmore, S.A.E., and Jobim, C.C. (2015). "Les associations d'espèces fourragères comme moyen d'améliorer le ratio énergie/protéine du fourrage.", *Journée d'information scientifique sur les bovins laitiers et les plantes fourragères*, Drummondville, QC, Canada, 25 février 2015, Présentation.

Lajeunesse, J., Papadopoulos, Y.A., Duynisveld, J.L., Bélanger, G., Tremblay, G.F., Lafrenière, C., Thomas, B., and Fillmore, S.A.E. (2015). "Productivity of eighteen legume-grass binary mixtures.", *Botany 2015 Joint Conference: Science and plants for people*, Edmonton, Alberta, Canada, July 25-29, 2015. (Poster)

2014

Bertrand, A., Renaut, J., Castonguay, Y., and Papadopoulos, Y.A. (2014). "A proteome analysis of subfreezing temperature tolerance in red clover (*Trifolium pratense*).", *International Plant Cold Hardiness Seminar (IPCCHS)*, Poznań, Poland, August 17-21, 2014.

2013

Papadopoulos, Y.A. (2013). "Current research projects and potential implications for the future of the Canadian forage industry.", *2013 Canadian Forage and Grasslands Association (CFGAs) Conference*, Olds, Alberta, Canada, December 9-11, 2013.

Papadopoulos, Y.A. (2013). "Forage breeding and agronomy research at the Atlantic Food & Horticulture Research Centre.", *Knowledge and Technology Transfer (KTT) meeting*, Kentville Research Centre, NS, Canada, September 13, 2013. (Presentation)

Papadopoulos, Y.A. (2013). "Producers learn about forage mixtures, breeding and alfalfa cultivars (Farm Focus page 14 <http://www.atlanticfarmfocus.ca/media/issues/flipbook/0000011682>)."

2012

Bittman, S., Hunt, D.E., Casler, M.D., Papadopoulos, Y.A., Undersander, D.J., and Swift, M.-L. (2012). "Interaction between Harvest Frequency and Variety Maturity On Yield and Quality of Orchardgrass.", *2012 ASA-CSSA-SSSA International Annual Meeting*, Cincinnati, OH, USA, October 21-24, 2012. (Abstract)

Thilakarathna, R.M.M.S., McElroy, M.S., Papadopoulos, Y.A., Fillmore, S.A.E., and Prithviraj, B. (2012). "Genotypic differences in nodulation and growth of diverse red clover cultivars under different levels of nitrogen fertilization.", *North American Alfalfa Improvement Conference 2012*, Ithaca, NY, USA, July 10-12, 2012.

Thilakarathna, R.M.M.S., Papadopoulos, Y.A., Rodd, A.V., Fillmore, S.A.E., Gunawardena, A.H.L.A.N., and Prithviraj, B. (2012). "Nitrogen fixation and transfer from red clover (*Trifolium pratense* L.) cultivars to companion bluegrass (*Poa pratensis* L.) under field conditions.", *Plant Canada 2012* (joint meeting of the Canadian Society of Agronomy (CSA), Canadian Society for Horticultural Science (CSHS), Certified Crop Advisors (CCA), North American Fruit Explorers (NAFEX)): *Adapting Crops to Change*, University of Saskatchewan, Saskatoon, SK, Canada, July 16-19, 2012.

Duynisveld, J.L., Glover, K.E., Barrett, D., Papadopoulos, Y.A., Fredeen, A.H., and Wort, J. (2012). "Grazing research update for Nappan.", *Sheep Producers Association of Nova Scotia Field Day*, Nappan Experimental Farm, Nappan, NS, Canada, October 20, 2012.

Papadopoulos, Y.A. (2012). "The impacts of global warming on perennial field crops in Atlantic Canada.", *Nova Scotia Young Farmers (NSYF) Semi-Annual Meeting*, Best Western Glengarry Hotel, Truro, NS, Canada, November 30, 2012. (Presentation)

Lajeunesse, J., Bélanger, G., Tremblay, G.F., Papadopoulos, Y.A., and Fillmore, S.A.E. (2012). "Évaluation de mélanges simples et complexes de plantes fourragères pour le pâturage.", Journée d'analyse de groupe vache-veau, Saint-Félicien, QC, Canada, December 12, 2012.

Papadopoulos, Y.A. (2012). "The impacts of global warming on perennial field crops in Atlantic Canada.", Nova Scotia Cattle Producers, Annual General Meeting Best Western Glengarry, Glengarry, NS, Canada, February 25, 2012. (Presentation)

## 2011

Duynisveld, J.L. and Papadopoulos, Y.A. (2011). "Finishing Beef Cattle on Different Pasture Types and Effect of Forage Mixtures on Cattle Performance.", Beef and Sheep Research Field day, Nappan, NS, Canada, October 22, 2011.

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## Research Publications:

2015

Wei, S., Xi, Y.Z., Song, D.-P., Wei, H., Gruber, M.Y., Gao, M.-J., Parkin, I.A.P., Kachatourians, G., and Hannoufa, A. (2015). "Quantitative and structural analyses of T-DNA tandem repeats in transgenic *Arabidopsis* SK mutant lines.", *Plant Cell, Tissue and Organ Culture*, 123(1), pp. 183-192. doi: 10.1007/s11240-015-0825-0

Tahérian, A.R., Gao, P., Yu, M., Cui, D., Regan, S., Parkin, I.A.P., and Gruber, M.Y. (2015). "A landscape of hairy and twisted: Hunting for new trichome mutants in the Saskatoon *Arabidopsis* T-DNA population.", *Plant Biology*, 17(2), pp. 384-394. doi: 10.1111/plb.12230

Körber, N., Bus, A., Li, J.-Q., Higgins, J., Bancroft, I., Higgins, E.E., Parkin, I.A.P., Salazar-Colqui, B., Snowdon, R.J., and Stich, B. (2015). "Seedling development traits in *Brassica napus* examined by gene expression analysis and association mapping.", *BMC Plant Biology*, 15(1: Article number 136). doi: 10.1186/s12870-015-0496-3

Gajardo, H.A., Wittkop, B., Soto-Cerda, B.J., Higgins, E.E., Parkin, I.A.P., Snowdon, E., Federico, M.L., and Iniguez-Luy, F.L. (2015). "Association mapping of seed quality traits in *Brassica napus* L. using GWAS and candidate QTL approaches.", *Molecular Breeding*, 35(6: Article number 143), pp. 19 pages. doi: 10.1007/s11032-015-0340-3

2014

Kagale, S., Robinson, S.J., Nixon, J.H., Xiao, R., Huebert, T., Condie, J., Kessler, D., Clarke, W.E., Edger, P.P., Links, M.G., Sharpe, A.G., and Parkin, I.A.P. (2014). "Polyploid evolution of the Brassicaceae during the Cenozoic era.", *Plant Cell*, 26(7), pp. 2777-2791. doi: 10.1105/tpc.114.126391

Raman, H., Raman, R., Kilian, A., Detering, F., Carling, J., Coombes, N.E., Diffey, S.M., Kadkol, G.P., Edwards, D.J., McCull y, M., Ruperao, P., Parkin, I.A.P., Batley, J., Luckett, D.J., and Wratten, N. (2014). "Genome-wide delineation of natural variation for pod shatter resistance in *Brassica napus*.", *PLoS ONE*, 9(7: Article e101673). doi: 10.1371/journal.pone.0101673

Chalhoub, B.A., Denoeud, F., Liu, S.Y., Parkin, I.A.P., Tang, H., Wang, X.Y., Chiquet, J., Belcram, H., Tong, C., Samans, B., Corrêa, M., Da Silva, C., Just, J., Falentin, C., Koh, C.S., Le Clainche, I., Bernard, M., Bento, P., Noel, B., Labadie, K., Alberti, A., Charles, M., Amaud, D., Guo, H., Daviaud, C., Alamery, S., Jabbari, K., Zhao, M., Edger, P.P., Chelaifa, H., Tack, D., Lassa lle, G., Mestiri, I., Schnel, N., Le Paslier, M.-C., Fan, G., Renault, V., Bayer, P.E., Golicz, A.A., Manoli, S., Lee, T.-H., Thi, V.H.D., Chalabi, S., Hu, Q., Fan, C., Tollenaere, R., Lu, Y., Battail, C., Shen, J., Sidebottom, C., Wang, X., Canaguier, A., Chauvea u, A., Bérard, A., Deniot, G., Guan, M., Liu, Z., Sun, F., Lim, Y.P., Town, C.D., Bancroft, I., Lyons, E., and others (2014). "Early allopolyploid evolution in the post-neolithic *Brassica napus* oilseed genome.", *Science*, 345(6199), pp. 950-953. doi: 10.1126/science.1253435

Brown, A.F., Yousef, G.G., Chebrolov, K.K., Byrd, R.W., Everhart, K.W., Thomas, A., Reid, R.W., Parkin, I.A.P., Sharpe, A.G., Oliver, R.E., Guzman, I., and Jackson, E.W. (2014). "High-density single nucleotide polymorphism (SNP) array mapping in *Brassica oleracea*: identification of QTL associated with carotenoid variation in broccoli florets.", *Theoretical and Applied Genetics (TAG)*, 127, pp. 2051-2064. doi: 10.1007/s00122-014-2360-5

Fredua-Agyeman, R., Coriton, O., Huteau, V., Parkin, I.A.P., Chèvre, A.-M., and Rahman, M.H. (2014). "Molecular cytogenetic identification of B genome chromosomes linked to blackleg disease resistance in *Brassica napus* × *B. carinata* interspecific hybrids.", *Theoretical and Applied Genetics (TAG)*, 127(6), pp. 1305-1318. doi: 10.1007/s00122-014-2298-7

Kagale, S., Koh, C.S., Nixon, J.H., Bollina, V., Clarke, W.E., Tuteja, R., Spillane, C., Robinson, S.J., Links, M.G., Clarke, C., Higgins, E.E., Huebert, T., Sharpe, A.G., and Parkin, I.A.P. (2014). "The emerging biofuel crop *Camelina sativa* retains a highly undifferentiated hexaploid genome structure.", *Nature Communications*, 5(April: Article number 3706), pp. 1-11. doi: 10.1038/ncomms4706

2013

Larkan, N.J., Lydiate, D.J., Parkin, I.A.P., Nelson, M.N., Epp, D.J., Cowling, W.A., Rimmer, S.R., and Borhan, M.H. (2013). "The *Brassica napus* blackleg resistance gene *LepR3* is a receptor-like protein triggered by the *Leptosphaeria maculans* effector *AvrLm1*.", *New Phytologist*, 197(2), pp. 595-605. doi: 10.1111/nph.12043

Navabi, Z.-K., Huebert, T., Sharpe, A.G., O'Neill, C.M., Bancroft, I., and Parkin, I.A.P. (2013). "Conserved microstructure of the Brassica B Genome of *Brassica nigra* in relation to homologous regions of *Arabidopsis thaliana*, *B. rapa* and *B. oleracea*.", *BMC Genomics*, 14(1), pp. 250-250. doi: 10.1186/1471-2164-14-250

Clarke, W.E., Parkin, I.A.P., Gajardo, H.A., Gerhardt, D.J., Higgins, E.E., Sidebottom, C., Sharpe, A.G., Snowdon, R.J., Federico, M.L., and Iniguez-Luy, F.L. (2013). "Genomic DNA enrichment using sequence capture microarrays: A novel approach to discover sequence nucleotide polymorphisms (SNP) in *Brassica napus* L.", *PLoS ONE*, 8(12: Article number e81992). doi : 10.1371/journal.pone.0081992

Yu, F.Q., Peng, G., Falk, K.C., and Parkin, I.A.P. (2013). "Identification of clubroot-resistance genes and development of clubroot resistant canola germplasm.", International Clubroot Workshop, Edmonton, AB, Canada, June 2013, Oral presentation.

## 2012

Wei, S., Gruber, M.Y., Yu, B., Gao, M.-J., Khachatourians, G.G., Hegedus, D.D., Parkin, I.A.P., and Hannoufa, A. (2012). "Arabidopsis mutant sk156 reveals complex regulation of SPL15 in a miR156-controlled gene network", *BMC Plant Biology*, 12:169. doi: 10.1186/1471-2229-12-169

Yu, B., Gruber, M.Y., Khachatourians, G.G., Zhou, R., Epp, D.J., Hegedus, D.D., Parkin, I.A.P., Welsch, R., and Hannoufa, A. (2012). "Arabidopsis cpSRP54 regulates carotenoid accumulation in *Arabidopsis* and *Brassica napus*.", *Journal of Experimental Botany*, 63(14), pp. 5189-5202. doi : 10.1093/jxb/ers179

Eynck, C., Séguin-Swartz, G.T., Clarke, W.E., and Parkin, I.A.P. (2012). "Monolignol biosynthesis is associated with resistance to *Sclerotinia sclerotiorum* in *Camelina sativa*.", *Molecular Plant Pathology*, 13(8), pp. 887-899. doi : 10.1111/j.1364-3703.2012.00798.x

Taheri, A., Robinson, S.J., Parkin, I.A.P., and Gruber, M.Y. (2012). "Revised Selection Criteria for Candidate Restriction Enzymes in Genome Walking.", *PLoS ONE*, 7(4, Article No. e35117). doi: 10.1371/journal.pone.0035117

Cárdenas, P.D., Gajardo, H.A., Huebert, T., Parkin, I.A.P., Iniguez-Luy, F.L., and Federico, M.L. (2012). "Retention of triplicated phytoene synthase (PSY) genes in *Brassica napus* L. and its diploid progenitors during the evolution of the Brassiceae.", *Theoretical and Applied Genetics (TAG)*, 124(7), pp. 1215-1228. doi: 10.1007/s00122-011-1781-7

## 2011

Navabi, Z.-K., Stead, K.E., Pires, J.C., Sharpe, A.G., Parkin, I.A.P., Rahman, M.H., and Good, A.G. (2011). "Analysis of B-Genome Chromosome Introgression in Interspecific Hybrids of *Brassica napus* & *B. carinata*.", *Genetics*, 187(3), pp. 659-673. doi : 10.1534/genetics.110.124925

Vijayan, P., Parkin, I.A.P., Karcz, S.R., McGowan, K., Vijayan, K., Vandenberg, A., and Bett, K.E. (2011). "Capturing cold-stress-related sequence diversity from a wild relative of common bean (*Phaseolus angustissimus*).", *Genome*, 54(8), pp. 620-628. doi : 10.1139/g11-025

Wang, J., Lydiate, D.J., Parkin, I.A.P., Falentin, C., Delourme, R., Carion, P.W.C., and King, G.J. (2011). "Integration of linkage maps for the Amphidiploid *Brassica napus* and comparative mapping with *Arabidopsis* and *Brassica rapa*.", *BMC Genomics*, 12(101). doi: 10.1186/1471-2164-12-101

Li, X.L., Gao, P., Cui, D., Wu, L., Parkin, I.A.P., Saberianfar, R., Menassa, R., Pan, H.-Y., Westcott, N.D., and Gruber, M.Y. (2011). "The Arabidopsis stt19-4 mutant differentially accumulates proanthocyanidin and anthocyanin through a 3' amino acid substitution in glutathione S-transferase.", *Plant, Cell & Environment*, 34(3), pp. 374-388. doi: 10.1111/j.1365-3040.2010.02249.x

Wang, X.W., Wang, H., Wang, J., Sun, R., Wu, J.J., Liu, S.Y., Bai, Y., Mun, J.H., Bancroft, I., Cheng, F., Huang, S.W., Li, X.X., Hua, W., Wang, J.Y., Wang, X.Y., Freeling, M., Pires, J.C., Paterson, A.H., Chalhou, B.A., Wang, B., Hayward, A., Sharpe, A.G., Park, B.S., Weisshaar, B., Liu, B.H., Li, B., Liu, B., Tong, C., Song, C., Duran, C., Peng, C., Geng, C., Koh, C., Lin, C., Edwards, D.J., Mu, D., Shen, D., Soumpourou, E., Li, F., Fraser, F.C., Conant, G.C., Lassalle, G., King, G.J., Bonnema, G.B., Tang, H., Wang, H., Belcram, H., Zhou, H., Hirakawa, H., Abe, H., Guo, H., Wang, H., Jin, H., Parkin, I.A.P., Batley, J., Kim, J.S., Just, J., Li, J.W., Xu, J., Deng, J., Kim, J.A., Li, J., Yu, J., Meng, J., Wang, J., Min, J., Poulain, J., Hatakeyama, K., Wu, K., Wang, L., Fang, L., Trick, M., Links, M.G., and others (2011). "The genome of the mesopolyploid crop species *Brassica rapa*.", *Nature Genetics*, 43(10), pp. 1035-1040. doi: 10.1038/ng.919

## Other Science Related Publications:

### 2015

Chu, M.G., Yu, F.Q., Falk, K.C., Gossen, B.D., Parkin, I.A.P., Zhou, R., Vail, S.L., and Peng, G. (2015). "Using a genome-wide SNP array to facilitate the introgression of clubroot resistance from diploid *Brassica rapa* into amphidiploid *B. napus* canola.", International Rapeseed Congress, Saskatoon, Canada, July 2015.

Jain, P., Parkin, I.A.P., Soolanayakanahally, R.Y., and Schroeder, W.R. (2015). "Seabuckthorn transcriptome: Elucidating putative genes involved in carotenoid biosynthesis.", Plant Biology 2015, Minneapolis, USA, July 26-30, 2015.

Jain, P., Parkin, I.A.P., Soolanayakanahally, R.Y., and Schroeder, W.R. (2015). "RNA-Seq analysis of Seabuckthorn (*Hippophae* spp.): De novo transcriptome assembly, functional annotation and identification of molecular markers.", International Seabuckthorn Association Meeting, New Delhi, India, November 24-26, 2015.

Shunmugam, A.S.K., Soolanayakanahally, R.Y., Yang, L., Homer, K., Higgins, E.E., Lewis, M., Parkin, I.A.P., Vails, S., and Robinson, S. (2015). "Characterizing growth physiology, flowering phenology, yield components and seed quality attributes in founder lines of a spring *Brassica napus* nested association mapping population.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015.

Jain, P., Parkin, I.A.P., Soolanayakanahally, R.Y., and Schroeder, W.R. (2015). "Improvement of Seabuckthorn at AAFC in Canada.", International Seabuckthorn Association Meeting, New Delhi, India, November 24-26, 2015.

Zhang, Y., Chu, M.G., Falk, K.C., Vail, S.L., Gossen, B.D., Parkin, I.A.P., Strelkov, S.E., Hwang, S.F., Peng, G., and Yu, F.Q. (2015). "Introgression of clubroot resistance gene *Rcr1* from *Brassica rapa* into *B. napus*.", International Rapeseed Congress, Saskatoon, Canada, July 2015.

Huang, Z., Chu, M.G., Falk, K.C., Gossen, B.D., Parkin, I.A.P., Peng, G., and Yu, F.Q. (2015). "Resynthesizing *Brassica* amphidiploids for resistance to clubroot.", International Rapeseed Congress, Saskatoon, Canada, July 2015.

## 2014

Gnanesh, B.N., McCartney, C.A., Lin, Y., Beattie, A.D., Chong, J., Mitchell Fetch, J.W., Kutcher, H.R., Eckstein, P.E., Jackson, E.W., Menzies, J.G., and Parkin, I.A.P. (2014). "A major QTL for Adult Plant Crown Rust Resistance in Oat.", XXII Plant & Animal Genome Conference, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014. (Poster)

## 2013

Mayerhofer, R., Wilde, K., Mayerhofer, M., Lydiate, D.J., Bansal, V.K., Good, A.G., and Parkin, I.A.P. (2013). "Complexities of chromosome landing in a highly duplicated genome: Toward map-based cloning of a gene controlling blackleg resistance in *Brassica napus*.", Plant & Animal Genome XXI Conference, Town & Country Convention Center, San Diego, CA, USA, January 12-16, 2013. (Presentation)

Parkin, I.A.P. (2013). "Sequencing U's Triangle: Update and Insights From The B and C Genomes.", Plant & Animal Genome XXI Conference, Town & Country Convention Center, San Diego, CA, USA, January 12-16, 2013. (Presentation)

McCartney, C.A., Lin, Y., Gnanesh, B.N., Beattie, A.D., Chong, J., Mitchell Fetch, J.W., Kutcher, H.R., Eckstein, P.E., Jackson, E.W., Menzies, J.G., and Parkin, I.A.P. (2013). "Mapping Adult Plant Crown Rust Resistance in Oat.", Canadian Phytopathological Society Annual Meeting, Edmonton, AB, Canada, June 16-19, 2013. (Poster)

## 2012

Clarke, W.E., Navarre, C., Gajardo, H.A., Gerhardt, D.J., Sharpe, A.G., Parkin, I.A.P., Federico, M.L., and Iniguez-Luy, F.L. (2012). "High throughput SNP genotyping in *Brassica napus* L.: SNP detection in genomic areas associated to traits of agronomical and nutritional importance.", Plant & Animal Genome XX Conference, Town & Country Convention Center, San Diego, CA, USA, January 14-18, 2012.

Hegedus, D.D., Buchwaldt, L., and Parkin, I.A.P. (2012). "Development of sclerotinia resistant *Brassica napus* lines and molecular markers for marker-assisted breeding.", Canola Cluster update, Saskatoon, SK, Canada, March 21, 2012.

Parkin, I.A.P., Koh, C., Clarke, C., Navabi, Z.-K., and Sharpe, A.G. (2012). "Exploring the *Brassica* B Genome at the Whole Genome Sequence Level.", 6th International Symposium on *Brassica* and 18th Crucifer Genetics Workshop, Catania, Sicily, Italy, November 12-16, 2012.

Lahlali, R.L., Peng, G., McGregor, L., Yu, F.Q., Zhang, W., Parkin, I.A.P., McDonald, M.R., and Gossen, B.D. (2012). "Transcriptomic analysis of canola responses to endophytic fungus *Heteroconium chaetospora* B1HB2, a biocontrol agent against clubroot.", Joint Meeting of CPS Saskatchewan Group and Plant Pathological Society of Alberta, Canada, November, 2012. (Poster)

Parkin, I.A.P., Kagale, S., and Robinson, S.J. (2012). "Capturing the Leaf Transcriptome of *Isatis tinctoria* L.", 6th International Symposium on *Brassica* and 18th Crucifer Genetics Workshop, Catania, Sicily, Italy, November 12-16, 2012.

Buchwaldt, L., Hegedus, D.D., and Parkin, I.A.P. (2012). "Characterization of *S. sclerotiorum* clones in western Canada for pathogenicity and genomic relatedness.", Canola Cluster update, Saskatoon, SK, Canada, March 21, 2012.

Buchwaldt, L., Hegedus, D.D., and Parkin, I.A.P. (2012). "Advances in sclerotinia resistance research.", Canola Industry Meeting, Garden Inn Hotel, Saskatoon, SK, Canada, December 5, 2012. (Presentation)



Kagale, S., Koh, C., Bollina, V., Clarke, C., Sharpe, A.G., and Parkin, I.A.P. (2012). "Genome Sequencing and Analysis of the Emerging Oilseed Crop *Camelina sativa*.", 6th International Symposium on Brassica and 18th Crucifer Genetics Workshop, Catania, Sicily, Italy, November 12-16, 2012.

Parkin, I.A.P. (2012). "Uncovering the Ancestral Blocks Reveals the Hexaploid Genome of the Emerging Biofuel Crop, *Camelina sativa*.", Plant & Animal Genome XX Conference, Brassica workshop, Town & Country Convention Center, San Diego, CA, USA, January 14-18, 2012. (Presentation)

2011

Hannoufa, A., Wei, S., Gruber, M.Y., Khachatourians, G.G., Wang, Y., Hegedus, D.D., and Parkin, I.A.P. (2011). "MicroRNA156: A new player in regulating carotenoid accumulation in plants.", Canadian Society of Plant Physiologists Eastern Regional Meeting & Plant Development Workshop / Congrès de la Société Canadienne de Physiologie Végétale & Congrès de Développement Végétale (Congrès Régional de l'Est), Carleton University, Ottawa, ON, Canada, December 2-3, 2011, SB-1, pp. 17.

Fu, F., Harrington, M., Hegedus, D.D., Bekkaoui, D.R., Parkin, I.A.P., and Buchwaldt, L. (2011). "Co-location of defence genes from expression studies with QTLs conferring sclerotinia resistance in *Brassica napus*.", 8th Canadian Plant Genomics Workshop, Niagara Falls, ON, Canada, August 22-25, 2011. (Workshop)

Kutcher, H.R., Dikken-Bouchard, F.L., Turkington, T.K., Fernando, W.G.D., Boyetchko, S.M., Buchwaldt, L., Hegedus, D.D., and Parkin, I.A.P. (2011). "Managing sclerotinia stem rot in canola.", Canola Research Summit meeting, Winnipeg, MB, Canada, April 12-13, 2011.

Gruber, M.Y., Li, X., Gao, P., Cui, D., Yu, M., Nayidu, N., Alahakoon, U.I., Wei, S., Yu, B., Holowachuk, J., Bonham-Smith, P.C., Regan, S., Hannoufa, A., Hossein, Z., and Parkin, I.A.P. (2011). "Unravelling Mysteries in the Regulation of Plant Secondary Metabolites and Non-glandular Trichomes: New Mechanisms and Crop Applications.", 50th Anniversary Meeting of the Phytochemical Society of North America, Fairmont Orchid Hotel and HILO Conference Centre, Kohala Coast, Big Island, HI, USA, December 10-15, 2011. (Presentation)

Eynck, C., Clarke, W.E., Sidebottom, C., Sharpe, A.G., Séguin-Swartz, G.T., and Parkin, I.A.P. (2011). "Molecular analysis of resistance to *Sclerotinia sclerotiorum* in *Camelina sativa*.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011.

Hegedus, D.D., Buchwaldt, L., and Parkin, I.A.P. (2011). A genomics approach to sclerotinia resistance in *Brassica napus*. SaskCanola 20th Anniversary Research Summary., Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC). (Report)

Buchwaldt, L., Hegedus, D.D., and Parkin, I.A.P. (2011). "Sclerotinia resistance in *B. napus* – an update.", Cargill, Aberdeen, SK, Canada, November 23, 2011. (Presentation)

Eynck, C., Clarke, W.E., Séguin-Swartz, G.T., and Parkin, I.A.P. (2011). "Stopping the enemy in its tracks – towards understanding the role of monolignol biosynthesis in resistance of *Camelina sativa* to *Sclerotinia sclerotiorum*.", Canadian Journal of Plant Pathology, 33(2), pp. 275. (Abstract)

Eynck, C., Clarke, W.E., Sidebottom, C., Séguin-Swartz, G.T., Sharpe, A.G., and Parkin, I.A.P. (2011). "A new crop threatened by a long-known pathogen: studies on resistance of *Camelina sativa* to *Sclerotinia sclerotiorum*.", *Camelina Project* (Genome Atlantic) Annual General Meeting, Truro, NS, Canada, June 2011.

Gyawali, S., Buchwaldt, L., Harrington, M., Parkin, I.A.P., Bekkaoui, D.R., Homer, K., Higgins, E.E., and Hegedus, D.D. (2011). "Association mapping of stem rot resistance in a world collection of *Brassica napus*.", American Phytopathological Society (APS) 2011 Joint Annual Meeting & International Association for the Plant Protection Sciences (IPPC), Honolulu, HI, USA, August 6-10, 2011.

Clarke, W.E., Sidebottom, C., Parkin, I.A.P., and Sharpe, A.G. (2011). "SaskPrimer - An automated pipeline for design of intron-spanning PCR primers in non-model organisms.", IEEE International Conference on Bioinformatics and Biomedicine Workshops, Georgia World Congress Center, Atlanta, GA, USA, November 12-15, 2011, pp. 173-177.

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## Research Publications:

2015

Jégo, G., Pattey, E., Mesbah, S.M., Liu, J., and Duchesne, I. (2015). "Impact of the spatial resolution of climatic data and soil physical properties on regional corn yield predictions using the STICS crop model.", *International Journal of Applied Earth Observation and Geoinformation*, 41, pp. 11-22. doi : 10.1016/j.jag.2015.04.013

2014

Bittman, S., Masse, D., Pattey, E., Courmoyer, M., Qiu, G.-W., Narjoux, A., Sheppard, S.C., and VanderZaag, A.C. (2014). "Effects of Agriculture on Air Quality in Canada.", in Taylor, E and McMillan, A. (eds.) - *Air quality management. Canadian perspectives on a global issue.*, Springer, Chapter 11, pp. 237-259.

Sansoulet, J.B., Pattey, E., Kröbel, R., Grant, B.B., Smith, W.N., Jégo, G., Desjardins, R.L., Tremblay, N., and Tremblay, G. (2014). "Comparing the performance of STICS, DNDC and DayCent models for predicting N uptake and biomass of spring wheat in Eastern Canada.", *Field Crops Research*, 156, pp. 135-150. doi : 10.1016/j.fcr.2013.11.010

Jégo, G., Chantigny, M.H., Pattey, E., Bélanger, G., Rochette, P., Vanasse, A., and Goyer, C. (2014). "Improved snow-cover model for multi-annual simulations with the STICS crop model under cold, humid continental climates.", *Agricultural and Forest Meteorology*, 195-196, pp. 38-51. doi : 10.1016/j.agrformet.2014.05.002

Shang, J., Liu, J., Huffman, E.C., Qian, B., Pattey, E., Wang, J., Geng, X.Y., Kroetsch, D.J., Dong, T., and Lantz, N. (2014). "Estimating plant area index for monitoring crop growth dynamics using Landsat-8 and RapidEye images.", *Journal of Applied Remote Sensing*, 8(1: Article number 14482SS). doi : 10.1117/1.JRS.8.085196

2013

Crolla, A., Kinsley, C., and Pattey, E. (2013). "Land application of digestate (Woodhead Publishing Series in Energy Number 5.)", in Wellinger, A., Murphy, J. and Baxter, D. (eds.) - *The Biogas Handbook: Science, Production and Applications*, Woodhead Publishing, Cambridge, UK, Chapter 13, pp. 302-325.

Liu, J., Pattey, E., and Admiral, S. (2013). "Assessment of in situ crop LAI measurement using unidirectional view digital photography.", *Agricultural and Forest Meteorology*, 169, pp. 25-34. doi : 10.1016/j.agrformet.2012.10.009

Bittman, S., Massé, D.I., and Pattey, E. (2013). "Effect of Agriculture on Air Quality in Canada.", in Taylor, E and McMillan, A. (eds.) - *Air quality management. Canadian perspectives on a global issue.*, Springer, Chapter 11. Part III Management of Emission., pp. 237-261.

2012

Jégo, G., Pattey, E., and Liu, J. (2012). "Using Leaf Area Index, retrieved from optical imagery, in the STICS crop model for predicting yield and biomass of field crops.", *Field Crops Research*, 131, pp. 63-74. doi : 10.1016/j.fcr.2012.02.012

Liu, J., Pattey, E., and Jégo, G. (2012). "Assessment of vegetation indices for regional crop green LAI estimation from Landsat images over multiple growing seasons.", *Remote Sensing of Environment*, 123, pp. 347-358. doi : 10.1016/j.rse.2012.04.002

Pattey, E. and Qiu, G.-W. (2012). "Trends in primary particulate matter emissions from Canadian agriculture.", *Journal of the Air & Waste Management Association*, 62(7), pp. 737-747. doi : 10.1080/10962247.2012.672058

Hong, J., Mathieu, N., Strachan, I.B., Pattey, E., and Leclerc, M.Y. (2012). "Response of ecosystem carbon and water vapor: Exchanges in evolving nocturnal low-level jets.", *Asian Journal of Atmospheric Environment*, 6(3), pp. 222-233. doi : 10.5572/ajae.2012.6.3.222

2011

Jiao, X., McNaim, H., Shang, J., Pattey, E., Liu, J., and Champagne, C. (2011). "The sensitivity of RADARSAT-2 polarimetric SAR data to corn and soybean Leaf Area Index.", *Canadian Journal of Remote Sensing*, 37(1), pp. 69-81. doi : 10.5589/m11-023

Zhang, K., Wang, J.-G., and Pattey, E., Smith, A.M. (2011). "Improving the Retrieval of the Biophysical Parameters of Vegetation Canopies by using the Contribution Index.", *Canadian Journal of Remote Sensing*, 37(6), pp.643-652. doi : 10.5589/m12-006

Martin, R.J., Bromley, A.M., Harvey, M.J., Moss, R.C., Pattey, E., and Dow, D. (2011). "The "Lung": a software-controlled air accumulator for quasi-continuous multi-point measurement of agricultural greenhouse gases.", *Atmospheric Measurement Techniques Discussion*, 4(2), pp. 1935-1962. doi: 10.5194/amtd-4-1935-2011

Jégo, G., Pattey, E., Bourgeois, G., Tremblay, N., and Drury, C.F. (2011). "Evaluation of the STICS crop growth model with maize cultivar parameters calibrated for Eastern Canada.", *Agronomy for Sustainable Development*, 31(3), pp. 557-570. doi : 10.1007/s13593-011-0014-4

## Other Science Related Publications:

2015

VanderZaag, A.C., Pattey, E., Smith, W.N., and Desjardins, R.L. (2015). "Farm-scale research to improve Canada's Greenhouse Gas and Ammonia Inventory, Agricultural models, and Sustainability.", ECORC/ACGEO Agri-Environmental Science Day. Invited Presentation, Ottawa, ON, Canada, February 10, 2015. (Presentation)

Jégo, G., Chantigny, M.H., Pattey, E., Bélanger, G., Rochette, P., Vanasse, A., and Goyer, C. (2015). "Improved snow-cover model for multi-annual simulations with the STICS crop model under northern climates.", STICS workshop 2015, Rennes, France, March 24-26, 2015, pp. 2 pages.

Jégo, G., Pattey, E., Chantigny, M.H., Brin, L., Goyer, C., and Léonard, J. (2015). "Coupling the STICS soil-crop model with a snow-cover model for improving simulation of agricultural soil nitrogen processes under northern climates.", ASA-CSSA-SSSA International Annual Meeting: Synergy in Science. Partnering for Solutions, Minneapolis, MN, USA, November 15-18, 2015.

Pattey, E., Jégo, G., Mesbah, S.M., Liu, J., and Duchesne, I. (2015). "Impact of spatial resolution of soil and climatic data on regional corn yield predictions using OptimiSTICS package.", STICS workshop 2015, Rennes, France, March 24-26, 2015, pp. 2 pages.

2014

Pattey, E., Qiu, G.-W., MacDonald, D., and Chang, L. (2014). "Evolution of Primary Particulate Matter Emissions from Canadian Agriculture between 1981 and 2011.", 2nd AMS Conference on Atmospheric Biogeosciences, Portland, OR, USA, May 12-15, 2014.

Jégo, G., Chantigny, M.H., and Pattey, E. (2014). "Simulation du couvert de neige et des processus du sol en conditions hivernales.", Séminaires du Centre de recherche et de développement sur les sols et les grandes cultures, Québec, QC, Canada, 30 octobre 2014. (Presentation)

VanderZaag, A.C., Desjardins, R.L., Howard, A., Mkhabela, M., Spittlehouse, D., Amiro, B.D., Tenuta, M., Pattey, E., Wagner-Riddle, C., and Anderson, D. (2014). "Agricultural Meteorology in Canada.", Global Federation of Agricultural Meteorology Societies (GLOBALFAMS), International conference and Commission of Agricultural Meteorology meeting, Antalya, Turkey, April 7-15, 2014. (Poster)

Ehrhardt, F., Soussana, J.-F., Bellocchi, G., Grant, B.B., Pattey, E., Smith, W.N., and others (2014). "International inter-comparison and benchmarking of crop and pasture models for predicting greenhouse gas exchanges at field scale.", Seventh International Symposium on Non-CO<sub>2</sub> Greenhouse Gases (NCGG7), Amsterdam, The Netherlands, November 5-7, 2014. (Presentation)

Desjardins, R.L., Worth, D.E., Srinivasan, R., Pattey, E., VanderZaag, A.C., Mauder, M.R., Worthy, D., Sweeney, C., and Watchorn, J.D. (2014). "Verifying inventory estimates of agricultural methane emissions using direct flux measurements.", IPCC Expert Meeting on Systematic Assessment of TFI Products, Ottawa, Canada, August 25-27, 2014.

Desjardins, R.L., Worth, D.E., Mauder, M.R., VanderZaag, A.C., Pattey, E., Smith, W.N., and Grant, B.B. (2014). "Challenges in scaling up flux measurements of carbon dioxide, methane and nitrous oxide emissions.", TERENO International Conference 2014, Bonn, Germany, September 29-October 2, 2014, Keynote Presentation.

Piquette, S., VanderZaag, A.C., Humphreys, E.R., and Pattey, E. (2014). "Do the promises hold true? Assessing the newer class EC155 closed path infrared H<sub>2</sub>O/CO<sub>2</sub> gas analyzer.", Northeast Agricultural and Biological Engineering Conference (NABEC), Kemptonville, ON, Canada, July 28, 2014, Presentation.

Desjardins, R.L., Worth, D.E., Mauder, M.R., VanderZaag, A.C., Pattey, E., Smith, W.N., and Grant, B.B. (2014). "Challenges in Scaling Up Flux Measurements of Carbon Dioxide, Methane and Nitrous Oxide Emissions from Terrestrial Ecosystems.", 1st TERENO International Conference 2014, Bonn, Germany, September 29-October 2, 2014.

Piquette, S., VanderZaag, A.C., Humphreys, E.R., and Pattey, E. (2014). "Experiences using newer EC155 closed-path infrared CO<sub>2</sub>/H<sub>2</sub>O analyzer for measuring eddy covariance fluxes in agriculture and natural ecosystems.", 2nd AMS Conference on Atmospheric Biogeosciences, Portland, OR, USA, May 12-15, 2014.

Shang, J., Liu, J., Huffman, E.C., Qian, B., Pattey, E., Zhao, T., Ma, B.-L., and Wang, J.M. (2014). "Estimation of crop leaf area index using Landsat-8 and Rapideye images.", 3rd International Conference on Agro-Geoinformatics, Beijing, China, August 11-14, 2014.

Pattey, E., Jégo, G., VanderZaag, A.C., Liu, J., Qian, B., Smith, W.N., Geng, X.Y., Baret, F., Beaudoin, N., Desjardins, R.L., Fernandes, R., Jarvis, I.E., Huffman, E.C., Lacaze, R., and McNairn, H. (2014). "JECAM CFIA-Ottawa.", JECAM/GEOGLAM Science Meeting, Ottawa, Canada, July 21-23, 2014, Oral presentation.

Pattey, E., Jégo, G., Mesbah, S.M., Liu, J., and Hagolle, O. (2014). "Impact of LAI Assimilation Approach on STICS Crop Model Performance to Predict Yield and Biomass of Field Crops.", SENTINEL-2 for Science Workshop, Frascati, Italy, May 20-22, 2014. (Poster)

Smith, W.N., Grant, B.B., Uzoma, K.C., Desjardins, R.L., Pattey, E., Gao, X., Hanis, K., Tenuta, M., Wagner-Riddle, C., and Li, C. (2014). "Effects of agricultural management intensity on nitrous oxide emissions in Canada: measured and modeled comparisons.", Joint Global Research Alliance – FACCE JPI Workshop on "Experimental databases and model of N<sub>2</sub>O emissions by croplands: do we have what is needed to explore mitigation options?", Paris, France, March 17-19, 2014. (Poster)

## 2013

Desjardins, R.L., Worth, D.E., Pattey, E., Mauder, M.R., Srinivasan, R., Worthy, D., Sweeney, C., and Metzger, S. (2013). "Airborne Flux Measurement of Agricultural Methane Emissions.", 30th Conference on Agricultural and Forest Meteorology and 1st Conference on Atmospheric Biogeosciences, Boston, MA, USA, May 28-June 1, 2012.

Jégo, G., Pattey, E., and Liu, J. (2013). "Yield predictions from field to region in response to pedo-climatic variations in Eastern Canada.", AGU Fall Meeting, San Francisco, CA, USA, December 9-13, 2013.

## 2012

Beaudoin, N., Sansoulet, J.B., Pattey, E., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., O'Donovan, J.T., and Gervois, S. (2012). "Adaptation de STICS à la culture de canola au Canada à partir du module colza en vue de simuler les émissions de N<sub>2</sub>O par ModuloSTICS.", IXe Séminaire du modèle de culture STICS, Sainte-Montaine, France, October 16-19, 2012. (Poster)

Sansoulet, J.B., Pattey, E., Jégo, G., Tremblay, N., Drury, C.F., and Ma, C. (2012). "Performance evaluation of STICS crop model to simulate crop growth attributes in response to N rate and climate variations.", 11th International Conference on Precision Agriculture (ICPA), Indianapolis, IN, USA, July 15-18, 2012, pp. 12.

Sansoulet, J.B., Pattey, E., Jégo, G., Kröbel, R., Grant, B.B., Smith, W.N., Tremblay, N., and Tremblay, G.F. (2012). "Comparing STICS, DNDC and DAYCENT model simulations to assess the impacts of fertilization and climate variations on N uptake and biomass production from spring wheat in Eastern Canada.", IXe Séminaire du modèle de culture STICS, Sainte-Montaine, France, October 16-19, 2012.

Liu, J., Pattey, E., and Jégo, G. (2012). "Assessment of vegetation indices for mapping and monitoring crop green LAI over multiple growing seasons.", 33rd Canadian Symposium on Remote Sensing, Ottawa, ON, Canada, June 11-14, 2012. (Poster)

Jégo, G., Bélanger, G., Tremblay, G.F., Pattey, E., and Jing, Q. (2012). "Calibration et évaluation de la performance du modèle STICS pour simuler la croissance et la valeur nutritive de la fléole des prés.", IXe Séminaire du modèle de culture STICS, Sainte-Montaine, France, October 16-19, 2012. (Poster)

Léonard, J., Beaudoin, N., Cariolle, M., Cohan, J.P., Le Gall, C., Mary, B., Pattey, E., and Python, Y. (2012). "Simulation des émissions de N<sub>2</sub>O par les sols : propositions d'amélioration de ModuloSTICS et évaluation préliminaire.", IXe Séminaire du modèle de culture STICS, Sainte-Montaine, France, October 16-19, 2012.

Pattey, E., Jégo, G., Sansoulet, J.B., Liu, J., Duchesne, I., Tremblay, N., and Beaudoin, N. (2012). "Performance de STICS à prédire la productivité du maïs grain en réponse aux variations climatiques dans l'est du Canada. 1) Réinitialisation à l'aide du LAI extrait de LANDSAT pour prédire des rendements spatialisés; 2) simulation de la réponse à la fertilisation azotée.", IXe Séminaire du modèle de culture STICS, Sainte-Montaine, France, October 16-19, 2012.

Jégo, G., Pattey, E., and Liu, J. (2012). "Using Leaf Area Index, retrieved from optical imagery, in the STICS crop model for predicting yield and biomass of field crops.", 30th Conference on Agricultural and Forest Meteorology and 1st Conference on Atmospheric Biogeosciences, Boston, MA, USA, May 31-June 1, 2012. (Presentation)

Pattey, E., Jégo, G., Liu, J., Desjardins, R.L., Worth, D.E., and Srinivasan, R. (2012). "Importance of spatially distributed rainfall for agriculture models - Regional crop biomass and yield predictions and other environmental applications.", 5th International Workshop for Global Precipitation Management Ground Validation, Toronto, ON, Canada, July 10-12, 2012. (Poster)

2011

Pattey, E., Smith, W.N., Grant, B.B., and Desjardins, R.L. (2011). "Seasonal nitrous oxide emissions from cropland in eastern Canada measured using tunable diode laser flux gradients between 1996 and 2005 - Comparison with DNDC predictions.", European Geosciences Union (EGU) General Assembly 2011, Vienna, Austria, April 3-8, 2011, published in Geophysical Research Abstracts, Vol. 13, EGU2011-11461-1. (Presentation)

Liu, J., Pattey, E., and Jégo, G. (2011). "Evaluation of MTVI2 to estimate crop green LAI over the growing season from Landsat images.", 32nd Canadian Symposium on Remote Sensing/14e Congrès de l'association québécoise de télédétection, Bishop's University, Lennoxville, QC, Canada, June 13-16, 2011. (Poster)

Pattey, E., Jégo, G., and Liu, J. (2011). "Toward assimilation of hyperspectral reflectance data into field crop models: case of Monteith (RUE) and STICS models.", FLUXNET and Remote sensing open workshop: Towards upscaling Flux Information from Towers to the Globe, Berkeley, CA, USA, June 7-9, 2011. (Poster)

Sansoulet, J.B., Pattey, E., Jégo, G., Bourgeois, G., Tremblay, N., and Tremblay, G.F. (2011). "Performance of STICS Model to Predict Biomass and N Uptake of Corn and Spring Wheat in Eastern Canada.", 2011 ASA, CSSA, and SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011, Session: Soil-Plant-Water Relations: Modeling and Measurements. (Presentation)

Pattey, E., Jégo, G., Liu, J., and Duschénay, I. (2011). "Assimilation of earth observation data for predicting crop biomass over a small region.", 3rd Integrated Land Ecosystem - Atmosphere Processes Study (iLEAPS) Science Conference, Garmisch-Partenkirchen, Germany, September 17-23, 2011. (Poster)

Moureaux, C., Ceschia, E., Arriga, N., Béziat, P., Eugster, W., Kutsch, W.L., and Pattey, E. (2011). "Eddy covariance measurements over crops.", in Aubinet, M., Vesala, T., and Papale, D. (eds.) - Eddy Covariance: A Practical Guide to Measurement and Data Analysis. Springer Atmospheric Sciences Series. 1st Edition, Springer, Chapter 12.

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## Research Publications:

2015

Zhang, J.H., Nie, X., Boquel, S., Al-Daoud, F., and Pelletier, Y. (2015). "Increased sensitivity of Potato virus Y detection by RT-PCR using the RNA isolated with a process of differential centrifugation.", *Journal of Virological Methods*. doi : 10.1016/j.jviromet.2015.07.008

2014

Liu, S.Q., Scott, I.M., Pelletier, Y., Kramp, K., Durst, T., Sims, S.R., and A Mason, J.T. (2014). "Dillapiol: A Pyrethrum Synergist for Control of the Colorado Potato Beetle.", *Journal of Economic Entomology*, 107(2), pp. 797-805. doi : 10.1603/EC13440

Al-Daoud, F., Fageria, M.S., Zhang, J.H., Boquel, S., and Pelletier, Y. (2014). "Mineral Oil Inhibits Movement of Potato Virus Y in Potato Plants in an Age-Dependent Manner.", *American Journal of Potato Research*, 91(4), pp. 337-345. doi : 10.1007/s12230-013-9353-9

Tai, H.H., Worrall, K., Pelletier, Y., De Koeyer, D.L., and Calhoun, L.A. (2014). "Comparative metabolite profiling of solanum tuberosum against six wild solanum species with Colorado potato beetle resistance.", *Journal of Agricultural and Food Chemistry*, 62(36), pp. 9043-9055. doi: 10.1021/jf502508y

Fageria, M.S., Boquel, S., LeClair, G., and Pelletier, Y. (2014). "Quantification of mineral oil accumulation and movement in potato plants and its significance in potato virus Y management.", *Pest Management Science*, 70(8), pp. 1243-1248. doi : 10.1002/ps.3682

2013

Zhang, J.H., Nie, X., Nanayakkara, U.N., Boquel, S., Giguère, M.-A., and Pelletier, Y. (2013). "Detection of Potato virus Y from the stylets of a single aphid by one-step reverse transcription polymerase chain reaction.", *Entomologia Experimentalis et Applicata*, 147(1), pp. 93-97. doi : 10.1111/eea.12044

Horgan, F.G., Quiring, D.T., Lagnaoui, A., and Pelletier, Y. (2013). "Tuber production, dormancy and resistance against *Phthorimaea operculella* (Zeller) in wild potato species.", *Journal of Applied Entomology*, 137(10), pp. 739-750. doi : 10.1111/jen.12055

Nanayakkara, U.N., Giguère, M.-A., and Pelletier, Y. (2013). "Population Growth of *Myzus persicae* on Potato Plants Infected with Different Strains and Variants of Potato virus Y.", *American Journal of Potato Research*, 90(3), pp. 297-300. doi : 10.1007/s12230-012-9284-x

Fageria, M.S., Singh, M., Nanayakkara, U.N., Pelletier, Y., Nie, X., and Wattie, D. (2013). "Monitoring Current Season Spread of Potato virus Y in Potato Fields Using ELISA and Real-time RT-PCR.", *Plant Disease*, 97(5), pp. 641-644. doi : 10.1094/PDIS-03-12-0283-RE

Pelletier, Y., Horgan, F.G., and Pompon, J. (2013). "Potato resistance against insect herbivores: resources and opportunities.", in Giordanengo, P., Vincent, C., and Alyokhin, A. (eds.) - *Insect Pests of Potato: Global Perspectives on Biology and Management*, Academic Press, San Diego, USA, Chapter 15, pp. 439-462.

Nie, X., Singh, M., Pelletier, Y., and McLaren, D.L. (2013). "Recent Advances on Potato virus Y Research in Canada.", *American Journal of Potato Research*, 90(1), pp. 14-20. doi : 10.1007/s12230-012-9288-6

2012

Nanayakkara, U.N., Nie, X., Giguère, M.-A., Zhang, J.H., Boquel, S., and Pelletier, Y. (2012). "Aphid Feeding Behavior in Relation to Potato Virus Y (PVY) Acquisition.", *Journal of Economic Entomology*, 105(6), pp. 1903-1908. doi : 10.1603/EC11427

Pelletier, Y., Nie, X., Giguère, M.-A., Nanayakkara, U.N., Maw, H.E.L., and Footitt, R.G. (2012). "A New Approach for the Identification of Aphid Vectors (Hemiptera: Aphididae) of Potato Virus Y.", *Journal of Economic Entomology*, 105(6), pp. 1909-1914. doi : 10.1603/EC12085

Pompon, J. and Pelletier, Y. (2012). "Changes in aphid probing behaviour as a function of insect age and plant resistance level.", *Bulletin of Entomological Research*, 102(5), pp. 550-557. doi : 10.1017/S0007485312000120

Nanayakkara, U.N., Nie, X., Giguère, M.-A., Zhang, J.H., and Pelletier, Y. (2012). "Chenopodium album L. as a Host for Potato Virus Y (PVY) in New Brunswick, Canada.", *American Journal of Potato Research*, 89(3), pp. 245-247. doi : 10.1007/s12230-012-9243-6

Horgan, F.G., Quiring, D.T., Lagnaoui, A., and Pelletier, Y. (2012). "Life Histories and Fitness of Two Tuber Moth Species Feeding on Native Andean Potatoes.", *Neotropical Entomology*, 41(4), pp. 333-340. doi : 10.1007/s13744-012-0042-z

Fréchette, B., Vincent, C., Giordanengo, P., Pelletier, Y., and Lucas, É. (2012). "Do resistant plants provide an enemy-free space to aphids?", *European Journal of Entomology (EJE)*, 109(1), pp. 135-137.

Nanayakkara, U.N., Singh, M., Pelletier, Y., and Nie, X. (2012). "Investigation of Potato virus Y (PVY) Strain Status and Variant Population in Potatoes in New Brunswick, Canada.", *American Journal of Potato Research*, 89(3), pp. 232-239. doi : 10.1007/s12230-012-9247-2

## 2011

Pompon, J., Quiring, D.T., Goyer, C., Giordanengo, P., and Pelletier, Y. (2011). "A phloem-sap feeder mixes phloem and xylem sap to regulate osmotic potential.", *Journal of Insect Physiology*, 57(9), pp. 1317-1322. doi : 10.1016/j.jinsphys.2011.06.007

Pompon, J., Li, X.-Q., and Pelletier, Y. (2011). "Resistance level to an aphid potato pest varies between genotypes from the same *Solanum* accession.", *Journal of Economic Entomology*, 104(3), pp. 1075-1079. doi : 10.1603/EC10278

Nie, X., Giguère, M.-A., and Pelletier, Y. (2011). "The use of test tube plantlets for the assessment of Potato virus Y transmission by *Myzus persicae* and *Aphis glycines*.", *Phytoprotection*, 92(1), pp. 15-18.

Nie, X., Pelletier, Y., Mason, N., Dilworth, A.D., and Giguère, M.-A. (2011). "Aphids preserved in propylene glycol can be used for reverse transcription-polymerase chain reaction detection of Potato virus Y.", *Journal of Virological Methods*, 175(2), pp. 224-227. doi : 10.1016/j.jviromet.2011.05.019

Pelletier, Y., Horgan, F.G., and Pompon, J. (2011). "Potato resistance to insects.", *The Americas Journal of Plant Science and Biotechnology*, 5(Special issue 1), pp. 37-52.

## Other Science Related Publications :

### 2014

Fageria, M.S., Boquel, S., Nie, X., Goyer, C., and Pelletier, Y. (2014). "Management of Potato virus Y using Mineral Oils.", *Northeast Potato Technology Forum 2014*, Fredericton, NB, Canada, March 12-13, 2014.

### 2013

Pelletier, Y. (2013). "Potato Virus Y (PVY) transmission and its management.", *New Brunswick Potato Conference and Trade Show 2013*, E&P Sénéchal Centre, Grans Falls, NB, Canada, February 7, 2013.

Pelletier, Y., Nie, X., Privé, J.-P., and Boquel, S. (2013). Evaluation of the efficacy and mode of action of mineral oil for the inhibition of PVY transmission in potato. Project Report., Canada: New Brunswick Department of Agriculture, Aquaculture and Fisheries. (Report)

Pelletier, Y. (2013). "Recent Results of PVY Research.", *New Brunswick Seed Potato Growers' Association Annual Meeting 2013 and the PVY Workshop*, Grand Falls, NB, Canada, January 30, 2013.

Fageria, M.S., Boquel, S., and Pelletier, Y. (2013). "Does mineral oil spray reduce the seasonal spread of Potato Virus Y ?", *Northeast Potato Technology Forum 2013*, Delta Prince Edward, Charlottetown, PEI, Canada, March 5-6, 2013.

Pelletier, Y. (2013). "Le virus Y de la pomme de terre et son contrôle.", *Journée Semences de la Fédération des producteurs de pommes de terre du Québec*, Québec City, QC, Canada, February 22, 2013.

Pelletier, Y. (2013). "Potato Virus Y (PVY) transmission and its management.", *Prince Edward Island Potato Conference 2013*, Summerside, PEI, Canada, February 12, 2013.

Fageria, M.S., Boquel, S., Nie, X., and Pelletier, Y. (2013). "Management of Potato virus Y using mineral oils.", *97th Annual Meeting of the Potato Association of America (PAA)*, Québec City, QC, Canada, July 28-August 2, 2013.

Boquel, S., Giguère, M.-A., Clark, C., Zhang, J.H., Nie, X., Fageria, M.S., and Pelletier, Y. (2013). "Mineral oil as an efficient product to reduce Potato virus Y acquisition by aphids.", *97th Annual Meeting of the Potato Association of America (PAA)*, Québec City, QC, Canada, July 28-August 2, 2013, *Amer. J. Potato Res.* 91: 38.

Tai, H.H., Worrall, K., Pelletier, Y., De Koeber, D.L., and Calhoun, L.A. (2013). "Metabolites from CPB-resistant wild *Solanum* species.", *97th Annual Meeting of the Potato Association of America (PAA)*, Québec City, QC, Canada, July 28 - August 2, 2013.



2012

Boquel, S., Giguère, M.-A., Clark, C., Zhang, J.H., and Pelletier, Y. (2012). "New insights into the effect of mineral oil on the acquisition of PVY.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #16. (Abstract)

Fageria, M.S., Singh, M., Nie, X., and Pelletier, Y. (2012). "Impact of Best Management Practices on Spread of PVY in New Brunswick Seed Potato Fields.", 96th Annual Meeting of the American Association of Immunologists, Seattle, WA, USA, May 8-12, 2009, Amer. J. Potato Res. (2013) 90:130-131.

Singh, M., Nie, X., Pelletier, Y., and Fageria, M.S. (2012). "PVY and Canadian experience.", American Phytopathological Society (APS) 2012 Annual Meeting, Westin Providence, Providence, RI, USA, August 4-8, 2012, pp. 20.

Pelletier, Y. (2012). "PVY transmission research.", New Brunswick Seed Potato Growers' Association Annual Meeting 2013 and the PVY Workshop, Grand Falls, NB, Canada, January 30, 2013.

Tai, H.H., Worrall, K., De Koeber, D.L., Pelletier, Y., and Calhoun, L.A. (2012). "Comparative gene expression profiling of diploid potato parents with variation in susceptibility to verticillium wilt and eqtl mapping of the progeny.", 9th Solanaceae Conference (SOL 2012), University of Neuchâtel, Neuchâtel, Switzerland, August 25-30, 2012, Oral presentation, pp. 91.

Al-Daoud, F., Giguère, M.-A., and Pelletier, Y. (2012). "Mineral oil inhibits the movement of Potato virus Y in potato plants and reduces defense gene expression in tubers.", Canadian Society of Plant Biologists (CSPB) Eastern Regional Meeting and Plant Development Workshop, Wilfrid Laurier University, Waterloo, ON, Canada, November 30 - December 1, 2012.

Tai, H.H., Worrall, K., De Koeber, D.L., Pelletier, Y., and Calhoun, L.A. (2012). "Metabolomics and transcriptomics of Colorado Potato Beetle resistance in wild Solanum species.", 9th Solanaceae Conference (SOL 2012), University of Neuchâtel, Neuchâtel, Switzerland, August 25-30, 2012, P65, pp. 207. (Poster)

2011

Pelletier, Y., Nie, X., Giguère, M.-A., Mason, N., and Nanayakkara, U.N. (2011). "Which Aphid Species is Transmitting PVY?", 19th Annual Northeast Potato Technology Forum, Crowne Plaza Fredericton Lord Beaverbrook Hotel, Fredericton, NB, Canada, March 16-17, 2011.

Nanayakkara, U.N., Nie, X., Pelletier, Y., and Singh, M. (2011). "Genetic Diversity of Potato Virus Y (PVY) in Seed-lot Potatoes in New Brunswick", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

Nanayakkara, U.N., Singh, M., Pelletier, Y., Maradukhel, G., and Nie, X. (2011). "Genetic Diversity of Potato Virus Y (PVY) in Seed-lot Potatoes in New Brunswick", 19th Annual Northeast Potato Technology Forum, Crowne Plaza Fredericton Lord Beaverbrook Hotel, Fredericton, NB, Canada, March 16-17, 2011.

Pelletier, Y. (2011). "Which aphid species is transmitting PVY?", New Brunswick Seed Potato Growers Association 2011 annual meeting, Florenceville, NB, Canada, March 24, 2011.

Worrall, K., Tai, H.H., Pelletier, Y., Calhoun, L.A., and De Koeber, D.L. (2011). "Comparative metabolic profiling of *S. Tuberosum* and CPB-resistant *Solanum* species.", 19th Annual Northeast Potato Technology Forum, Crowne Plaza Fredericton Lord Beaverbrook Hotel, Fredericton, NB, Canada, March 16-17, 2011, pp. 21. (Abstract)

Pelletier, Y. (2011). "The role of host-plant selection behavior in PVY transmission by aphids.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011.

Nanayakkara, U.N., Singh, M., Pelletier, Y., Maradukhel, G., and Nie, X. (2011). "Genetic Diversity of Potato Virus Y (PVY) in Seed-lot Potatoes in New Brunswick", 95th Annual Meeting of the Potato Association of America (PAA), Wilmington, NC, USA, August 14-18, 2011.

Fageria, M.S., Singh, M., Nanayakkara, U.N., Wattie, D., Pelletier, Y., and Nie, X. (2011). "Monitoring current season spread of Potato virus Y in seed potato fields.", 95th Annual Meeting of the Potato Association of America (PAA), Wilmington, NC, USA, August 14-18, 2011.

Pelletier, Y. (2011). "Étudier le comportement des insectes sur leurs plantes non-hôtes.", 138e réunion annuelle de la Société d'Entomologie du Québec, Orford, QC, Canada, October 13-14, 2011. (Presentation)

Nanayakkara, U.N., Pelletier, Y., and Giguère, M.-A. (2011). "Development of a method for evaluation of acquisition potential of Potato Virus Y (PVY) by different aphid species.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011.

Pelletier, Y., Nie, X., and Footitt, R.G. (2011). "Identification of potato virus Y vector from trap samples.", Entomological Society of America (ESA) 59th Annual Meeting, Reno-Sparks Convention Center, Reno, NV, USA, November 13-16, 2011. (Poster)

Pelletier, Y. and Nie, X. (2011). "The potato virus Y tale: studying the aphid vectors and preventing transmission.", XXIV International Congress of Entomology (ICE 2012): Phloemophagous insects: Strategies and impacts on plants, Daegu, South Korea, August 19-24, 2012. (Presentation)

Tai, H.H., Pelletier, Y., Worrall, K., Calhoun, L.A., and De Koeyer, D.L. (2011). "Metabolomics of Colorado Potato Beetle resistance in potato.", Palmerston North Plant Biology Meeting, Palmerston North, New Zealand, June 23, 2011.

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## Research Publications:

2015

Gossen, B.D., Strelkov, S.E., Manolii, V.P., Tsao, R., Hwang, S.F., Peng, G., and McDonald, M.R. (2015). "Spread of *Plasmiodiophora brassicae* on canola in Canada, 2003–2014: Old pathogen, new home.", *Canadian Journal of Plant Pathology*, 37(4), pp. 403-413. doi: 10.1080/07060661.2015.1105871

Chu, M.G., Song, T., Yu, F.Q., Peng, G., Lahlali, R.L., Liu, X., Zhang, X., Falk, K.C., and Gossen, B.D. (2015). "Genetic mapping of a new clubroot resistance gene (Rpb1) and transcriptome analysis of its interactions with *Plasmiodiophora brassicae*.", *BMC Genomics*, 15(1166).

Hwang, S.F., Ahmed, H.U., Zhou, Q-X., Turnbull, G.D., Strelkov, S.E., Gossen, B.D., and Peng, G. (2015). "Effect of host and non-host crops on *Plasmiodiophora brassicae* resting spore concentrations and clubroot of canola.", *Plant Pathology*, 64(5), pp. 1198-1206. doi: 10.1111/ppa.12347

Peng, G., Pageau, D., Strelkov, S.E., Gossen, B.D., Hwang, S.F., and Lahlali, R.L. (2015). "A >2-year break from susceptible canola reduces *Plasmiodiophora brassicae* resting spores in heavily infested soil and maximizes canola yield.", *European Journal of Agronomy*, 70, pp. 78-84. doi: 10.1016/j.eja.2015.07.007

Harker, K.N., Yu, A.Z., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Johnson, E.N., Gan, Y.T., Kutcher, H.R., Dossall, L.M., Peng, G. (2015). "Canola rotation frequency impacts canola yield and associated pest species.", *Canadian Journal of Plant Science*, 95(1), pp. 9-20. doi: 10.4141/cjps-2014-289

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Dossall, L.M., Hall, L.M., Kutcher, H.R., Willenborg, C.J., Peng, G., Irvine, R.B., and Mohr, R.M. (2015). "Canola cultivar mixtures and rotations do not mitigate the negative impacts of continuous canola.", *Canadian Journal of Plant Science*, 95(6), pp. 1085-1099. doi: 10.4141/cjps-2015-126

Turkington, T.K., O'Donovan, J.T., Harker, K.N., Xi, K., Blackshaw, R.E., Johnson, E.N., Peng, G., Kutcher, H.R., May, W.E., Lafond, G.P., Mohr, R.M., Irvine, R.B., and Stevenson, C. (2015). "The impact of fungicide and herbicide timing on foliar disease severity, and barley productivity and quality.", *Canadian Journal of Plant Science*, 95(3), pp. 525-537. doi: 10.4141/CJPS-2014-364

Harker, K.N., O'Donovan, J.T., Smith, E.G., Johnson, E.N., Peng, G., Willenborg, C.J., Gulden, R.H., Mohr, R.M., Gill, K.S., and Grenkow, L.A. (2015). "Seed size and seeding rate effects on canola emergence, development, yield and seed weight.", *Canadian Journal of Plant Science*, 95(1), pp. 1-8. doi: 10.4141/cjps-2014-222

Lahlali, R.L., Karunakaran, C., Wang, L., Willick, I., Schmidt, M., Liu, X., Borondics, F., Forseille, L., Fobert, P., Tanino, K.K., Peng, G., and Hallin, E. (2015). "Synchrotron-based phase contrast X-ray imaging combined with FTIR spectroscopy reveals structural and biomolecular differences in spikelets play a significant role in resistance to *Fusarium* in wheat.", *BMC Plant Biology*, 15(24), pp. 1-17. doi: 10.1186/s12870-014-0357-5

2014

Gossen, B.D., Deora, A.D., Peng, G., Hwang, S.F., and McDonald, M.R. (2014). "Effect of environmental parameters on clubroot development and the risk of pathogen spread.", *Canadian Journal of Plant Pathology*, 36(S1), pp. 37-48. doi: 10.1080/07060661.2013.859635

Peng, G., Lahlali, R.L., Hwang, S.F., Pageau, D., Hynes, R.K., McDonald, M.R., Gossen, B.D., and Strelkov, S.E. (2014). "Crop rotation, cultivar resistance, and fungicides/biofungicides for managing clubroot (*Plasmiodiophora brassicae*) on canola.", *Canadian Journal of Plant Pathology*, 36(S1), pp. 99-112. doi: 10.1080/07060661.2013.860398

Turkington, T.K., Xi, K., Kutcher, H.R., and Peng, G. (2014). "Understanding the nature and role of fungicides.", *Agronomy Update Conference 2014*, Capri Centre Hotel, Red Deer, Alberta, Canada, January 14-15, 2014, Invited presentation; [http://www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/crop14718/\\$FILE/au-2014-turkington-understanding-the-nature-and-role-of-fungicides.pdf](http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/crop14718/$FILE/au-2014-turkington-understanding-the-nature-and-role-of-fungicides.pdf)

Chu, M.G., Song, T., Falk, K.C., Zhang, X., Liu, X., Chang, A., Lahlali, R.L., McGregor, L., Gossen, B.D., Yu, F.Q., and Peng, G. (2014). "Fine mapping of Rcr1 and analyses of its effect on transcriptome patterns during infection by *Plasmiodiophora brassicae*.", *BMC Genomics*, 15(1: Article number 1166), pp. 1-20. doi: 10.1186/1471-2164-15-1166

Zhang, J., Peng, G., Duan, G., Zhou, Y., Yang, S., and Yu, L. (2014). "Bipolariseleusines, a potential mycoherbicide candidate for control of barmyardgrass (*Echinochloa crus-galli*).", *Biocontrol Science and Technology*, 24(7), pp. 839-846. doi : 10.1080/09583157.2014.891724

Lahlali, R.L. and Peng, G. (2014). "Suppression of clubroot by *Clonostachys rosea* via antibiosis and induced host resistance.", *Plant Pathology*, 63(2), pp. 447-455. doi : 10.1111/ppa.12112

Lahlali, R.L., McGregor, L., Song, T., Gossen, B.D., Narisawa, K., and Peng, G. (2014). "Heteroconium chaetospira suppresses clubroot by inducing host resistance via ethylene, jasmonic acid and auxin pathway signaling.", *PLoS ONE*, 9(4: e94144), pp. 1-9. doi : 10.1371/journal.pone.0094144

Peng, G., Falk, K.C., Gugel, R.K., Franke, C., Yu, F.Q., James, B., Strelkov, S.E., Hwang, S.F., and McGregor, L. (2014). "Sources of resistance to *Plasmodiophora brassicae* (clubroot) pathotypes virulent on canola.", *Canadian Journal of Plant Pathology*, 36(1), pp. 89-99. doi : 10.1080/07060661.2013.863805

Rahman, H., Peng, G., Yu, F.Q., Falk, K.C., Kulkarni, M., and Selvaraj, G. (2014). "Genetics and breeding for clubroot resistance in Canadian spring canola (*Brassica napus* L.).", *Canadian Journal of Plant Pathology*, 36(Supplement 1), pp. 122-134. doi : 10.1080/07060661.2013.862571

Hwang, S.F., Ahmed, H.U., Zhou, Q-X., Strelkov, S.E., Gossen, B.D., Peng, G., and Turnbull, G.D. (2014). "Efficacy of Vapam fumigant against clubroot (*Plasmodiophora brassicae*) of canola.", *Plant Pathology*, 63(6), pp. 1374-1383. doi : 10.1111/ppa.12207

Hwang, S.F., Howard, R.J., Strelkov, S.E., Gossen, B.D., and Peng, G. (2014). "Management of clubroot (*Plasmodiophora brassicae*) on canola (*Brassica napus*) in western Canada.", *Canadian Journal of Plant Pathology*, 36(S1), pp. 49-65. doi : 10.1080/07060661.2013.863806

## 2013

Peluola, C., Fernando, W.G.D., Huvenaars, C., Kutcher, H.R., Lahlali, R.L., and Peng, G. (2013). "Effect of flooding on the survival of *Leptosphaeria* spp. in canola stubble.", *Plant Pathology*. doi: 10.1111/ppa.12036

Peng, G., Pageau, D., Hwang, S.F., Lahlali, R.L., Hynes, R.K., Anderson, K., Strelkov, S.E., McDonald, M.R., Gossen, B.D., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., and McGregor, L. (2013). "Assessment of crop rotation in combination with cultivar resistance or a biofungicide seed treatment for control of clubroot on canola.", 10th International Congress of Plant Pathology, Beijing International Convention Center, Beijing, China, August 25-30, 2013.

Peng, G., Pageau, D., Strelkov, S.E., Lahlali, R.L., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Turkington, T.K., Falk, K.C., Yu, F.Q., McGregor, L., Hupka, D., and Geissler, H.J. (2013). "Assessment of crop rotation, cultivar resistance and *Bacillus subtilis* biofungicide for control of clubroot on canola.", 6th International Symposium on Brassica and 18th Crucifer Genetics Workshop, Catania, Sicily, Italy, November 12-16, 2012, Published on *Acta Hort.* 1005: 591-598.

Chu, M.G., Yu, F.Q., Falk, K.C., Liu, X., Zhang, X., Chang, A., and Peng, G. (2013). "Identification of the clubroot resistance gene Rpb1 and introgression of the resistance gene into canola breeding lines using a marker-assisted approach.", *Acta Horticulturae (ISHS)*, 1005, pp. 599-605.

Yu, F.Q., Peng, G., Falk, K.C., and Parkin, I.A.P. (2013). "Identification of clubroot-resistance genes and development of clubroot resistant canola germplasm.", International Clubroot Workshop, Edmonton, AB, Canada, June 2013, Oral presentation.

Gossen, B.D., McDonald, M.R., Hwang, S.F., Strelkov, S.E., and Peng, G. (2013). "A comparison of clubroot development and management on canola and Brassica vegetables.", *Canadian Journal of Plant Pathology*, 35(2), pp. 175-191. doi : 10.1080/07060661.2013.763293

Hwang, S.F., Ahmed, H.U., Zhou, Q-X., Rashid, A., Strelkov, S.E., Gossen, B.D., Peng, G., and Turnbull, G.D. (2013). "Effect of susceptible and resistant canola plants on *Plasmodiophora brassicae* resting spore populations in the soil.", *Plant Pathology*, 62(2), pp. 404-412. doi : 10.1111/j.1365-3059.2012.02636.x

Lahlali, R.L., Peng, G., Gossen, B.D., McGregor, L., Yu, F.Q., Hynes, R.K., Hwang, S.F., McDonald, M.R., and Boyetchko, S.M. (2013). "Evidence that the Biofungicide Serenade® (*Bacillus subtilis*) Suppresses Clubroot on Canola via Antibiosis and Induced Host Resistance.", *Phytopathology*, 103(3), pp. 245-254. doi : 10.1094/PHYTO-06-12-0123-R

Yu, F.Q., Gugel, R.K., Kutcher, H.R., Peng, G., and Rimmer, S.R. (2013). "Identification and mapping of a novel blackleg resistance locus LepR4 in the progenies from *Brassica napus* × *B. rapa* subsp. *Sylvestris*.", *Theoretical and Applied Genetics (TAG)*, 126(2), pp. 307-315. doi : 10.1007/s00122-012-1919-2

## 2012

Li, J., Kang, Y., Qiang, S., and Peng, G. (2012). "Propagation of goldenrod (*Solidago canadensis* L.) from leaf and nodal explants.", *Acta Societatis Botanicorum Poloniae*, 81(1), pp. 53-60. doi : 10.5586/asbp.2011.044

Hwang, S.F., Cao, T., Xiao, Q., Ahmed, H.U., Mandlii, V.P., Turnbull, G.D., Gossen, B.D., Peng, G., and Strelkov, S.E. (2012). "Effects of fungicide, seeding date and seedling age on clubroot severity, seedling emergence and yield of canola.", *Canadian Journal of Plant Science*, 92(6), pp. 1175-1186. doi : 10.4141/CJPS2011-149

Hwang, S.F., Ahmed, H.U., Zhou, Q-X., Strelkov, S.E., Gossen, B.D., Peng, G., and Turnbull, G.D. (2012). "Assessment of the impact of resistant and susceptible canola on *Plasmodiophora brassicae* inoculum potential.", *Plant Pathology*, 61(5), pp. 945-952. doi: 10.1111/j.1365-3059.2011.02582.x

2011

Hwang, S.F., Ahmed, H.U., Strelkov, S.E., Gossen, B.D., Turnbull, G.D., Peng, G., and Howard, R. J. (2011). "Seedling age and inoculum density affect clubroot severity and seed yield in canola.", *Canadian Journal of Plant Science*, 91(1), pp. 183-190. doi : 10.4141/cjps10066

Forseille, L., Peng, G., Yangdou, W., and Gossen, B.D. (2011). "Molecular and morphological differentiation of *Colletotrichum truncatum* from scentless chamomile and selected crop species.", *Canadian Journal of Plant Pathology*, 33(4), pp. 512-524. doi : 10.1080/07060661.2011.619580

Ahmed, H.U., Hwang, S.F., Strelkov, S.E., Gossen, B.D., Peng, G., Howard, R.J., and Turnbull, G.D. (2011). "Assessment of bait crops to reduce inoculum of clubroot (*Plasmodiophora brassicae*) of canola.", *Canadian Journal of Plant Science*, 91(3), pp. 545-551. doi: 10.4141/cjps10200

Hwang, S.F., Ahmed, H.U., Zhou, Q-X., Strelkov, S.E., Gossen, B.D., Peng, G., and Turnbull, G.D. (2011). "Influence of cultivar resistance and inoculum density on root hair infection of canola (*Brassica napus*) by *Plasmodiophora brassicae*.", *Plant Pathology*, 60(5), pp. 820-829. doi: 10.1111/j.1365-3059.2011.02457.x

Lahlali, R.L., Peng, G., McGregor, L., Gossen, B.D., Hwang, S.F., and McDonald, M.R. (2011). "Mechanisms of the biofungicide *Serenade* (*Bacillus subtilis* QST713) in suppressing clubroot.", *Biocontrol Science and Technology*, 21(11), pp. 1351-1362. doi : 10.1080/09583157.2011.618263

Peng, G., McGregor, L., Lahlali, R.L., Gossen, B.D., Hwang, S.F., Adhikari, K.K.C., Strelkov, S.E., and McDonald, M.R. (2011). "Potential biological control of clubroot on canola and crucifer vegetable crops.", *Plant Pathology*, 60(3), pp. 566-574. doi : 10.1111/j.1365-3059.2010.02400.x

## Other Science Related Publications:

2015

Turkington, T.K., Xi, K., O'Donovan, J.T., Harker, K.N., Peng, G., Martin, R.C., Beres, B.L., May, W.E., and Mohr, R.M. (2015). "The impact of seed treatment, foliar fungicide timing, and plant growth regulator on leaf-disease severity and productivity of barley.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015, ID: P IPM 42. (Poster)

MacLean, D., May, W.E., Peng, G., Coles, K., Turkington, T.K., Harding, M.W., and Kutcher, H.R. (2015). "Fungicide application at anthesis provides effective leaf spot control in spring wheat.", *Canadian Journal of Plant Pathology*. (Abstract)

Turkington, T.K., O'Donovan, J.T., Harker, K.N., Xi, K., Blackshaw, R.E., Johnson, E.N., Peng, G., Kutcher, H.R., May, W.E., Lafond, G.P., Mohr, R.M., and Irvine, R.B. (2015). "The impact of fungicide and herbicide timing on foliar disease severity, and barley productivity and quality.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015, ID: P HERBI 7. (Poster)

Chu, M.G., Yu, F.Q., Falk, K.C., Gossen, B.D., Parkin, I.A.P., Zhou, R., Vail, S.L., and Peng, G. (2015). "Using a genome-wide SNP array to facilitate the introgression of clubroot resistance from diploid *Brassica rapa* into amphidiploid *B. napus* canola.", International Rapeseed Congress, Saskatoon, Canada, July 2015.

Turkington, T.K., Xi, K., Peng, G., Martin, R.A., Harker, K.N., O'Donovan, J.T., Beres, B.L., May, W.E., and Mohr, R.M. (2015). "The impact of seed treatment, foliar fungicide timing, and plant growth regulator on barley leaf disease severity and productivity.", *Canadian Journal of Plant Pathology*. (Abstract)

Gossen, B.D., Cranmer, T., Robson, J., Deora, A.D., Al-Daoud, F., Hwang, S.F., Peng, G., and McDonald, M.R. (2015). "Vertical distribution of resting spores complicates clubroot management using fumigants.", International Rapeseed Congress, Saskatoon, Canada, July 2015.

Turkington, T.K., Xi, K., Peng, G., and Pageau, D. (2015). "The impact of crop rotation and fungicide application on wheat leaf disease severity and crop productivity.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015. (Abstract)

Turkington, T.K., Xi, K., Peng, G., and Pageau, D. (2015). "The impact of crop rotation and fungicide application on wheat leaf disease severity and crop productivity.", *Canadian Journal of Plant Pathology*. (Abstract)

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Johnson, E.N., Kutcher, H.R., Willenborg, C.J., Gan, Y.T., Dosdall, L.M., Hall, L.M., Peng, G., Irvine, R.B., and Mohr, R.M. (2015). "Sustainable canola production increases with cropping system diversity.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. (Poster)

Zhang, Y., Peng, G., Gossen, B.D., Vail, S.L., Strelkov, S.E., Hwang, S.F., and Yu, F.Q. (2015). "Developing near-isogenic Brassica napus lines for resistance to clubroot through introgression of resistance genes from B. rapa.", Canadian Journal of Plant Pathology, 37, pp. 251-252. (Abstract)

Zhang, Y., Chu, M.G., Falk, K.C., Vail, S.L., Gossen, B.D., Parkin, I.A.P., Strelkov, S.E., Hwang, S.F., Peng, G., and Yu, F.Q. (2015). "Introgression of clubroot resistance gene Rcr1 from Brassica rapa into B. napus.", International Rapeseed Congress, Saskatoon, Canada, July 2015.

Yu, F.Q., Zhang, X.D., Huang, Z., Song, T., Chu, M.G., Falk, K.C., Gossen, B.D., Deora, A.D., McDonald, M.R., and Peng, G. (2015). "SNP markers for clubroot resistance gene CR01 based on RNA sequencing.", Canadian Journal of Plant Pathology, 37. (Abstract)

Huang, Z., Chu, M.G., Falk, K.C., Gossen, B.D., Parkin, I.A.P., Peng, G., and Yu, F.Q. (2015). "Resynthesizing Brassica amphidiploids for resistance to clubroot.", International Rapeseed Congress, Saskatoon, Canada, July 2015.

Gossen, B.D., Strelkov, S.E., Manolii, V.P., Cao, T., Hwang, S.F., Peng, G., and McDonald, M.R. (2015). "Spread of clubroot on canola in Canada, 2003-2014.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. Also in Phytopathology xx:xxx xxx (in press).

## 2014

Blackshaw, R.E., Harker, K.N., O'Donovan, J.T., Johnson, E.N., Gan, Y.T., and Peng, G. (2014). "How frequently can oilseed rape be grown in sustainable cropping systems.", 13th Congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014, Available online at <http://www.esa2014.hu/news/post-conference-updates-8.html>, pp. 331-332. (Poster)

Yu, F.Q., Peng, G., and Falk, K.C. (2014). "Gene specific SNP markers with Rcr1 were distributed to Crop Production Services CANADA Inc. and AAFC canola breeder in 2014." (Technology transfer)

Zhang, Y., Peng, G., Gossen, B.D., Vail, S., Strelkov, S.E., Hwang, S.F., and Yu, F.Q. (2014). "Developing near-isogenic Brassica napus lines for resistance to clubroot through introgression of resistance genes from B. rapa.", CPS-Saskatchewan, Saskatoon, Saskatchewan, Canada, December, 2014.

Yu, F.Q., Zhang, X., Huang, Z., Song, T., Chu, M.G., Falk, K.C., Gossen, B.D., Deora, A.D., McDonald, M.R., and Peng, G. (2014). "SNP markers for clubroot resistance gene Rcr1 based on RNA sequencing.", 35th Annual PPSA Meeting, Canmore, Alberta, Canada, October, 2014.

Zhang, X., Huang, Z., Song, T., Chu, M.G., Falk, K.C., Gossen, B.D., Deora, A.D., McDonald, M.R., Peng, G., and Yu, F.Q. (2014). "Discovery of SNP markers tightly linked to clubroot resistance gene Rpb1 through RNA-seq.", 11th Conference of the European Foundation for Plant Pathology, Cracow, Poland, September 8-13, 2014, Clubroot workshop.

Hwang, S.F., Strelkov, S.E., Gossen, B.D., and Peng, G. (2014). "New strategies for clubroot management in western Canada.", 11th Conf. Eur. Fed. Plant Pathol., Cracow, Poland, September 12, 2014.

Yu, F.Q., Huang, Z., Zhang, Y., Song, T., Kutcher, H.R., and Peng, G. (2014). "Global transcriptome profile of Arabidopsis thaliana nonhost resistance to Leptosphaeria maculans.", 11th Conference of the European Foundation for Plant Pathology, Cracow, Poland, September 8-13, 2014.

Yu, F.Q., Peng, G., Falk, K.C., Chu, M.G., Huang, Z., Song, T., Liu, X., Zhang, X., and Chang, A. (2014). "Identification and genetic mapping of clubroot resistance genes in Brassica species for introgression of resistance into canola.", 19th Crucifer Genetics Workshop and Brassica, Wuhan, China, March 2014, Oral presentation.

Olfert, O.O., Cárcamo, H.A., Elliott, R.H., Gan, Y.T., McLaren, D.L., Olivier, C.Y., Otani, J.K., Peng, G., and Soroka, J.J. (2014). Detection, surveillance and management of weed, insect and disease pests that threaten the economic viability of crop production and the environmental health of prairie agro-ecosystems. Annual Report to Canola Science Cluster (4 pages). (Report)

Turkington, T.K., Xi, K., Peng, G., Martin, R.A., Harker, K.N., and O'Donovan, J.T. (2014). "The impact of seed treatment, foliar fungicide, and variety resistance on barley leaf disease severity and productivity.", 1st International Workshop on Barley Leaf Diseases, Salsomaggiore Terme, Italy, June 3-6, 2014, Also in Canadian Journal of Plant Pathology (in press), pp. 18. (Abstract)

Turkington, T.K., Xi, K., Peng, G., O'Donovan, J.T., and Harker, K.N. (2014). "An update on malt barley research at Lacombe.", Rahr Malting Canada Annual Grower Meeting, Alix, Alberta, Canada, February 6, 2014. (Presentation)

Song, T., Lahlali, R.L., Yu, F.Q., Gossen, B.D., and Peng, G. (2014). "Transcriptome analysis of the clubroot-resistant gene Rpb1 using high-throughput RNA sequencing.", Canadian Journal of Plant Pathology. (Abstract)

Turkington, T.K., Xi, K., Kutcher, H.R., Peng, G., Kumar, K., Klein-Gebbinck, H.W., Akhavan, A., and Strelkov, S.E. (2014). "Key strategies for managing barley leaf diseases and fusarium head blight of cereals.", Cereal Leaf Disease Conference, Red Deer Holiday Inn and Suites, Red Deer, AB, Canada, March 18, 2014.

Gossen, B.D., Peng, G., Deora, A.D., and McDonald, M.R. (2014). "Clubroot resistance: Expression, durability, and metabolic cost.", Invited seminar, Department of Plant Agriculture, University of Guelph, Guelph, ON, Canada, March 5, 2014. (Presentation)

Yu, F.Q. and Peng, G. (2014). "Genetic mapping of clubroot resistance genes in Brassica diploid species and development of Brassica amphidiploids for resistance to clubroot.", Clubroot Planning Meeting 2014, Saskatoon, Saskatchewan, Canada, December, 2014, Oral presentation.

## 2013

Hwang, S.F., Strelkov, S.E., Howard, R.J., Gossen, B.D., and Peng, G. (2013). "Management of clubroot on canola in western Canada.", Planning Meeting, Clubroot in GF2, Edmonton, Canada, December 5, 2013. (Presentation)

Peng, G., Yu, F.Q., and Gossen, B.D. (2013). "Clubroot on canola -Disease development & Management", Seminar at Zhejiang University, Hangzhou, China, April 1, 2013. (Presentation)

Gossen, B.D., Kasinathan, H., Strelkov, S.E., Manolii, V.P., Hwang, S.F., Peng, G., Cao, T., and McDonald, M.R. (2013). "Risk potential of clubroot on the Canadian prairies, based on soil type and pH.", Canadian Journal of Plant Pathology, 35(1), pp. 112. (Abstract)

Hwang, S.F., Ahmed, H.U., Zhou, Q-X., Strelkov, S.E., Gossen, B.D., Peng, G., and Turnbull, G.D. (2013). "Efficacy of Vapam to control clubroot (*Plasmodiophora brassicae*) in canola.", International Congress of Plant Pathology, Beijing, China, August 25 - 28, 2013.

Gossen, B.D., McDonald, M.R., Sharma, K., Deora, A.D., and Peng, G. (2013). "Cost of resistance to *Plasmodiophora brassicae* when inoculum pressure is high.", International Clubroot Workshop, Edmonton, AB, Canada, June 2013, also International Congress of Plant Pathology, Beijing, China. August 2013. Also, Can. J. Plant Pathol. 36: xxx-xxx (in press), pp. 3.

Gossen, B.D., Deora, A.D., Peng, G., and McDonald, M.R. (2013). "Environmental parameters that affect clubroot risk on the Canadian prairies.", International Clubroot Workshop, Edmonton, AB, Canada, June 2013, Oral presentations, pp. 8.

Peng, G. and Gossen, B.D. (2013). "Clubroot - A threat to canola production in western Canada.", AAFC – STB booth at the Crop Production Show, Saskatoon, SK, Canada, January 7-11, 2013. (Presentation)

Lahlali, R.L., Peng, G., McGregor, L., McDonald, M.R., Gossen, B.D., Hwang, S.F., Hynes, R.K., Boyetchko, S.M., and Geissler, H.J. (2013). "Induced host defense responses are involved in suppressing clubroot on canola with *Bacillus subtilis*, *Clonostachyrosea* and *Heteroconium chaetospira*.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: Canadian Journal of Plant Pathology, 35(1), pp.117 (Abstract).

Peng, G., Hynes, R.K., Hwang, S.F., and Gossen, B.D. (2013). Synergy of biofungicides with cultivar resistance for control of clubroot on canola. Final report on ADF Project 20090359. 59 pp. (Report)

McClay, A.S., Peng, G., Bailey, K.L., Hynes, R.K., and Hinz, H.L. (2013). "*Tripeurospermum inodorum* (L.) Sch. Bip. (= *Matricaria perforata* Mérat), Scentless Chamomile (Asteraceae).", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, Wallingford, UK.

Peng, G., Lahlali, R.L., Hynes, R.K., Boyetchko, S.M., Gossen, B.D., Hwang, S.F., Pageau, D., McDonald, M.R., and Strelkov, S.E. (2013). "*Plasmodiophora brassicae* Woronin, Clubroot of Crucifers (*Plasmodiophoraceae*).", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, Wallingford, UK, Chapter 65.

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2013). "Assessment of crop rotation, resistance and *Bacillus subtilis* for management of clubroot on canola.", Canadian Journal of Plant Pathology, 35, pp. 112. (Abstract)

Peng, G., Pageau, D., Strelkov, S.E., Lahlali, R.L., Gossen, B.D., Anderson, K., Hwang, S.F., McDonald, M.R., Yu, F.Q., Falk, K.C., Turkington, T.K., Hynes, R.K., Boyetchko, S.M., and McGregor, L. (2013). "Management of clubroot disease on canola with crop rotation combined with host resistance or biofungicide seed dressing.", Canadian Journal of Plant Pathology, 35, pp. 519. (Abstract)

Miller, S.G., Anderson, K., Bassendowski, K.A., Britz, L., Buitenhuis, N., Campbell, E., Chant, S., Christopher, J., Cowell, L.E., Cranston, R., Dokken-Bouchard, F.L., Friesen, S., Gugel, R.K., Hicks, L., Ippolito, J., Jurke, C., Kennedy, V., Kirkham, C.L., Martinka, T., Moore, M., Oster, K., Peng, G., Phelps, S.M., Platford, R.G., Senko, S., Stonehouse, K., and Vakulabharanam, V. (2013). "Survey of canola diseases in Saskatchewan, 2012.", Canadian Plant Disease Survey, 93, pp. 149-153.

Peng, G. (2013). "Managing blackleg of canola – new concepts and tools.", Soils and Crops Workshop 2013, Prairieland Park, Saskatoon, SK, Canada, March 5-6, 2013.

Hwang, S.F., Howard, R.J., Strelkov, S.E., Gossen, B.D., and Peng, G. (2013). "Management of clubroot on canola in western Canada.", International Clubroot Workshop, Edmonton, AB, Canada, June 2013, Oral presentation, pp. 7. (Workshop)

Gossen, B.D., Deora, A.D., Peng, G., and McDonald, M.R. (2013). "Update on environment and clubroot risk", Planning Meeting, Clubroot in GF2, Edmonton, Canada, December 5, 2013. (Presentation)

Peng, G., Gossen, B.D., Strelkov, S.E., Hwang, S.F., and McDonald, M.R. (2013). "Clubroot", published by Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC), #4065141. (Factsheet)

Peng, G., Lahlali, R.L., Hwang, S.F., Pageau, D., Hynes, R.K., McDonald, M.R., Gossen, B.D., and Strelkov, S.E. (2013). "Integrated management of clubroot on canola with crop rotation, cultivar resistance, and fungicides/biofungicides.", International Clubroot Workshop, Edmonton, AB, Canada, June 2013, Oral presentation, pp. 7. (Workshop)

## 2012

Peng, G., Lahlali, R.L., Pageau, D., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2012). "Assessment of crop rotation and host resistance in combination with *Bacillus subtilis* for management of clubroot on canola.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: Canadian Journal of Plant Pathology, 35(1), pp. 122.

Peng, G. (2012). Mitigate the risk of blackleg and clubroot on canola – research update. Report of Western Forum for Pest Management. 5 pages. (Report)

Lahlali, R.L., Peng, G., McGregor, L., Geissler, H.J., McDonald, M.R., Gossen, B.D., and Hwang, S.F. (2012). "Suppression of clubroot by *Heteroconium chaetospora* may be mediated by modulation of jasmonic acid pathway signalling.", Canadian Phytopathological Society (CPS-SK) Saskatchewan Regional 2011 Meeting, Saskatoon, SK, Canada, December 6, 2011, Published in: Canadian Journal of Plant Pathology, 34(2), pp. 320 (Abstract).

Yu, F.Q., Falk, K.C., and Peng, G. (2012). "Genetic Control of Clubroot Disease at AAFC, Saskatoon.", Clubroot Summit 2012, Edmonton, AB, Canada, March 6, 2012. (Presentation)

Hwang, S.F., Cao, T., Xiao, Q., Ahmed, H.U., Manolii, V.P., Turnbull, G.D., Strelkov, S.E., Gossen, B.D., and Peng, G. (2012). "Efficacy of fungicide, seeding date, and seedling age on seedling emergence, clubroot severity, and yield of canola.", Canadian Journal of Plant Pathology, 34, pp. 335-336. (Abstract)

Dokken-Bouchard, F.L., Anderson, K., Bassendowski, K.A., Bouchard, A., Brown, B., Cranston, R., Cowell, L.E., Cruise, D., Gugel, R.K., Hicks, L., Ippolito, J., Jurke, C., Kirkham, C.L., Kruger, G., Miller, S.G., Moats, E., Morrall, R.A.A., Peng, G., Phelps, S.M., Platford, R.G., Schemenauer, I., Senko, S., Stonehouse, K., Strelkov, S.E., Urbaniak, S., and Vakulabharanam, V. (2012). "Survey of canola diseases in Saskatchewan, 2011.", Canadian Plant Disease Survey, 92, pp. 125-129.

Gossen, B.D., Kasinathan, H., Peng, G., and McDonald, M.R. (2012). "Effect of soil type on assessment of biofungicide efficacy against clubroot under controlled conditions.", Canadian Journal of Plant Pathology, 34(3), pp. 464. (Abstract)

Gossen, B.D., Kasinathan, H., McDonald, M.R., and Peng, G. (2012). "Effect of soil type and compaction on severity of clubroot (*Plasmodiophora brassicae*).", Phytopathology, 102(Suppl. No. 4), pp. 46. (Abstract)

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2012). "Crop rotation, cultivar resistance, and biofungicide seed dressing for clubroot control on canola.", 6th International Symposium on Brassica and 18th Crucifer Genetics Workshop, Catania, Sicily, Italy, November 12-16, 2012.

Strelkov, S.E., Hwang, S.F., Howard, R.J., Rahman, H., Kutcher, H.R., Turkington, T.K., Gossen, B.D., Peng, G., McLaren, D.L., LeBoldus, J.M., Feng, J., Cao, T., and Manolii, V.P. (2012). "Clubroot Risk Mitigation Initiative: Pathology Pillar.", Clubroot Summit 2012, Edmonton, AB, Canada, March 6, 2012, Invited presentation.

Liban, S.H., Cross, D.J., Fernando, W.G.D., Kutcher, H.R., and Peng, G. (2012). "Characterization of *Leptosphaeria* race structure in western Canada.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012. (Poster)

Peluola, C., Fernando, W.G.D., Huvenaars, C., Kutcher, H.R., and Peng, G. (2012). "Impact of flooding on survival of blackleg pathogen (*Leptosphaeria* spp.) in canola stubble.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012. (Poster)

Liu, C., Fernando, W.G.D., Gan, Y.T., Kutcher, H.R., and Peng, G. (2012). "Baseline sensitivity of *Leptosphaeria maculans* to strobilurin fungicides.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012. (Poster)



- Yu, F.Q., Chu, M.G., Falk, K.C., and Peng, G. (2012). "Identification and mapping of clubroot resistance genes in Brassica species.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: Can. J. Plant Pathol. (2013), 35(1), pp. 116.
- Peng, G., Fernando, W.G.D., Kutcher, H.R., Cross, D.J., Liban, S.H., Yu, F.Q., Kirkham, C., Dokken-Bouchard, F.L., McLaren, D.L., and Kubinec, A.M. (2012). "Recent occurrence of blackleg on canola and the profile of *Leptosphaeria maculans* races on the Canadian prairies.", 4th Joint Saskatchewan-Alberta Plant Pathology Conference: Mapping and cloning of clubroot resistance genes in Brassica species, Lloydminster, SK, Canada, November 5-7, 2012.
- Peng, G. (2012). "Blackleg of canola in western Canada – current status and control.", Western Forum on Pest Management (WFPM) 2012, Hotel Saskatchewan, Regina, SK, Canada, October 15-17, 2012.
- McDonald, M.R., Peng, G., and Riches, L. (2012). "Efficacy of the endophytic biological control agent *Heteroconium* for the management of clubroot in napa Cabbage, 2011.", Muck Vegetable Cultivar Trial and Research Report, 61, pp. 56-57.
- Gossen, B.D., McDonald, M.R., Adhikari, K.K.C., Kasinathan, H., Sharma, K., Hwang, S.F., Gludovacz, T.V., and Peng, G. (2012). "Impact of soil temperature and pH, and plant growth stage on clubroot of canola. Final Report, ADF Project# 20080153. February 24, 2012. 72 pp. (Report)
- Cross, D.J., Liban, S.H., Peng, G., Fernando, W.G.D., Kutcher, H.R., Yu, F.Q., Kirkham, C., Dokken-Bouchard, F.L., McLaren, D.L., and Kubinec, A.M. (2012). "The race structure of *Leptosphaeria maculans* in commercial canola fields based on 2010 disease surveys in Manitoba and Saskatchewan.", 4th Joint Saskatchewan-Alberta Plant Pathology Conference: Mapping and cloning of clubroot resistance genes in Brassica species, Lloydminster, SK, Canada, November 5-7, 2012. (Poster)
- Peng, G. (2012). "A comparison of clubroot (*Plasmodiophora brassicae* Woronin) development and management on Brassica vegetables and canola.", 4th Joint Saskatchewan-Alberta Plant Pathology Conference: Mapping and cloning of clubroot resistance genes in Brassica species, Lloydminster, SK, Canada, November 5-7, 2012, Invited presentation.
- Jurke, C., Peng, G., and Fernando, W.G.D. (2012). "Blackleg of Canola – Is there an answer?", Canola Industry Meeting 2012, TCU Place, Saskatoon, SK, Canada, December 5, 2012, Invited Speaker.
- Kasinathan, H., Gossen, B.D., Peng, G., and McDonald, M.R. (2012). "Efficacy of Serenade and Prestop against clubroot is affected by soil type.", Canadian Journal of Plant Pathology, 34, pp. 336-337. (Abstract)
- Peng, G. (2012). "Control of clubroot with cultivar resistance crop rotation.", 4th Joint Saskatchewan-Alberta Plant Pathology Conference: Mapping and cloning of clubroot resistance genes in Brassica species, Lloydminster, SK, Canada, November 5-7, 2012.
- Yu, F.Q., Peng, G., Falk, K.C., Chu, M.G., Liu, X., Zhang, X., and Chang, A. (2012). "Mapping and cloning of clubroot resistance genes in Brassica species.", Joint Meeting of CPS Saskatchewan Group and Plant Pathological Society of Alberta, Canada, November, 2012, (Presentation).
- Hwang, S.F., Strelkov, S.E., Gossen, B.D., Peng, G., and Howard, R.J. (2012). "Progress in canola clubroot management in Alberta, Canada.", CRMI Planning Meeting, Edmonton, AB, Canada, December 6, 2012. (Presentation)
- Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2012). "Assessment of crop rotation, resistance and *Bacillus subtilis* for management of clubroot on canola.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: Can. J. Plant Pathol. (2013) 35(1), pp. 112.
- Chu, M.G., Yu, F.Q., Falk, K.C., Liu, X., Zhang, X., Chang, A., and Peng, G. (2012). "Identification and mapping of a novel clubroot-resistance gene Rpb1 in *Brassica rapa*.", Joint Meeting of CPS Saskatchewan Group and Plant Pathological Society of Alberta, Canada, November, 2012. (Poster)
- Cross, D.J., Peng, G., Liban, S.H., Fernando, W.G.D., Kirkham, C., Yu, F.Q., Kutcher, H.R., Dokken-Bouchard, F.L., McLaren, D.L., Lange, R.M., Jurke, C., and Kubinec, A.M. (2012). "The Race Structure of *Leptosphaeria maculans* in Commercial Canola Fields Based on 2010 Disease Surveys on the Prairies.", Joint Meeting of CPS Saskatchewan Group and Plant Pathological Society of Alberta, Canada, November, 2012. (Poster)
- Gossen, B.D., Peng, G., and McDonald, M.R. (2012). "Biology/Pathology, CRMI.", SARM representatives and SK Agriculture and Food agronomy specialists, Moose Jaw, SK, Canada, April 2012. (Presentation)
- Kutcher, H.R. and Peng, G. (2012). "Disease issues with intensive canola rotations.", Saskatoon Coop Agro Seed Launch, Saskatoon, SK, Canada, November 4, 2012.
- Peng, G., Lahlali, R.L., Hwang, S.F., Pageau, D., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Boyetchko, S.M., and Strelkov, S.E. (2012). "Fungicides/biofungicides, cultivar resistance, crop rotation for control of clubroot on canola.", Clubroot Summit 2012, Edmonton, AB, Canada, March 6, 2012, Invited presentation.
- Peng, G., Fernando, W.G.D., Kirkham, C.L., Lange, R., Kutcher, H.R., McLaren, D.L., Johnson, E.N., and Turkington, T.K. (2012). "Mitigating the risk of blackleg disease of canola using fungicide strategies.", Soils and Crops Workshop 2012, University of Saskatchewan, Saskatoon, SK, Canada, March 13-14, 2012, [CD], 7 pages.

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., and McGregor, L. (2012). "Control of clubroot on canola with crop rotation in combination with biofungicide seed dressing and varietal resistance.", Joint Meeting of CPS Saskatchewan Group and Plant Pathological Society of Alberta, Canada, November, 2012, (Presentation).

Peng, G. (2012). "Mapping and cloning of clubroot resistance genes in Brassica species.", 4th Joint Saskatchewan-Alberta Plant Pathology Conference: Mapping and cloning of clubroot resistance genes in Brassica species, Lloydminster, SK, Canada, November 5-7, 2012.

Lahlali, R.L., Peng, G., McGregor, L., Yu, F.Q., Zhang, W., Parkin, I.A.P., McDonald, M.R., and Gossen, B.D. (2012). "Transcriptomic analysis of canola responses to endophytic fungus *Heteroconium chaetospora* B1HB2, a biocontrol agent against clubroot.", Joint Meeting of CPS Saskatchewan Group and Plant Pathological Society of Alberta, Canada, November, 2012. (Poster)

2011

Peng, G., Hynes, R.K., Hwang, S.F., Pageau, D., McDonald, M.R., Gossen, B.D., and Boyetchko, S.M. (2011). "Assessment of microbial biofungicides for control of clubroot on canola.", Clubroot Summit 2011, Saskatoon, SK, Canada, March 9, 2011.

Peng, G., Lahlali, R.L., Hwang, S.F., Hynes, R.K., McDonald, M.R., Pageau, D., Gossen, B.D., Strelkov, S.E., and McGregor, L. (2011). "Control of clubroot on canola using the biofungicide Serenade plus cultivar resistance.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, pp. 1134-1137.

Peng, G., Bailey, K.L., Hynes, R.K., and Boyetchko, S.M. (2011). "Bioherbicide R&D - progresses and challenges.", Chinese National Institute of Rice Research, Hongzhou, China, November 11, 2011. (Presentation)

Hynes, R.K., Bailey, K.L., Boyetchko, S.M., Erlandson, M.A., Peng, G., and Traquair, J.A. (2011). "Formulation development and delivery of biopesticides.", Canadian Society of Microbiologists (CSM) 61st Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Memorial University of Newfoundland, St. John's, NL, Canada, June 20-23, 2011.

Peng, G., Falk, K.C., Yu, F.Q., and Gossen, B.D. (2011). "Identification of new clubroot-resistance sources and development of clubroot resistance canola germplasm.", Clubroot Summit 2011, Saskatoon, SK, Canada, March 9, 2011.

Lahlali, R.L., Peng, G., Gossen, B.D., Hynes, R.K., Boyetchko, S.M., Hwang, S.F., and McDonald, M.R. (2011). "Investigation on modes of action for the biofungicides Serenade and Prostop in clubroot control.", Canadian Journal of Plant Pathology, 33, pp. 573. (Abstract)

Hynes, R.K., Bailey, K.L., Boyetchko, S.M., Erlandson, M.A., and Peng, G. (2011). "Formulation development and delivery of biopesticides.", Soils and Crops Workshop 2011, Prairieland Park, Saskatoon, SK, Canada, March 15-16, 2011. (Workshop)

Hwang, S.F., Ahmed, H.U., Zhou, Q-X., Strelkov, S.E., Gossen, B.D., Peng, G., and Turnbull, G.D. (2011). "Ratio of resistant to sensitive canola plants affects resting spore populations of *Plasmodiophora brassicae*.", 31st Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, October 12-14, 2010, Published in: Canadian Journal of Plant Pathology, 33(2), pp.260 (Abstract).

Hwang, S.F., Ahmed, H.U., Zhou, Q-X., Strelkov, S.E., Gossen, B.D., Peng, G., and Turnbull, G.D. (2011). "Impact of clubroot resistance on root hair infection, disease severity, and growth of canola in soil inoculated with *Plasmodiophora brassicae*.", American Phytopathological Society (APS) 2011 Joint Annual Meeting & International Association for the Plant Protection Sciences (IPPC), Honolulu, HI, USA, August 6-10, 2011, Published in: Phytopathology (2011), 101(6S), pp. S77.

Gossen, B.D., McDonald, M.R., Kalpana, K.C., Hwang, S.F., Strelkov, S.E., and Peng, G. (2011). "Impact of climate change on clubroot of canola on the Canadian prairies.", Canadian Journal of Plant Pathology, 33(2), pp. 277. (Abstract)

Hwang, S.F., Ahmed, H.U., Strelkov, S.E., Gossen, B.D., Peng, G., and Turnbull, G.D. (2011). "Clubroot development in resistant and susceptible canola cultivars affects soil populations of *Plasmodiophora brassicae*.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, pp. 488. (Abstract)

Gossen, B.D., McDonald, M.R., Hwang, S.F., and Peng, G. (2011). "Pathology Pillar.", Clubroot Summit 2011, Saskatoon, SK, Canada, March 9, 2011.

Hwang, S.F., Strelkov, S.E., Gossen, B.D., Peng, G., and Howard, R.J. (2011). "Management of clubroot in canola.", Clubroot Summit 2011, Saskatoon, SK, Canada, March 9, 2011, Invited presentation.

Strelkov, S.E., Hwang, S.F., Howard, R.J., Rahman, H., Kutcher, H.R., Turkington, T.K., Gossen, B.D., Peng, G., McLaren, D.L., LeBoldus, J.M., Feng, J., Cao, T., and Mandli, V.P. (2011). "Clubroot Risk Mitigation Initiative: Pathology Pillar.", Clubroot Summit 2011, Saskatoon, SK, Canada, March 9, 2011, Invited presentation.

Peng, G., Hynes, R.K., Boyetchko, S.M., Gossen, B.D., and Pageau, D. (2011). "Biocontrol of canola.", Clubroot Summit 2011, Saskatoon, SK, Canada, March 9, 2011, Invited presentation.

- Lahlali, R.L., Peng, G., McGregor, L., Gossen, B.D., Hwang, S.F., and McDonald, M.R. (2011). "Investigation on modes of action for the biofungicides Serenade and Prestop in clubroot control.", *Canadian Journal of Plant Pathology*, 33(2), pp. 283-284. (Abstract)
- Strelkov, S.E., Hwang, S.F., Howard, R.J., and Peng, G. (2011). "Clubroot in the Canadian canola (*Brassica napus*) crop: challenges and successes in dealing with an emerging disease.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, pp. 1126-1127.
- Hwang, S.F., Ahmed, H.U., Strelkov, S.E., Gossen, B.D., Peng, G., and Turnbull, G.D. (2011). "Clubroot development in resistant and susceptible canola cultivars affects soil populations of *Plasmodiophora brassicae*.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, pp. 1122-1125.
- Peng, G. (2011). "Control of blackleg on canola in western Canada.", Inner Mongolian Academy of Agricultural Science, China, November 18, 2011. (Presentation)
- Peng, G. (2011). "Management of blackleg and clubroot on canola in western Canada.", Anhui Academy of Agricultural Science Seminar, Anhui Academy of Agricultural Science, Hefei, China, November 15, 2011. (Presentation)
- Peng, G., Falk, K.C., James, B., and Gugel, R.K. (2011). "Evaluation of Brassica germplasm for resistance to clubroot.", 31st Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, October 12-14, 2010. (Poster)
- Peng, G., Falk, K.C., James, B., and Gugel, R.K. (2011). "Evaluation of Brassica germplasm for resistance to clubroot of canola.", *Canadian Journal of Plant Pathology*, 33(2), pp. 261. (Abstract)
- Hwang, S.F., Strelkov, S.E., Peng, G., and Gossen, B.D. (2011). "Novel strategies for the management of clubroot of canola in western Canada.", Cross-Strait Symposium on Biological Control of Crop Pests 2011, Taipei, Taiwan, October 20-21, 2011, pp. 22.
- Hynes, R.K., Bailey, K.L., Boyetchko, S.M., Erlandson, M.A., Peng, G., and Traquair, J.A. (2011). "Formulation and delivery of biopesticides.", Canadian Society of Microbiologists (CSM) 61st Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Memorial University of Newfoundland, St. John's, NL, Canada, June 20-23, 2011.
- Kasinathan, H., Gossen, B.D., Peng, G., and McDonald, M.R. (2011). "Efficacy of Serenade and Prestop against clubroot is affected by soil type.", *Plant Canada 2011*, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011, Published in: *Canadian Journal of Plant Pathology*, 34(2), pp. 336-337 (Abstract).
- Peng, G., Boyetchko, S.M., Hynes, R.K., McGregor, L., Sawchyn, K., and Hupka, D. (2011). "Isolation and evaluation of soil microorganisms for control of clubroot on canola.", *Plant Canada 2011*, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011, Published in: *Can. J. Plant Pathol.* (2012) 34:342.
- Peng, G., Yu, F.Q., Hynes, R.K., Pageau, D., McDonald, M.R., and Gossen, B.D. (2011). "Managing clubroot and blackleg on canola in western Canada - current status of research.", Anhui Academy of Agricultural Science Seminar, Anhui Academy of Agricultural Science, Hefei, China, November 14, 2011. (Presentation)

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## Research Publications:

2015

van den Heever, J.P., Thompson, T.S., Curtis, J.M., and Pernal, S.F. (2015). "Stability of dicyclohexylamine and fumagillin in honey.", *Food Chemistry*, 179, pp. 152-158. doi: 10.1016/j.foodchem.2015.01.111

van den Heever, J.P., Thompson, T.S., Curtis, J.M., and Pernal, S.F. (2015). "Determination of Dicyclohexylamine and Fumagillin in Honey by LC-MS/MS.", *Food and Analytical Methods*, 8(3), pp. 767-777. doi: 10.1007/s12161-014-9956-x

Guama, M.M., Melathopoulos, A.P., Huxter, E., Iovinella, I., Parker, R., Stoyanov, N., Tam, A., Moon, K.-M., Chan, Q.W.T., Pelosi, P., White, R.P., Pernal, S.F., and Foster, L.J. (2015). "A Search for protein biomarkers links olfactory signal transduction to social immunity.", *BMC Genomics*, 16(63). doi: 10.1186/s12864-014-1193-6

2014

van den Heever, J.P., Thompson, T.S., Curtis, J.M., Ibrahim, A.A., and Pernal, S.F. (2014). "Fumagillin: An overview of recent scientific advances and their significance for apiculture.", *Journal of Agricultural and Food Chemistry*, 62(13), pp. 2728-2737. doi: 10.1021/jf4055374

Pernal, S.F. (2014). "National regulations for beekeeping in North America (Canada and the United States of America)", in Ritter, W. (ed.) - *Bee Health and Veterinarians*, OIE World Organization for Animal Health, Paris, pp. 275-280.

2013

Pernal, S.F. (2013). "Standard methods for maintaining adult *Apis mellifera* in cages under in vitro laboratory conditions.", .

Chen, Y., Pettis, J.S., Zhao, Y.T., Liu, X., Tallon, L.J., Sadzewicz, L.D., Li, R., Zheng, H., Huang, S., Zhang, X., Hamilton, M.C., Pernal, S.F., Melathopoulos, A.P., Yan, X., and Evans, J.D. (2013). "Genome sequencing and comparative genomics of honey bee microsporidia, *Nosema apis* reveal novel insights into host-parasite interactions", *BMC Genetics*, 14(451). doi: 10.1186/1471-2164-14-451

Pernal, S.F. and Clay, H. (2013). *Honey bee diseases and pests*, 3rd Edition., Canada: Canadian Association of Professional Apiculturists (CAPA), Aylesford, NS, Canada. (Book)

Williams, G.R., Alaux, C., Costa, C., Csáki, T., Doublet, V., Eisenhardt, D., Fries, I., Kuhn, R., McMahon, D.P., Medrzycki, P., Murray, T.E., Natsopoulou, M.E., Neumann, P., Oliver, R., Paxton, R.J., Pernal, S.F., Shutler, D., Tanner, G., van der Steen, J.J.M., and Brodschneider, R. (2013). "Standard methods for maintaining adult *Apis mellifera* in cages under in vitro laboratory conditions.", *Journal of Apicultural Research*, 52(1), pp. 1-35. doi: 10.3896/ibra.1.52.1.04

2012

Van Haga, A., Keddie, A.B., and Pernal, S.F. (2012). "Evaluation of lysozyme-HCl for the treatment of chalkbrood disease in honey bee colonies.", *Journal of Economic Entomology*, 105(6), pp. 1878-1889. doi: 10.1603/ec12227

Pernal, S.F., Sewalem, A., and Melathopoulos, A.P. (2012). "Breeding for hygienic behaviour in honeybees (*Apis mellifera*) using free-mated nucleus colonies.", *Apidologie*, 43(4), pp. 403-416. doi: 10.1007/s13592-011-0105-x

van der Zee, R., Pisa, L., Andonov, S., Brodschneider, R., Charrière, J.-D., Chlebo, R., Coffey, M.F., Crailsheim, K., Dahle, B., Gajda, A., Gray, A., Drazic, M.M., Higes, M., Kauko, L., Kence, A., Kence, M., Kezic, N., Kiprijanovska, H., Kralj, J., Kristiansen, P., Hernandez, R.M., Mutinelli, F., Nguyen, B.K., Otten, C., Ozkirim, A., Pernal, S.F., Peterson, M., Ramsay, G., Santrac, V., Soroker, V., Topolska, G., Uzunov, A., Vejsnaes, F., Wei, S., and Wilkins, S. (2012). "Managed honey bee colony losses in Canada, China, Europe, Israel and Turkey, for the winters of 2008-9 and 2009-10.", *Journal of Apicultural Research*, 51(1), pp. 100-114. doi: 10.3896/IBRA.1.51.1.12

Parker, R., Guama, M.M., Melathopoulos, A.P., Moon, K.-M., White, R., Huxter, E., Pernal, S.F., and Foster, L.J. (2012). "Correlation of proteome-wide changes with social immunity behaviors provides insight into resistance to the parasitic mite, *Varroa destructor*, in the honey bee (*Apis mellifera*).", *Genome Biology*, 13(9), pp. R81. doi: 10.1186/gb-2012-13-9-r81

Warr, J.E., Horswill, S., Melathopoulos, A.P., and Pernal, S.F. (2012). "A note on introducing four-day old virgin queens into nucleus colonies using artificial queen cells in Alberta, Canada.", *Science of Bee Culture (Supplement to Bee Culture Magazine)*, 4(1), pp. 8-9.

## Other Science Related Publications:

2015

Pernal, S.F. (2015). "The honey bee health survey in Canada: Project start and future plans.", *Bee Informed Partnership - Fourth Annual Conference, Anaheim, CA, USA, January 5-6, 2015.* (Presentation)

Pernal, S.F. and Thompson, T.S. (2015). "Introduction to the bee health project and preliminary report on neonicotinoid residues in Alberta.", *Canadian Honey Council / Canadian Association of Professional Apiculturists National Research Symposium, Moncton, NB, Canada, January 29-30, 2015.* (Presentation)

2014

Pernal, S.F. (2014). "The bee health project: An overview.", *61st Beaverlodge Beekeepers' Field Day, Beaverlodge, AB, Canada, June 20, 2014.* (Presentation)

Kozak, P., Pernal, S.F., Kempers, M., Lafrenière, R., Leboeuf, A., Nasr, M., Wilson, G., Morris, J., Van Westendorp, P., Maund, C., Jordan, C., Tattrie, S., and Ostermann, D. (2014). "CAPA statement on honey bee wintering losses in Canada.", *HiveLights*, 27(4), pp. 7-8.

Thompson, T.S. and Pernal, S.F. (2014). "Neonicotinoid residues in Alberta hives.", *61st Beaverlodge Beekeepers' Field Day, Beaverlodge, AB, Canada, June 20, 2014.* (Presentation)

Pernal, S.F. (2014). "The status of Canada's bees...and research we have been working on.", *Presentation to Swan City Rotary Club, Grande Prairie, AB, Canada, August 27, 2014.* (Presentation)

Pernal, S.F., Ibrahim, A.A., Peirson, M., Masson, A., and Wolf Veiga, P. (2014). "Short course for GPRC beekeeping technician trainees on molecular testing of bee diseases, acaricide resistance testing, VSH determinations, AFB detection and control.", *AAFC Beaverlodge Research Farm, June 25-26, 2014.* (Presentation)

Foster, L.J., Hoover, S.E.R., Guama, M.M., Currie, R.W., and Pernal, S.F. (2014). "Marker Assisted Selection Program Update.", *Bee Scene*, 30(4), pp. 10-11.

Pernal, S.F., Ibrahim, A.A., Hoover, S.E.R., Currie, R.W., Guama, M.M., and Foster, L.J. (2014). "Next generation IPM tools for beekeeping: progress after three generations.", *American Bee Research Conference 2014, San Antonio, TX, USA, January 10-11, 2014, American Bee Journal* 154(4): 457-458.

Pernal, S.F. (2014). "AAFC research on honey bee health.", *Presentation to the Deputy Minister of Agriculture and Agri-Food Canada's, Policy and Programs Management Committee Meeting, Ottawa, ON, Canada, February 4, 2014.* (Presentation)

Hoover, S.E.R., Pernal, S.F., Ibrahim, A.A., Foster, L.J., Guama, M.M., Currie, R.W., Higo, H.A., and Huxter, E. (2014). "Results from the BeelPM Project.", *British Columbia Honey Producers Association Annual General Meeting, Richmond, BC, Canada, September 25-27, 2014.* (Presentation)

Pernal, S.F. (2014). "Health of bee pollinators in Canadian agriculture: First summer's activities and future plans.", *Alberta Beekeepers Commission Annual General Meeting, Edmonton, AB, Canada, November 3-5, 2014.* (Presentation)

Hoover, S.E.R. and Pernal, S.F. (2014). "Update on the BeelPM project.", *61st Beaverlodge Beekeepers' Field Day, Beaverlodge, AB, Canada, June 20, 2014.* (Presentation)

Foster, L.J., Hoover, S.E.R., and Pernal, S.F. (2014). "Modern molecular tools for guiding selective breeding in bees— current progress and future prospects for industrial-scale breeding of queens in Canada.", *Alberta Beekeepers Commission Annual General Meeting, Edmonton, AB, Canada, November 3-5, 2014.* (Presentation)

Foster, L.J., Guama, M.M., and Pernal, S.F. (2014). "From the UBC research lab: The BeelPM project.", *Bee Scene*, 30(2), pp. 20-21.

Pernal, S.F., Guama, M.M., and Foster, L.J. (2014). "BeelPM: Next generation Integrated Pest Management Tools for Beekeeping – Aim 3 Update.", *Presentation to the Scientific Advisory Board of Genome Canada Project, Vancouver, BC, Canada, April 11, 2014.* (Presentation)

Pernal, S.F. (2014). "Honey bee health surveillance in Canada: Project description.", *National Honey Bee Health Round Table Meeting, Ottawa, ON, Canada, October 3, 2014.* (Presentation)

Robinson, S.J., Cartar, R.V., Hoover, S.E.R., and Pernal, S.F. (2014). "Determinants of pollination, insect visitation, and nectar availability in commercial canola (*Brassica napus* L.)", 62nd Annual Meeting of the Entomological Society of Alberta, Lethbridge, AB, Canada, October 16-18, 2014, Presentation.

Pernal, S.F. (2014). "Pollinator Health.", Federal/Provincial/Territorial Committee on Pest Management & Pesticides Annual Meeting, Kelowna, BC, Canada, October 21-23, 2014. (Presentation)

Pernal, S.F., Ibrahim, A.A., Hoover, S.E.R., Currie, R.W., Guama, M.M., and Foster, L.J. (2014). "Progress in proteomic marker-assisted selection for honey bees (*Apis mellifera*).", 62nd Annual Meeting of the Entomological Society of America, Portland, OR, USA, November 16-19, 2014.

Guama, M.M., Iovinella, I., Moon, K.-M., Huxter, E., Michaud, S., Parker, R., Melathopoulos, A.P., Pernal, S.F., and Foster, L.J. (2014). "A model on the role of odorant binding proteins in social immunity.", 62nd Annual Meeting of the Entomological Society of America, Portland, OR, USA, November 16-19, 2014.

Thompson, T.S., van den Heever, J.P., and Pernal, S.F. (2014). "Development and application of an analytical method for the determination of neonicotinoid insecticide residues in trapped pollen by LC-MS/MS.", 51st North American Chemical Residue Workshop, St. Pete Beach, FL, USA, July 20-23, 2014. (Poster)

MacInnis, C., Keddie, A.B., and Pernal, S.F. (2014). "Temporal patterns of spore viability for the honey bee parasite *Nosema ceranae*.", 62nd Annual Meeting of the Entomological Society of Alberta, Lethbridge, AB, Canada, October 16-18, 2014, Presentation.

Pernal, S.F. and Thompson, T.S. (2014). "Survey of chemical residues in Alberta hive products.", Alberta Beekeepers Commission Annual General Meeting, Edmonton, AB, Canada, November 3-5, 2014. (Presentation)

Chen, Y.-Y., Comman, S., Pettis, J.S., Zhao, Y., Liu, T., Tallon, L.J., Sadzewicz, L.D., Li, R., Zheng, H., Huang, S., Zhang, X.D., Hamilton, M.C., Pernal, S.F., Melathopoulos, A.P., Yan, X., and Evans, J.D. (2014). "Genomic characteristics and comparative genomics analysis of microsporidian parasites *Nosema ceranae* and *N. apis* reveal novel insights into host-parasite interactions in honey bees, *Apis mellifera*.", 62nd Annual Meeting of the Entomological Society of America, Portland, OR, USA, November 16-19, 2014. (Poster)

## 2013

Pernal, S.F., Ibrahim, A.A., Hoover, S.E.R., Guama, M.M., and Foster, L.J. (2013). "Proteomic marker-assisted selection for resistance to American foulbrood.", 9th COLOSS Conference, Kiev, Ukraine, September 27-29, 2013.

Hoover, S.E.R., Ibrahim, A.A., Higo, H.A., Huxter, E., Guama, M.M., Foster, L.J., and Pernal, S.F. (2013). "Proteomic marker-assisted selection to breed for resistance of American foulbrood.", 43rd Apimondia International Apicultural Congress, Kiev, Ukraine, September 29-October 4, 2013. (Poster)

Pernal, S.F. (2013). "BeelPM: Next generation Integrated Pest Management Tools for Beekeeping – Review of Aim 3 Progress for Summer 2013", Aim 3 Working Group, Kelowna, BC, Canada, October 26, 2013. (Presentation)

Currie, R.M., Pernal, S.F., Hoover, S.E.R., Desai, S., Huxter, E., Higo, H.A., Guama, M.M., and Foster, L.J. (2013). "If the old approach is not working use plan BEE. New techniques for old problems in the study bee diseases.", Joint Annual Meeting of the Entomological Societies of Ontario and Canada, Guelph, Ontario, Canada, October 20-23, 2013.

Pernal, S.F., van den Heever, J.P., Ibrahim, A.A., and Melathopoulos, A.P. (2013). "The honey bee parasite, *Nosema ceranae*: biology, management and future directions.", Symposium: The Canadian Pollination Initiative: five years of integrative research addressing pollination decline in Canada. Joint Annual Meeting of the Entomological Societies of Ontario and Canada, Guelph, ON, Canada, October 20-23, 2013.

Pernal, S.F. (2013). "Importance of bees and bee health in the production of honey, food and seed in Canada to the Senate.", Presentation representing AAFC, Ottawa, ON, Canada, December 12, 2013, published in Proceedings of the Standing Senate Committee on Agriculture and Forestry Issue 2 - Evidence. (Presentation)

Pernal, S.F. (2013). "Honey bee health.", Presentation to Director General's Policy and Planning Committee of AAFC, Science and Technology Branch, Ottawa, ON, Canada, December 13, 2013. (Presentation)

Pernal, S.F., Pettis, J.S., Melathopoulos, A.P., and Thompson, T.S. (2013). "Research Report: Integrated management of *Nosema* and detection of antibiotic residues.", Canadian Association of Professional Apiculturists 2013, Quebec City, Canada, November 15, 2013, pp. 100-101. (Abstract)

Pernal, S.F., Thompson, T.S., Appleyard, G., and Best, N. (2013). "Research Report: Detection of chemical residues in hive products.", Canadian Association of Professional Apiculturists 2013, Quebec City, Canada, November 15, 2013, pp. 102-103. (Abstract)

Pernal, S.F., Ibrahim, A.A., Hoover, S.E.R., Currie, R.W., Higo, H.A., Huxter, E., Guama, M.M., and Foster, L.J. (2013). "Evaluation of proteomic marker-assisted selection in honey bees.", 43rd Apimondia International Apicultural Congress, Kiev, Ukraine, September 29-October 4, 2013, pp. 190-191.

Pernal, S.F., Guama, M.M., and Foster, L.J. (2013). "BeelPM: Next generation Integrated Pest Management Tools for Beekeeping.", Scientific Advisory Board of Genome Canada Project, Vancouver, BC, Canada, September 23, 2013. (Presentation)

Guama, M.M., Domanski, D., Jackson, A., Moon, K.-M., Yang, J., Hoover, S.E.R., White, R., Pernal, S.F., Borchers, C.H., and Foster, L.J. (2013). "Biomarker discovery and validation using quantitative proteomics.", HUPO 2021 XI World Congress, Boston, MA, USA, September 9-13, 2012.

Ibrahim, A.A., Pernal, S.F., and Melathopoulos, A.P. (2013). "The biology, disinfection and chemotherapy of *Nosema ceranae*.", 71st Annual Canadian Honey Council Meeting, Fort Garry Hotel, Winnipeg, MB, Canada, January 26-28, 2012, Published in: *Hivelights*, 25.

Pernal, S.F. and Foster, L.J. (2013). "Research Report: Next-Generation Integrated Pest Management for Beekeeping.", Canadian Association of Professional Apiculturists 2013, Quebec City, Canada, November 15, 2013, pp. 104-105. (Abstract)

Boucher, C., Eccles, L., Head, K., Jordan, C., Kozak, P., Lafrenière, R., Maund, C., Moran, J., Nasr, M., Ostermann, D., Pernal, S.F., Van Westendorp, P., and Wilson, G. (2013). "CAPA Statement on Honey Bee Wintering Losses in Canada (2013).", *HiveLights*, 26(4), pp. 7-8.

Pernal, S.F. (2013). "Current AAFC honey bee research.", First Anniversary Celebration of the National Bee Diagnostic Centre, Beaverlodge, AB, Canada, September 5, 2013. (Presentation)

Pernal, S.F. (2013). "Sixty years of field days in Beaverlodge.", 60th Beaverlodge Beekeepers' Field Day, Beaverlodge, AB, Canada, June 21, 2013. (Presentation)

Ibrahim, A.A., Hoover, S.E.R., and Pernal, S.F. (2013). "Update on the BeeIPM project: F1 results and summer plans.", 60th Beaverlodge Beekeepers' Field Day, Beaverlodge, AB, Canada, June 21, 2013. (Presentation)

Pernal, S.F., Ibrahim, A.A., Peirson, M., Masson, A., and Wolf-Viega, P. (2013). "Short Course for GPRC beekeeping technician trainees on molecular testing of bee diseases, acaricide resistance testing, VSH determinations, AFB detection and control.", AAFC Beaverlodge Research Farm, June 26-27, 2013. (Presentation)

Pernal, S.F. (2013). "Advances in American foulbrood diagnosis and control.", Lecture to First Course in Honey Bee Molecular Diagnostics, hosted by the National Bee Diagnostic Centre and AAFC, Beaverlodge, AB, Canada, August 29, 2013. (Presentation)

Pernal, S.F., Ibrahim, A.A., Hoover, S.E.R., Currie, R.W., Higo, H.A., Huxter, E., Guama, M.M., and Foster, L.J. (2013). "Proteomic marker-assisted selection in honey bees: Year 2 update from the BeeIPM project.", American Bee Research Conference 2013, Hershey, PA, USA, January 11, 2013, In: *American Bee Journal* 153(3): 308-309.

Foster, L.J., Guama, M.M., and Pernal, S.F. (2013). Genome Canada Interim Review Report of 2010 Large-Scale Applied Research Project: Proteomic marker-assisted selection in honey bees: Interim Report to Genome Canada, 5 April 2013, 47 pp. plus Appendices. (Report)

Guama, M.M., Bundala, M., Moon, K.-M., White, R., Parker, R., Huxter, E., Melathopoulos, A.P., Pernal, S.F., and Foster, L.J. (2013). "Integration of proteomics and phenotypic data to elucidate mechanisms of social immunity.", HUPO 2013 XII Annual World Congress, Yokohama, Japan, September 14-18, 2013.

Foster, L.J., Guama, M.M., and Pernal, S.F. (2013). "Update on the Bee IPM Project.", British Columbia Honey Producers Association Annual General Meeting, Educational Conference and Trade Show, Kelowna, BC, Canada, October 25-27, 2013.

Pernal, S.F., Ibrahim, A.A., Hoover, S.E.R., Currie, R.W., Higo, H.A., Huxter, E., Guama, M.M., and Foster, L.J. (2013). "Developing new tools for selecting disease and mite resistant bees: An update on the Bee IPM project.", 2013 North American Beekeeping Conference, Hershey, PA, USA, January 9-12, 2013.

Pernal, S.F., Hoover, S.E.R., Ibrahim, A.A., and Currie, R.M. (2013). "Update on the Bee IPM Project.", Alberta Beekeepers Commission Annual General Meeting 2013, Edmonton, AB, Canada, November 4-6, 2013.

Pernal, S.F. and others (2013). *Honey Bee Biosecurity Checklist*, Canadian Food Inspection Agency (CFIA). (Manual)

Pernal, S.F., Guama, M.M., and Foster, L.J. (2013). "BeeIPM: Next generation Integrated Pest Management Tools for Beekeeping.", Genome Canada Large Scale Applied Research Project Review Committee, Vancouver, BC, Canada, May 23, 2013. (Presentation)

Guama, M.M., Moon, K.-M., White, R., Smith, D.C., Huxter, E., Higo, H.A., Hoover, S.E.R., Ibrahim, A.A., Currie, R.M., Pernal, S.F., Borchers, C.H., and Foster, L.J. (2013). "MRM-based biomarkers of social immunity in honey bees. Their successful application in a marker-assisted selective breeding program.", 5th Annual Canadian National Proteomics Network Symposium, Vancouver, BC, Canada, April 22-24, 2013.

Pernal, S.F., Guama, M.M., and Foster, L.J. (2013). "BeeIPM: Next generation Integrated Pest Management Tools for Beekeeping.", Scientific Advisory Board of Genome Canada Project, Vancouver, BC, Canada, February 27, 2013. (Presentation)

Hoover, S.E.R., Pernal, S.F., Ibrahim, A.A., and Currie, R.M. (2013). "Parasite and pathogen loads of honey bee colonies in western Canada: impacts on honey production and colony loss.", Alberta Beekeepers Commission Annual General Meeting 2013, Edmonton, AB, Canada, November 4-6, 2013.

Pernal, S.F. and others (2013). National Bee Farm-Level Biosecurity Standard., Canadian Food Inspection Agency (CFIA). (Manual)

Pernal, S.F., Ibrahim, A.A., Hoover, S.E.R., Currie, R.W., Higo, H.A., Huxter, E., Guama, M.M., and Foster, L.J. (2013). "The BeelPM project: advances in disease and mite resistance using marker-assisted selection.", Saskatchewan Beekeepers' Association Annual General Meeting, Waskesiu, SK, Canada, November 27-29, 2013.

Pernal, S.F. (2013). "The BeelPM project: disease and mite resistance using marker-assisted selection.", Swedish Professional Beekeepers' Conference on Bee Health, Swedish Agricultural University, Uppsala, Sweden, December 7-8, 2013.

Pernal, S.F. (2013). "American foulbrood diagnosis and management in Canada.", Swedish Professional Beekeepers' Conference on Bee Health, Swedish Agricultural University, Uppsala, Sweden, December 7-8, 2013.

Pernal, S.F. (2013). "Beekeeping in Canada and Nosema management.", Swedish Professional Beekeepers' Conference on Bee Health, Swedish Agricultural University, Uppsala, Sweden, December 7-8, 2013.

Foster, L.J., Guama, M.M., Bixby, M., Hoover, S.E.R., and Pernal, S.F. (2013). "From the UBC research lab: Marker-assisted selective breeding of hygienic behaviour.", Bee Scene, 29(4), pp. 11.

Pernal, S.F. (2013). "The national bee diagnostic centre: inaugural year activities.", Saskatchewan Beekeepers' Association Annual General Meeting, Waskesiu, SK, Canada, November 27-29, 2013.

Pernal, S.F. and others (2013). Honey Bee Producer Guide to the National Bee Farm-Level Biosecurity Standard., Canadian Food Inspection Agency (CFIA). (Manual)

## 2012

Pernal, S.F., Hoover, S.E.R., Higo, H.A., Huxter, E., Guama, M.M., and Foster, L.J. (2012). "Proteomic marker-assisted selection in honey bees.", Entomological Society of America (ESA) 60th Annual Meeting, Knoxville Convention Centre, Knoxville, TN, USA, November 11-14, 2012, #1287.

Pernal, S.F. (2012). "Management and Control of American Foulbrood Disease.", Bee Masters 2012 Advanced Beekeeping Course, University of British Columbia, Vancouver, BC, Canada, February 20-24, 2012.

Pernal, S.F. (2012). "The APIS project: New tools for bee breeding - relationships between resistance traits.", BCHA Educational Conference, Richmond, BC, Canada, October 20-23, 2011. (Presentation)

Hoover, S.E.R. and Pernal, S.F. (2012). "AAFC Beaverlodge Research Farm Station – Running Afoul of Foulbrood?", Alberta Bee News, 2012 (February).

Guama, M.M., Hoover, S.E.R., Melathopoulos, A.P., Pernal, S.F., and Foster, L.J. (2012). "Using quantitative proteomics to develop IPM tools for managing bee pathogens.", 2012 American Bee Research Conference, APHIS Headquarters, Greenbelt, MD, USA, February 7-8, 2012. (Abstract)

Pernal, S.F., Hoover, S.E.R., Masson, A., Guama, M.M., and Foster, L.J. (2012). "Next-generation Integrated Pest Management Tools for Beekeeping: Project Plans and Colony Surveys.", 2012 American Bee Research Conference, APHIS Headquarters, Greenbelt, MD, USA, February 7-8, 2012. (Abstract)

Hoover, S.E.R., Pernal, S.F., Melathopoulos, A.P., Foster, L.J., Guama, M.M., Huxter, E., and Higo, H.A. (2012). "Next-generation Integrated Pest Management tools for Beekeeping.", 2012 Canadian Beekeeping Conference, Winnipeg, MB, Canada, January 26-28, 2012.

Melathopoulos, A.P., Pernal, S.F., Guama, M.M., and Foster, L.J. (2012). "Next-generation Integrated Pest Management tools for Beekeeping.", 2012 Alberta Beekeepers Commission Annual General Meeting, Edmonton, AB, Canada, November 16-18, 2012. (Presentation)

van den Heever, J.P., Curtis, J., Thompson, T.S., Ibrahim, A.A., and Pernal, S.F. (2012). "Current and novel chemotherapies against Nosema disease.", North American Beekeeping Conference and Tradeshow 2012, Las Vegas, NV, USA, January 10-14, 2012. (Poster)

Pernal, S.F. (2012). "Residues in Honey and Hive Products.", Bee Masters 2012 Advanced Beekeeping Course, University of British Columbia, Vancouver, BC, Canada, February 20-24, 2012.

Hoover, S.E.R., Masson, A., and Pernal, S.F. (2012). "Honey Bee IPM project update. Part I - Results from our 2011 Western Canadian pathogen survey.", Bee Scene Summer, 28(2), pp. 12-13.

Pernal, S.F. (2012). "The biology and control of Nosema.", Bee Masters 2012 Advanced Beekeeping Course, University of British Columbia, Vancouver, BC, Canada, February 20-24, 2012.

Hoover, S.E.R., Ibrahim, A.A., and Pernal, S.F. (2012). "AFB resistance of selected stocks - Results from the first generation of the Bee-IPM breeding program.", Alberta Beekeepers Commission Annual General Meeting, Edmonton, AB, Canada, November 5-7, 2012.

Pernal, S.F. (2012). "BeelPM Project Update I – Results from our 2011 Western Canadian pathogen survey.", .



Hoover, S.E.R. and Pernal, S.F. (2012). "Update on the Bee IPM Project: Pathogen status in western Canada.", 59th Beaverlodge Beekeepers' Field Day, Beaverlodge, AB, Canada, June 22, 2012. (Presentation)

Hoover, S.E.R. and Pernal, S.F. (2012). "Honey Bee IPM Project Update. Part II-Results from our 2011 hygienic behavior survey.", *Bee Scene* Fall, 28(3), pp. 14-15.

Pernal, S.F. (2012). "Beekeeping Research in Canada.", Central New Jersey State Beekeepers Association, Rutgers, New Jersey, USA, October 26, 2012, invited talk

Hoover, S.E.R. and Pernal, S.F. (2012). "Honey bee pathogens in western Canada 2011-2012 - BEE IPM Survey.", Langley Beekeepers Club Symposium, Langley, BC, Canada, September 29, 2012, invited talk

Pernal, S.F. and Foster, L.J. (2012). "Research Report: Next-Generation Integrated Pest Management for Beekeeping.", 2012, Winnipeg, MB, Canada, January 26, 2012, pp. 50. (Abstract)

Higo, H.A., Huxter, E., Currie, R.W., Pernal, S.F., and Hoover, S.E.R. (2012). "Next Generation Integrated Pest Management for Beekeeping.", Langley Beekeepers Club Symposium, Langley, BC, Canada, September 29, 2012, invited talk

Pernal, S.F., Cardinal, S., and Javorek, S.K. (2012). "The Importance, Diversity and Status of Canada's Pollinator Resources: A Synthesis of Current AAFC Research.", Agriculture and Agri-Food Canada (AAFC) Research Branch Speaker Series, National Headquarters Complex for the Agriculture Portfolio (NHCAP), Ottawa, ON, Canada, June 26, 2012. (Presentation)

Pernal, S.F., Ibrahim, A.A., Hoover, S.E.R., Currie, R.M., Higo, H.A., Huxter, E., Guama, M.M., and Foster, L.J. (2012). "Integrated pest management tools for beekeeping: Year 2 update on breeding progress.", Innovation in Apiculture: British Columbia Honey Producers Association Annual General Meeting, Educational Conference and Trade Show, Kamloops, BC, Canada, November 8-10, 2012.

Parker, R., Guama, M.M., Melathopoulos, A.P., Moon, K.-M., White, R., Huxter, E., Pernal, S.F., and Foster, L.J. (2012). "Proteomic analysis provides insight on the mechanism of social immunity in honey bees.", 60th American Society for Mass Spectrometry Conference on Mass Spectrometry and Allied Topics, Vancouver, BC, Canada, May 20-24, 2012.

Hoover, S.E.R., Masson, A., Melathopoulos, A.P., Ibrahim, A.A., Currie, R.W., Higo, H.A., Huxter, E., Guama, M.M., Foster, L.J., and Pernal, S.F. (2012). "Status of honey bee pathogens across Western Canada.", Apimondia Symposium 2012, Quebec City, QC, Canada, November 16-18, 2012, Poster.

Pernal, S.F. (2012). "CAPA Statement on Honey Bee Losses in Canada (2011).", *Hive Lights*, 25(1), pp. 20.

Guama, M.M., Parker, R., Melathopoulos, A.P., Hoover, S.E.R., Moon, K.-M., Huxter, E., White, R., Pernal, S.F., and Foster, L.J. (2012). "Protein profiling reveals molecular mechanisms of social immunity.", Apimondia Symposium 2012, Quebec City, QC, Canada, November 16-18, 2012, pp. 62-63.

Pernal, S.F., Hoover, S.E.R., Melathopoulos, A.P., Higo, H.A., Huxter, E., Guama, M.M., and Foster, L.J. (2012). "Marker-assisted selection in honey bees using proteins.", Apimondia Symposium 2012, Quebec City, QC, Canada, November 16-18, 2012, Invited talk, pp. 60-61.

## 2011

Foster, L.J., Parker, R., Guama, M.M., Melathopoulos, A.P., White, R., Huxter, E., and Pernal, S.F. (2011). "Proteomic profiling to discover markers of hygienic behaviour and Varroa-sensitive hygiene.", 2nd Honey Bee Genomics & Biology Workshop, Cold Spring Harbor Laboratory, New York, USA, May 8-10, 2011, Oral presentation.

van Engelsdorp, D., Brodschneider, R., Brostaux, Y., van der Zee, R., Pisa, L., Underwood, R., Lengerich, E.J., Spleen, A., Neumann, P., Wilkins, S., Budge, G.E., Pietravalle, S., Allier, F., Vallon, J., Human, H., Muz, M., Le Conte, Y., Caron, D., Baylis, K., Haubridge, E., Pernal, S.F., Melathopoulos, A.P., Saegerman, C., Pettis, J.S., and Nguyen, B.K. (2011). "Calculating and reporting managed honey bee colony losses.", in Sammartaro, D. and Yoder, J.A. (eds.) - *Honey Bee Colony Health: Challenges and Sustainable Solutions*, CRC Press Taylor & Francis, Boca Raton, FL, USA, pp. 229-236.

Ibrahim, A.A., Melathopoulos, A.P., and Pernal, S.F. (2011). "Evaluating methods of disinfecting *Nosema ceranae*-contaminated comb.", 44th Annual Meeting of the Society for Invertebrate Pathology, Halifax, NS, Canada, August 7-11, 2011.

Melathopoulos, A.P. and Pernal, S.F. (2011). "Research Activities at Beaverlodge Research Farm.", Lethbridge Hybrid Canola Pollination Tour, Lethbridge, AB, Canada, July 12, 2011.

Pernal, S.F., Ibrahim, A.A., and Melathopoulos, A.P. (2011). "Disinfection and chemotherapy for *Nosema ceranae*.", 2011 Alberta Beekeepers Commission Annual General Meeting, Edmonton, AB, Canada, November 7-9, 2011.

Pernal, S.F. (2011). "What's new in research in Beaverlodge?", *Bee a Survivor: British Columbia Honey Producers Association Educational Conference and Annual General Meeting*, Richmond, BC, Canada, October 20-23, 2011, pp. 60-62.

Pernal, S.F., Ibrahim, A.A., and Melathopoulos, A.P. (2011). "Disinfection and chemotherapy for *Nosema ceranae*.", OIE Symposium on Diagnosis and Control of Honey Bee Diseases, Buenos Aires, Argentina, September 19-20, 2011.

- Ibrahim, A.A. and Pernal, S.F. (2011). "Beaverlodge Nosema Research.", 58th Annual Beaverlodge Beekeepers' Field Day, Beaverlodge, AB, Canada, June 24, 2011.
- van den Heever, J.P. and Pernal, S.F. (2011). "Fumagillin: Alternatives Compounds for Nosema control.", 58th Annual Beaverlodge Beekeepers' Field Day, Beaverlodge, AB, Canada, June 24, 2011.
- Pernal, S.F. (2011). "Next-generation Integrated Pest Management tools for beekeeping (BeeIPM).", Measuring Varroa-Resistant Traits Workshop, Duncan, BC, Canada, July 2011. (Presentation)
- Pernal, S.F. (2011). "Next generation IPM tools for beekeeping: An update of current and future project plans.", Alberta Beekeepers Commission Annual General Meeting, Edmonton, AB, Canada, November 7-9, 2011. (Presentation)
- Melathopoulos, A.P. and Pernal, S.F. (2011). "Update on AAFC-UBC BeeIPM Project.", 58th Annual Beaverlodge Beekeepers' Field Day, Beaverlodge, AB, June 24, 2011. (Presentation)
- Pernal, S.F., Melathopoulos, A.P., Guama, M.M., and Foster, L.J. (2011). "Potential for Selection Using Protein Biomarkers for Disease and Varroa Resistance.", XLII Apimondia International Apicultural Congress, Buenos Aires, Argentina, September 21-27, 2011. (Presentation)
- Guama, M.M., Melathopoulos, A.P., Pernal, S.F., and Foster, L.J. (2011). "An IPM approach to improve bee health using tools discovered by quantitative proteomics.", XLII Apimondia International Apicultural Congress, Buenos Aires, Argentina, September 21-27, 2011. (Presentation)
- Melathopoulos, A.P., Pernal, S.F., Guama, M.M., and Foster, L.J. (2011). "Variability and correlations among traits associated with varroa mite resistance in a Canadian breeding population.", Joint Annual Meeting of the Entomological Society of Canada and Acadian Entomological Society, Halifax, NS, Canada, November 6-9, 2011. (Presentation)
- Guama, M.M. and Pernal, S.F. (2011). "Next Generation IPM tools to Reduce Colony Losses.", XLII Apimondia International Apicultural Congress, Buenos Aires, Argentina, September 21-25, 2011.
- Pernal, S.F. (2011). CAPA Statement on Honey Bees Losses in Canada (2011)., Canadian Association of Professional Apiculturists (CAPA), Aylesford, NS, Canada. (Report)
- Pernal, S.F. (2011). "Evaluating Varroa Sensitive Hygiene in Honey Bee Colonies.", Measuring Varroa Resistant Traits Workshop, Duncan, BC, Canada, July 2011. (Workshop)
- Pernal, S.F., Foster, L.J., and Baylis, K. (2011). "Research Report: Apismellifera Proteomics of Innate Resistance (APIS).", Canadian Association of Professional Apiculturists, Markham, ON, Canada, November 27, 2011. (Abstract)
- Pernal, S.F., Melathopoulos, A.P., Guama, M.M., and Foster, L.J. (2011). "The APIS project: New tools for bee breeding.", Manitoba Beekeepers' Association 105th Annual Convention, Winnipeg, MB, Canada, March 4-5, 2011.
- Pernal, S.F., Melathopoulos, A.P., Guama, M.M., and Foster, L.J. (2011). "Potential for using antennal proteins to select for disease and varroa resistance in honey bees.", American Bee Research Conference 2011, Galveston, TX, USA, January 6-7, 2011, In: American Bee Journal 151: 513.

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## Research Publications:

2015

- Khakbazan, M., Henry, R., Huang, J., Mohr, R.M., Peters, R.D., Fillmore, S.A.E., Rodd, A.V., and Mills, A.A.S. (2015). "Economics of organically managed and conventional potato production systems in Atlantic Canada.", *Canadian Journal of Plant Science*, 95(1), pp. 161-174. doi: 10.4141/CJPS-2014-050
- Alkher, H.A., Islam, M.R., Wijekoon, C.P., Wijekoon, C.P., Kalischuk, M.L., Kawchuk, L.M., Peters, R.D., Al-Mughrabi, K.I., Conn, K.L., Dobinson, K.F., Waterer, D.R., and Daayf, F. (2015). "Characterization of *Phytophthora infestans* populations in Canada during 2012.", *Canadian Journal of Plant Pathology*, 37(3), pp. 305-314. doi: 10.1080/07060661.2015.1053987
- Nyiraneza, J., Peters, R.D., Rodd, A.V., Grimmett, M.G., and Jiang, Y. (2015). "Improving productivity of managed potato crop ping systems in Eastern Canada: Crop rotation and nitrogen source effects.", *Agronomy Journal*, 107(4), pp. 1447-1457. doi: 10.2134/agnonj14.0430

2014

- Wijekoon, C.P., Wijekoon, C.P., Peters, R.D., Al-Mughrabi, K.I., and Kawchuk, L.M. (2014). "First Report of Late Blight Caused by *Phytophthora infestans* Clonal Lineage US-23 on Tomato and Potato in Atlantic Canada.", *Plant Disease*, 98(3), pp. 426. doi: 10.1094/PDIS-08-13-0807-PDN
- Peters, R.D., Al-Mughrabi, K.I., Kalischuk, M.L., Dobinson, K.F., Conn, K.L., Alkher, H.A., Islam, M.R., Daayf, F., Lynn, J., Bizimungu, B., De Koeper, D.L., Lévesque, C.A., and Kawchuk, L.M. (2014). "Characterization of *Phytophthora infestans* population diversity in Canada reveals increased migration and genotype recombination.", *Canadian Journal of Plant Pathology*, 36(1), pp. 73-82. doi: 10.1080/07060661.2014.892900
- Fofana, B., Main, D., Ghose, K., Grimmett, M.G., Peters, R.D., Martin, R.A., Mester, Z., Yang, L., Locke, S.J., and Sweeney, M. (2014). "Selenomethionine and Total Methionine Ratio is Conserved in Seed Proteins of Selenium-Treated and Non-treated Soybean, Flax, and Potato.", *Crop Science*, 54(5), pp. 2251-2261. doi: 10.2135/cropsci2013.10.0711

2013

- Lim, S., Borza, T., Peters, R.D., Coffin, R.H., Al-Mughrabi, K.I., Pinto, D.M., and Wang-Pruski, G. (2013). "Proteomics analysis suggests broad functional changes in potato leaves triggered by phosphites and a complex indirect mode of action against *Phytophthora infestans*.", *Journal of Proteomics*. doi: 10.1016/j.jprot.2013.03.010
- Al-Mughrabi, K.I., Vikram, A., Peters, R.D., Howard, R.J., Grant, L., Barasubiye, T., Lynch, K., Poirier, R., Drake, K.A., MacDonald, I.K., Lisowski, S.L.I., and Jayasuriya, K.E. (2013). "Efficacy of *Pseudomonas syringae* in the management of potato tuber diseases in storage.", *Biological Control*, 64(3), pp. 315-322. doi: 10.1016/j.biocontrol.2012.11.011
- Sanderson, K.R., Peters, R.D., Monaghan, P., and Fillmore, S.A.E. (2013). "Carrot cultivar response to foliage side trimming for suppression of *Sclerotinia rot*.", *Canadian Journal of Plant Pathology*, 35(3), pp. 279-287. doi: 10.1080/07060661.2013.816370
- Mclsaac, G., Sanderson, K.R., Peters, R.D., Garbary, D., and Fillmore, S.A.E. (2013). "Impact of commercial foliage trimming on disease suppression and yield of processing carrots in Nova Scotia, Canada.", *Canadian Journal of Plant Science*, 93(6), pp. 1155-1163. doi: 10.4141/cjps2013-249

2012

- Lim, S., Chisholm, K., Coffin, R.H., Peters, R.D., Al-Mughrabi, K.I., Wang-Pruski, G., and Pinto, D.M. (2012). "Protein Profiling in Potato (*Solanum tuberosum* L.) Leaf Tissues by Differential Centrifugation.", *Journal of Proteome Research (JPR)*, 11(4), pp. 2594-2601. doi: 10.1021/pr201004k
- Kalischuk, M.L., Al-Mughrabi, K.I., Peters, R.D., Howard, R.J., Platt, H.W., and Kawchuk, L.M. (2012). "Genetic composition of *Phytophthora infestans* in Canada reveals migration and increased diversity.", *Plant Disease*, 96(12), pp. 1729-1735. doi: 10.1094/PDIS-10-11-0859-RE

2011

Nelson, K.L., Boiteau, G., Lynch, D.H., Peters, R.D., and Fillmore, S.A.E. (2011). "Influence of agricultural soils on the growth and reproduction of the bio-indicator *Folsomia candida*.", *Pedobiologia*, 54(2), pp. 79-86. doi: 10.1016/j.pedobi.2010.09.003

Kawchuk, L.M., Howard, R.J., Peters, R.D., and Al-Mughrabi, K.I. (2011). "First Report of *Phytophthora infestans* Genotype US23 Causing Late Blight in Canada.", *Plant Disease*, 95(7), pp. 873. doi: 10.1094/PDIS-01-11-0054

## Other Science Related Publications :

2015

Crane, B., Peters, R.D., Kawchuk, L.M., Al-Mughrabi, K.I., Macdonald, K., MacPhail, A., Drake, K.A., Gregory, D., and Clark, M.M. (2015). "Fungicide resistance in populations of *Phytophthora erythroseptica* in Canada and alternative management strategies for potato pinkrot.", Alberta Potato Conference and Trade Show. Potato Growers of Alberta, The Sheraton, Red Deer, Alberta, Canada, November 17- 19, 2015, Presentation.

Carisse, O., Kawchuk, L.M., Peters, R.D., Bilodeau, G.J., Lévesque, C.A., Vincent, C., and Laforest, M. (2015). "Biovigilance: a framework for effective pest management.", National Science Day on Biovigilance and Precision Agriculture, Agriculture and Agri-Food Canada, Saint-Jean-sur-Richelieu, QC, Canada, July 9, 2015. (Presentation)

Kalischuk, M.L., Peters, R.D., Al-Mughrabi, K.I., Daayf, F., Harding, M.W., Howard, R.J., Sabaratnam, S., and Kawchuk, L.M. (2015). "Chronic late blight produced by *Phytophthora infestans* US-23 limits conventional disease management strategies.", Botany 2015 Joint Conference: Science and plants for people, Shaw Convention Center, Edmonton, Alberta, Canada, July 25 -30, 2015, # 1251. (Abstract)

2014

Harding, M.W., Howard, R.J., Daniels, G.C., Unruh, M.J., Lisowski, S.L.I., Pugh, C., Burke, D.A., Korschuh, M.N., Kawchuk, L.M., and Peters, R.D. (2014). "Beneficial practices for managing *Fusarium* diseases on potato.", Potato Growers of Alberta (PGA) Annual Meeting, Sheraton, Red Deer, AB, Canada, November 18-20, 2014.

Crane, B., Peters, R.D., Kawchuk, L.M., Al-Mughrabi, K.I., Macdonald, K., MacPhail, A., Drake, K.A., and Gregory, D. (2014). "Resistance to metalaxyl-m in populations of the potato pinkrot pathogen (*Phytophthora erythroseptica*) in Canada.", Northeast Potato Technology Forum 2014, Fredericton, NB, Canada, March 12-13, 2014, Proceedings published by McCain Foods Ltd., pp. 7-8.

Crane, B., Peters, R.D., Kawchuk, L.M., MacPhail, A., Drake, K.A., Gregory, D., and Macdonald, K. (2014). "Resistance to metalaxyl-m in populations of *Phytophthora erythroseptica* causing pinkrot of potato in Canada.", Canadian Journal of Plant Pathology. (Abstract)

Kawchuk, L.M., Kalischuk, M.L., Peters, R.D., Al-Mughrabi, K.I., Daayf, F., Harding, M.W., and Howard, R.J. (2014). "Prevalence and prevention of *Phytophthora infestans* US-23.", 98th Annual Meeting of the Potato Association of America (PAA), The Davenport Hotel, Spokane, WA, USA, July 27-31, 2014. (Abstract)

Crane, B., Peters, R.D., Kawchuk, L.M., Al-Mughrabi, K.I., Macdonald, K., MacPhail, A., Drake, K.A., and Gregory, D. (2014). "Resistance to metalaxyl-m in populations of the potato pinkrot pathogen (*Phytophthora erythroseptica*) in Canada.", 98th Annual Meeting of the Potato Association of America (PAA), The Davenport Hotel, Spokane, WA, USA, July 27-31, 2014. (Abstract)

Crane, B., Peters, R.D., Kawchuk, L.M., Harding, M.W., Al-Mughrabi, K.I., Macdonald, K., MacPhail, A., Drake, K.A., and Gregory, D. (2014). "Resistance to metalaxyl-m in populations of the potato pinkrot pathogen (*Phytophthora erythroseptica*) in Canada.", Potato Growers of Alberta (PGA) Annual Meeting, Sheraton, Red Deer, AB, Canada, November 18-20, 2014.

Nyiraneza, J., Peters, R.D., Grimmett, M.G., Jiang, Y., and Rodd, A.V. (2014). "Canola response to N fertilizer sources and rotation systems in Prince Edward Island.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014, Abstract/poster.

Peters, R.D., Kawchuk, L.M., Daayf, F., and Al-Mughrabi, K.I. (2014). "The changing dynamic of tomato and potato late blight in Canada.", 29th Annual Tomato Disease Workshop, Windsor, ON, Canada, November 4-6, 2014.

Islam, M.R., Alkher, H.A., Bezzahou, M., Godee, C., Adam, L.R., Kawchuk, L.M., Dobinson, K.F., Conn, K.L., Peters, R.D., Al-Mughrabi, K.I., Shinnars-Camelley, T., and Daayf, F. (2014). "Diversity in population structure of the late blight pathogen, *Phytophthora infestans*, in Manitoba.", Canadian Journal of Plant Pathology, 36, pp. 267. (Abstract)

Kalischuk, M.L., Kawchuk, L.M., Peters, R.D., Al-Mughrabi, K.I., Daayf, F., and Harding, M.W. (2014). "Evolution and prevention of late blight caused by *Phytophthora infestans* genotype US-23.", APS-CPS Joint Meeting, Hilton Minneapolis, Minneapolis, MN, USA, August 9-13, 2014. (Abstract)

## 2013

Islam, M.R., Alkher, H.A., Bezzahou, M., Godee, C., Adam, L.R., Kawchuk, L.M., Dobinson, K.F., Conn, K.L., Peters, R.D., Al-Mughrabi, K.I., Shinnars-Camelley, T., and Daayf, F. (2013). "Diversity in population structure of late blight pathogen, *P.infestans* in Manitoba.", 84rd Annual Meeting of the Canadian Phytopathological Society (CPS), Matrix Hotel, Edmonton, AB, Canada, June 16-19, 2013.

Nyiraneza, J., Peters, R.D., Rodd, A.V., Grimmett, M.G., Zebarth, B.J., Ziadi, N., Bélanger, G., and Jégo, G. (2013). "Impact of Crop Rotations, and Mineral and Organic N fertilizer on Soil Nitrogen Availability and Potato Yield.", Northeast Potato Technology Forum 2013, Delta Prince Edward, Charlottetown, PEI, Canada, March 5-6, 2013.

Rodd, A.V., Nyiraneza, J., Henry, R., Peters, R.D., Grimmett, M.G., and Mills, A.A.S. (2013). "Compost from the sea for agricultural production. Compost council of Canada regional meeting.", Compost matters in Atlantic Canada, Westmorland-Albert Solid Waste Corporation, Moncton, NB, Canada, March 13-14, 2013.

Kawchuk, L.M., Peters, R.D., Al-Mughrabi, K.I., Dobinson, K.F., Conn, K.L., and Daayf, F. (2013). "Population diversity and segregation analysis of genotype specific loci of the Irish Potato Famine pathogen.", 84rd Annual Meeting of the Canadian Phytopathological Society (CPS), Matrix Hotel, Edmonton, AB, Canada, June 16-19, 2013.

Nyiraneza, J., Peters, R.D., Rodd, A.V., Grimmett, M.G., Zebarth, B.J., Ziadi, N., Bélanger, G., and Jégo, G. (2013). "Soil N supply and potato yield as affected by Crop Rotations and N sources.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013, #038.

Peters, R.D., MacPhail, A., Clark, M.M., Drake, K.A., Gregory, D., Macdonald, M.M., Beaton, B.W., Al-Mughrabi, K.I., and Kawchuk, L.M. (2013). "Variation in aggressiveness of genotypes of *Phytophthora infestans* found in eastern Canada.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013.

## 2012

Alkher, H.A., Kawchuk, L.M., Adam, L.R., Islam, M.R., Dobinson, K.F., Conn, K.L., Peters, R.D., Al-Mughrabi, K.I., and Daayf, F. (2012). "Pathogenic diversity of Manitoba isolates of *Phytophthora infestans* on potato and tomato.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012.

Kawchuk, L.M., Peters, R.D., Al-Mughrabi, K.I., Conn, K.L., Dobinson, K.F., and Daayf, F. (2012). "Migration and recombination increase the genetic diversity of *Phytophthora infestans* in Canada.", 96th Annual Meeting of the Potato Association of America (PAA), Crowne Plaza Denver International Airport, Denver, CO, USA, August 12-16, 2012.

Tesfaendrias, M.T., McDonald, M.R., Macdonald, M.M., Peters, R.D., Barasubiye, T., and Seifert, K.A. (2012). "Fusarium root rot and crown rot of carrots in Ontario and Prince Edward Island.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: Canadian Journal of Plant Pathology / Revue canadienne de phytopathologie, 35(1), pp. 127.

Dobinson, K.F., Conn, K.L., Kawchuk, L.M., Peters, R.D., Al-Mughrabi, K.I., and Daayf, F. (2012). "Characterization of *Phytophthora infestans* (Mont.) de Bary from tomato in southwestern Ontario.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012.

Peters, R.D., Drake, K.A., MacPhail, A., Howard, R.J., Harding, M.W., Korschuh, M.N., and Kawchuk, L.M. (2012). "Post-harvest management of *Fusarium sambucinum* causing dry rot of potatoes in storage.", 96th Annual Meeting of the Potato Association of America (PAA), Crowne Plaza Denver International Airport, Denver, CO, USA, August 12-16, 2012.

Peters, R.D., Barasubiye, T., Howard, R.J., Harding, M.W., Korschuh, M.N., Kawchuk, L.M., Beaton, B.W., Drake, K.A., MacPhail, A., Banks, C., Clark, M.M., and MacDonald, M.A. (2012). "Prevalence and management of fungicide resistance in *Fusarium* spp. infecting potatoes in Canada.", International Conference on Antimicrobial Research (ICAR 2012), University of Lisbon, Lisbon, Portugal, November 21-23, 2012.

Kawchuk, L.M., Peters, R.D., Al-Mughrabi, K.I., Conn, G., Dobinson, K.F., and Daayf, F. (2012). "Distribution of genotypes of *Phytophthora infestans* isolated from potato and tomato in Canada in 2011.", American Phytopathological Society (APS) 2012 Annual Meeting, Westin Providence, Providence, RI, USA, August 4-8, 2012.

## 2011

Kawchuk, L.M., Kalischuk, L.D., Al-Mughrabi, K.I., Peters, R.D., Howard, H., and Platt, H.W. (2011). "Genetic Composition of *Phytophthora infestans* in Canada Reveals Increased Diversity.", 32nd Annual Meeting of the Plant Pathology Society of Alberta (PPSA), University of Alberta, Edmonton, AB, Canada, November 7-9, 2011.

Fofana, B., Main, D., Ghose, K., Grimmett, M.G., Kirby, C.W., McCallum, J.L., Peters, R.D., Drake, K.A., Locke, S.J., and Sweetney, M.E. (2011). "Improving the antioxidant capacity of field crops by increasing selenoprotein content.", 2011 Annual Meeting of the Canadian Phytopathological Society (with Plant Canada 2011), Halifax, NS, Canada, July 17-21, 2011, pp. 61, #1145. (Presentation)

Peters, R.D., Barasubiye, T., Lugosch, K., Thompson, O., Al-Mughrabi, K.I., Drake, K.A., MacDonald, I.K., and Henry, R. (2011). "The Distribution of Fungicide-Resistant Strains of *Fusarium* spp. Infecting Stored Potatoes in Canada.", 19th Annual Northeast Potato Technology Forum, Crowne Plaza Fredericton Lord Beaverbrook Hotel, Fredericton, NB, Canada, March 16-17, 2011.

Peters, R.D., Kawchuk, L.M., Al-Mughrabi, K.I., Platt, H.W., Beaton, B.W., Banks, C., MacDonald, I.K., and Gregory, D. (2011). "Genotypes of *Phytophthora infestans* causing late blight in Canada in 2010.", 19th Annual Northeast Potato Technology Forum, Crowne Plaza Fredericton Lord Beaverbrook Hotel, Fredericton, NB, Canada, March 16-17, 2011.

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## Research Publications:

2015

de Marchi, F.E., Palin, M.-F., Santos, G.T.D., Lima, L.S., Benchaar, C., and Petit, H.V. (2015). "Flax meal supplementation on the activity of antioxidant enzymes and the expression of oxidative stress- and lipogenic-related genes in dairy cows infused with sunflower oil in the abomasum.", *Animal Feed Science and Technology*, 199, pp. 41-50. doi : 10.1016/j.anifeedsci.2014.10.018

Benchaar, C., Hassanat, F., and Petit, H.V. (2015). "Dose-response to eugenol supplementation to dairy cow diets: Methane production, N excretion, ruminal fermentation, nutrient digestibility, milk production, and milk fatty acid profile.", *Animal Feed Science and Technology*, 209, pp. 51-59. doi: 10.1016/j.anifeedsci.2015.07.027

do Prado, R.M., Côrtes, C., Benchaar, C., and Petit, H.V. (2015). "Interaction of sunflower oil with monensin on milk composition, milk fatty acid profile, digestion, and ruminal fermentation in dairy cows.", *Animal Feed Science and Technology*, 207, pp. 85-92. doi : 10.1016/j.anifeedsci.2015.06.017

Petit, H.V. (2015). "Milk production and composition, milk fatty acid profile, and blood composition of dairy cows fed different proportions of whole flaxseed in the first half of lactation.", *Animal Feed Science and Technology*, 205, pp. 23-30. doi : 10.1016/j.anifeedsci.2015.04.009

de Lima, L.S., Santos, G.T.D., Schogor, A.L.B., de Marchi, F.E., de Souza, M.R., Santos, N.W., Santos, F.S., and Petit, H.V. (2015). "Effect of abomasal or ruminal administration of citrus pulp and soybean oil on milk fatty acid profile and antioxidant properties.", *Journal of Dairy Research*, 82(3), pp. 265-271. doi : 10.1017/S0022029915000187

Lima, L.S., Palin, M.-F., Santos, G.T., Benchaar, C., and Petit, H.V. (2015). "Effects of supplementation of flax meal and flax oil on mammary gene expression and activity of antioxidant enzymes in mammary tissue, plasma and erythrocytes of dairy cows.", *Livestock Science*, 176, pp. 196-204. doi: 10.1016/j.livsci.2015.03.015

Côrtes, C., Kazama, R., da Silva-Kazama, D.C., Santos, G.T.D., Zeoula, L.M., and Petit, H.V. (2015). "Composition of flaxseed recovered from the faeces of dairy cows fed different proportions of whole flaxseed in the diet.", *Animal Feed Science and Technology*, 204, pp. 9-17. doi : 10.1016/j.anifeedsci.2015.03.009

Ítavo, L.C.V., Soares, C.M., Ítavo, C.C.B.F., Dias, A.M., Petit, H.V., Leal, E.S., and de Souza, A.D.V. (2015). "Calorimetry, chemical composition and in vitro digestibility of oilseeds.", *Food Chemistry*, 185, pp. 219-225. doi : 10.1016/j.foodchem.2015.03.007

Karimian, M., Khorvash, M., Forouzmand, M.A., Alikhani, M., Rahmani, H.R., Ghaffari, M.H., and Petit, H.V. (2015). "Effect of prepartal and postpartal dietary fat level on performance and plasma concentration of metabolites in transition dairy cows.", *Journal of Dairy Science (JDS)*, 98(1), pp. 330-337. doi : 10.3168/jds.2013-7577

Hallé, C., Goff, A.K., Petit, H.V., Blouin, R., and Palin, M.-F. (2015). "Effects of different n-6:n-3 fatty acid ratios and of enterolactone on gene expression and PG secretion in bovine endometrial cells.", *British Journal of Nutrition*, 113(1), pp. 56-71. doi : 10.1017/S0007114514003304

2014

Lima, L.S., Santos, G.T., Schogor, A.L.B., Damasceno, J.C., Marchi, F.E., Santos, N.W., Santos, F.S., and Petit, H.V. (2014). "Effect of abomasal or ruminal supplementation of citrus pulp and soybean oil on nutrient digestibility and ruminal fermentation of dairy cows.", *Animal Feed Science and Technology*, 189, pp. 123-129. doi : 10.1016/j.anifeedsci.2013.12.008

Santos, N.W., Santos, G.T.D., Silva-Kazama, D.C., Grande, P.A., Pintro, P.T.M., de Marchi, F.E., Jobim, C.C., and Petit, H.V. (2014). "Production, composition and antioxidants in milk of dairy cows fed diets containing soybean oil and grape residue silage", *Livestock Science*, 159(1), pp. 37-45. doi : 10.1016/j.livsci.2013.11.015

Benchaar, C., Hassanat, F., Gervais, R., Chouinard, P.Y., Petit, H.V., and Massé, D.I. (2014). "Methane production, digestion, ruminal fermentation, N balance, and milk production of cows fed corn silage or barley silage based diets.", *Journal of Dairy Science (JDS)*, 97(2), pp. 961-974. doi : 10.3168/jds.2013-7122

Palin, M.-F., Côrtes, C., Benchaar, C., Lacasse, P., and Petit, H.V. (2014). "mRNA Expression of lipogenic enzymes in mammary tissue and fatty acid profile in milk of dairy cows fed flax hulls and infused with flax oil in the abomasum.", *British Journal of Nutrition*, 111(6), pp. 1011-1020. doi : 10.1017/S0007114513003589

- Badiei, A., Aliverdilou, A., Amanlou, H., Beheshti, M., Dirandeh, E., Masoumi, R., Mosakhani, F., and Petit, H.V. (2014). "Postpartum responses of dairy cows fed different durations of omega 3 fatty acid supplementation during the periparturient period.", *Journal of Dairy Science (JDS)*, 97(10), pp. 6391-6399. doi: 10.3168/jds.2013-7743
- Sedighi-Vesagh, R., Naserian, A.A., Ghaffari, M.H., and Petit, H.V. (2014). "Effects of pistachio by-products on digestibility, milk production, milk fatty acid profile and blood metabolites in Saanen dairy goats.", *Journal of Animal Physiology and Animal Nutrition*, 99(4), pp. 777-787. doi: 10.1111/jpn.12233
- Benchaar, C., McAllister, T.A., Petit, H.V., and Chouinard, P.Y. (2014). "Whole flax seed and flax oil supplementation of dairy cows fed high-forage or high-concentrate diets: Effects on digestion, ruminal fermentation characteristics, protozoal populations and milk fatty acid profile.", *Animal Feed Science and Technology*, 198, pp. 117-129. doi: 10.1016/j.anifeedsci.2014.10.003
- Schogor, A.L.B., Huws, S.A., Santos, G.T.D., Scollan, N.D., Hauck, B.D., Winters, A.L., Kim, E.-J., and Petit, H.V. (2014). "Ruminal *Prevotella* spp. May Play an Important Role in the Conversion of Plant Lignans into Human Health Beneficial Antioxidants.", *PLoS ONE*, 9(4): e87949. doi: 10.1371/journal.pone.0087949
- Lima, L.S., Palin, M.-F., Santos, G.T.D., Benchaar, C., Lima, L.C.R., Chouinard, P.Y., and Petit, H.V. (2014). "Effect of flax meal on the production performance and oxidative status of dairy cows infused with flax oil in the abomasum.", *Livestock Science*, 170, pp. 53-62. doi: 10.1016/j.livsci.2014.09.023
- Hassanat, F., Gervais, R., Massé, D.I., Petit, H.V., and Benchaar, C. (2014). "Methane production, nutrient digestion, ruminal fermentation, N balance, and milk production of cows fed timothy silage- or alfalfa silage-based diets.", *Journal of Dairy Science (JDS)*, 97(10), pp. 6463-6474. doi: 10.3168/jds.2014-8069
- Brito, A.F., Petit, H.V., Soder, K.J., and Ross, S. (2014). "Interactions of corn meal or molasses with a soybean-sunflower meal mix or flaxseed meal on production, milk fatty acid composition, and nutrient utilization in dairy cows fed grass hay-based diets.", *Journal of Dairy Science (JDS)*, 98(1), pp. 443-457. doi: 10.3168/jds.2014-8353

## 2013

- Côrtes, C., da Silva-Kazama, D.C., Kazama, R., Benchaar, C., dos Santos, G.T.D., Zeoula, L.M., Gagnon, N., and Petit, H.V. (2013). "Effects of abomasal infusion of flaxseed (*Linum usitatissimum*) oil on microbial  $\beta$ -glucuronidase activity and concentration of the mammalian lignan enterolactone in ruminal fluid, plasma, urine and milk of dairy cows.", *British Journal of Nutrition*, 109(3), pp. 433-440. doi: 10.1017/S0007114512001341
- Ivan, M., Petit, H.V., Chiquette, J., and Wright, A.-D.G. (2013). "Rumen fermentation and microbial population in lactating dairy cows receiving diets containing oilseeds rich in C-18 fatty acids.", *British Journal of Nutrition*, 109(7), pp. 1211-1218. doi: 10.1017/S0007114512003030
- Dirandeh, A., Towhidi, A., Ansari Pirsaraei, Z., Adib Hashemi, F., Ganjkanlou, M., Zeinoaldini, S., Rezaei Roodbari, A., Saberifar, T., and Petit, H.V. (2013). "Plasma concentrations of PGFM and uterine and ovarian responses in early lactation dairy cows fed omega-3 and omega-6 fatty acids", *Theriogenology*, 80(2), pp. 131-137. doi: 10.1016/j.theriogenology.2013.03.012
- Côrtes, C. and Petit, H.V. (2013). "Polyunsaturated fatty acids and antioxidants: milk and health of dairy cows.", *Revista Brasileira de Zootecnia*, 39(Spec. Suppl.), pp. 478-490. doi: 10.1590/S1516-35982010001300052
- Schogor, A.L.B., Palin, M.-F., dos Santos, G.T.D., Benchaar, C., Lacasse, P., and Petit, H.V. (2013). "Mammary gene expression and activity of antioxidant enzymes and oxidative indicators in the blood, milk, mammary tissue and ruminal fluid of dairy cows fed flax meal.", *British Journal of Nutrition*, 110(10), pp. 1743-1750. doi: 10.1017/S0007114513001220
- Benchaar, C., Hassanat, F., Gervais, R., Chouinard, P.Y., Julien, C., Petit, H.V., and Massé, D.I. (2013). "Effects of increasing amounts of corn dried distillers grains with solubles in dairy cow diets on methane production, ruminal fermentation, digestion, N balance, and milk production.", *Journal of Dairy Science (JDS)*, 96(4), pp. 2413-2427. doi: 10.3168/jds.2012-6037
- Hassanat, F., Gervais, R., Julien, C., Massé, D.I., Chouinard, P.Y., Petit, H.V., and Benchaar, C. (2013). "Replacing alfalfa silage with corn silage in dairy cow diets: Effects on enteric methane production, ruminal fermentation, digestion, N balance, and milk production.", *Journal of Dairy Science (JDS)*, 96(7), pp. 4553-4567. doi: 10.3168/jds.2012-6480

## 2012

- Benchaar, C., Romero-Pérez, G.A., Chouinard, P.Y., Hassanat, F., Eugène, M., Petit, H.V., and Côrtes, C. (2012). "Supplementation of increasing amounts of linseed oil to dairy cows fed total mixed rations: Effects on digestion, ruminal fermentation characteristics, protozoal populations, and milk fatty acid composition.", *Journal of Dairy Science (JDS)*, 95(8), pp. 4578-4590. doi: 10.3168/jds.2012-5455
- dos Santos, W.B.R., dos Santos, G.T.D., Neves, C.A., de Marchi, F.E., da Silva-Kazama, D.C., Ítavo, L.C.V., Damasceno, J.C., and Petit, H.V. (2012). "Rumen fermentation and nutrient flow to the omasum in Holstein cows fed extruded canola seed treated with or without lignosulfonate.", *Revista Brasileira de Zootecnia*, 41(7), pp. 1747-1755. doi: 10.1590/S1516-35982012000700026



Benchaar, C., Hassanat, F., Lettat, A., Yang, W.-Z., Forster, R.J., Petit, H.V., and Chouinard, P.Y. (2012). "Eugenol for dairy cows fed low- or high-concentrate diets: Effects on digestion, ruminal fermentation characteristics, rumen microbial populations and milk fatty acid profile.", *Animal Feed Science and Technology*, 178(3-4), pp. 139-150. doi : 10.1016/j.anifeedsci.2012.10.005

Boroski, M., Giroux, H.J., Sabik, H., Petit, H.V., Visentainer, J.V., Matumoto-Pintro, P., and Britten, M. (2012). "Use of oregano extract and oregano essential oil as antioxidants in functional dairy beverage formulations.", *Food Science and Technology - LWT*, 47(1), pp. 167-174. doi: 10.1016/j.lwt.2011.12.018

Côrtes, C., Palin, M.-F., Gagnon, N., Benchaar, C., Lacasse, P., and Petit, H.V. (2012). "Mammary gene expression and activity of antioxidant enzymes and concentration of the mammalian lignan enterolactone in milk and plasma of dairy cows fed flax lignans and infused with flax oil in the abomasum.", *British Journal of Nutrition*, 108(8), pp. 1390-1398. doi : 10.1017/S0007114511006829

## 2011

Matumoto-Pintro, P., Petit, H.V., Giroux, H.J., Côrtes, C., Gagnon, N., and Britten, M. (2011). "Effect of flaxseed lignans added to milk or fed to cows on oxidative degradation of dairy beverages enriched with polyunsaturated fatty acids.", *Journal of Dairy Research*, 78, pp. 111-117. doi: 10.1017/s0022029910000853

Côrtes, C., Kazama, R., da Silva-Kazama, D.C., Benchaar, C., Zeoula, L.M., dos Santos, G.T.D., and Petit, H.V. (2011). "Digestion, milk production and milk fatty acid profile of dairy cows fed flax hulls and infused with flax oil in the abomasum.", *Journal of Dairy Research*, 78(3), pp. 293-300. doi: 10.1017/S0022029911000446

Côrtes, C., da Silva-Kazama, D.C., Kazama, R., Benchaar, C., Zeoula, L.M., Santos, G.T.D., and Petit, H.V. (2011). "Intake and digestibility of fatty acids in late-lactating dairy cows fed flaxseed hulls supplemented with monensin.", *Journal of Dairy Research*, 78(4), pp. 391-395. doi: 10.1017/S0022029911000604

Côrtes, C., da Silva-Kazama, D.C., Kazama, R., Benchaar, C., dos Santos, G.T.D., Zeoula, L.M., and Petit, H.V. (2011). "Intake and digestion of fatty acids by dairy cows fed whole flaxseed and Ca salts of flaxseed oil.", *Animal Feed Science and Technology*, 169(3), pp. 270-274. doi: 10.1016/j.anifeedsci.2011.06.016

Petit, H.V. and Gagnon, N. (2011). "Production performance and milk composition of dairy cows fed different concentrations of flax hulls.", *Animal Feed Science and Technology*, 169(1-2), pp. 46-52. doi: 10.1016/j.anifeedsci.2011.05.008

da Silva-Kazama, D.C., Côrtes, C., Kazama, R., Benchaar, C., dos Santos, G.T.D., Zeoula, L.M., and Petit, H.V. (2011). "Ruminal fermentation characteristics and fatty acid profile of ruminal fluid and milk of dairy cows fed flaxseed hulls supplemented with monensin.", *Journal of Dairy Research*, 78(1), pp. 56-62. doi: 10.1017/S0022029910000865

dos Santos, W.B.R., dos Santos, G.T.D., da Silva-Kazama, D.C., Cecato, U., de Marchi, F.E., Visentainer, J.V., and Petit, H.V. (2011). "Production performance and milk composition of grazing dairy cows fed pelleted or non-pelleted concentrate treated with or without lignosulfonate and containing ground sunflower seeds.", *Animal Feed Science and Technology*, 169(3-4), pp. 167-175. doi: 10.1016/j.anifeedsci.2011.06.015

## Other Science Related Publications:

### 2015

Petit, H.V. (2015). "Using oils on diets to maximize reproduction of high producing cows.", 5th National Symposium of Dairy Cattle, 3rd International Symposium of Dairy Cattle, Universidade Federal de Viçosa, MG, Brazil, October 30-November 1, 2015, Simleite, V. (Ed), pp. 67-86.

### 2014

Hassanat, F., Gervais, C., Julien, C., Massé, D.I., Lettat, A., Chouinard, P.Y., Petit, H.V., and Benchaar, C. (2014). "Erratum to "Replacing alfalfa silage with corn silage in dairy cow diets: Effects on enteric methane production, ruminal fermentation, digestion, N balance, and milk production" (J. Dairy Sci. 96:4553-4567).", *Journal of Dairy Science (JDS)*, 97, pp. 1169.

Petit, H.V., de Lima, L.S., Palin, M.-F., Santos, G.T.D., and Benchaar, C. (2014). "Effect of Antioxidants from Flax meal on the Oxidative Status of Dairy Cows Infused With Flax Oil in the Abomasum.", Joint International Symposium on the Nutrition of Herbivores/International Symposium on Ruminant Physiology (ISNH/ISRP), Canberra, Australia, September 8-12, 2014, In: Proc. Aust. Soc. Anim. Prod. 30:83.

dos Santos, G.T.D., de Marchi, F.E., de Lima, L.S., Palin, M.-F., Benchaar, C., and Petit, H.V. (2014). "Activity of Antioxidant Enzymes in Dairy Cows Infused with Sunflower Oil in the Abomasum: Effect of Antioxidants from Flax Meal.", Joint International Symposium on the Nutrition of Herbivores/International Symposium on Ruminant Physiology (ISNH/ISRP), Canberra, Australia, September 8-12, 2014, In: Proc. Aust. Soc. Anim. Prod. 30:68.

Petit, H.V. (2014). "La chaîne de production laitière au Canada et au Québec [Cadeia produtiva de leite em Canada e Quebec].", Anais do VI Sul Leite. Simpósio sobre sustentabilidade da pecuária leiteira na região sul do Brasil. Perspectivas para a produção de leite no Brasil, Universidade Estadual de Maringá, Maringá, PR, Brazil, October 8-10, 2014, (CD-ROM). ISSN 2358-6753. (Abstract)

## 2013

Schogor, A.L.B., Palin, M.-F., Benchaar, C., Santos, G.T., and Petit, H.V. (2013). "Mammary gene expression in Holstein cows upon flax meal supplementation.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, (Abstract), pp. 144.

Petit, H.V., Schogor, A.L.B., Benchaar, C., Palin, M.-F., and Santos, G.T.D. (2013). "Enterolactone production and its correlation among body fluids in cows fed flax meal.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, pp. 142.

Schogor, A.L.B., Petit, H.V., Santos, G.T.D., Kim, E.-J., Scollan, N.D., and Huws, S.A. (2013). "Potential role of rumen bacteria in the conversion of plant lignans into enterolactone.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, pp. 145.

Santos, G.T.D., Lima, L.S., Schogor, A.L.B., Damasceno, J.C., Marchi, F.E., Santos, N.W., Santos, F.S., and Petit, H.V. (2013). "Abomasal or ruminal infusion of citrus pulp and soybean oil on fatty acid and antioxidants in milk.", 64th Annual Meeting of the European Association for Animal Production, Nantes, France, August 26 - 30, 2013, pp. 143.

Schogor, A.L.B., Petit, H.V., Benchaar, C., Palin, M.-F., and Santos, G.T.D. (2013). "Enterolactone concentration in body fluids and  $\beta$ -glucosidase activity in the rumen and in faeces of dairy cows fed flax meal.", World Conference on Animal Production (11th WCAP), Beijing, China, October 15-20, 2013.

Schogor, A.L.B., Petit, H.V., Benchaar, C., Palin, M.-F., and Santos, G.T.D. (2013). "Activity of antioxidant enzymes in dairy cows fed increasing levels of flax meal.", World Conference on Animal Production (11th WCAP), Beijing, China, October 15-20, 2013.

Palin, M.-F., Prado, R.M., Beaudry, D., and Petit, H.V. (2013). "Effects of feeding linola and flax supplements to dairy cows on the day 17 embryo transcriptome.", 7th Congress of the International Society of Nutrigenetics/Nutrigenomics (ISNN), Quebec City Convention Centre, Quebec City, Canada, October 5-8, 2013.

Benchaar, C., Hassanat, F., Gervais, R., Chouinard, P.Y., Petit, H.V., and Massé, D.I. (2013). "Enteric methane emissions from dairy cows fed corn silage or barley silage based diets.", ADSA-ASAS 2013 Joint Annual Meeting, Indianapolis, IN, USA, July 8-12, 2013, Published in: Journal of Dairy Science, 96:512 (# TH111).

Prado, R.M., Prado, I.N., Santos, G.T., Benchaar, C., Palin, M.-F., and Petit, H.V. (2013). "Milk production and composition and blood and liver parameters of dairy cows fed various fat sources.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, (Abstract), pp. 411.

Santos, G.T., Schogor, A.L.B., Palin, M.-F., Benchaar, C., and Petit, H.V. (2013). "Lipoperoxidation in body fluids of dairy cows fed flax meal.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, (Abstract), pp. 146.

Petit, H.V., Schogor, A.L.B., Benchaar, C., Palin, M.-F., Santos, G.T., and Prado, R.M. (2013). "Intake, feed efficiency and milk composition of cows fed flax meal.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, (Abstract), pp. 143.

Hassanat, F., Gervais, R., Chouinard, P.Y., Petit, H.V., Massé, D.I., and Benchaar, C. (2013). "Effect of replacing timothy silage with alfalfa silage in dairy cow diets on enteric methane production.", ADSA-ASAS 2013 Joint Annual Meeting, Indianapolis, IN, USA, July 8-12, 2013, Published in: Journal of Dairy Science, 96:28 (# T76).

Petit, H.V., Schogor, A.L.B., Benchaar, C., Palin, M.-F., and Santos, G.T. (2013). "Enterolactone production and its correlation among body fluids in cows fed flax meal.", 64th Ann. Meeting of the European Association for Animal Production (EAAP), Nantes, France, August 26-30, 2013, Abstract, pp. 142 (Abstract).

## 2012

Petit, H.V., do Prado, R.N., Palin, M.-F., and Benchaar, C. (2012). "Milk production, milk composition and blood parameters of cows fed whole flaxseed or whole linola.", Journal of Dairy Science (JDS), 95(Suppl. 2), pp. 611 (#W318). (Abstract)

Benchaar, C., Hassanat, F., Gervais, R., Chouinard, P.Y., Julien, C., Massé, D.I., and Petit, H.V. (2012). "Effect of increasing amounts of corn dried distillers' grains with solubles in dairy cow diets on enteric methane emissions, digestibility, and milk production.", Journal of Dairy Science (JDS), 95(Suppl. 2), pp. 597 (#W277). (Abstract)

Benchaar, C., Hassanat, F., Gervais, R., Chouinard, P.Y., Julien, C., Massé, D.I., and Petit, H.V. (2012). "Effect of increasing amounts of corn dried distillers' grains with solubles in dairy cow diets on enteric methane emissions, digestibility, and milk production.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012.

Palin, M.-F., Hallé, C., Goff, A.K., Petit, H.V., and Blouin, R. (2012). "Effects of the Omega-6/Omega-3 Fatty Acid Ratios and of Enterolactone on Dairy Cow Endometrial Cells.", Society for the Study of Reproduction 45th Annual Meeting and 18th Ovarian Workshop, Pennsylvania State University, State College, PA, USA, August 12-15, 2012, Abs. 338. (Abstract)

Palin, M.-F., Hallé, C., Goff, A.K., Petit, H.V., and Blouin, R. (2012). "Effects of the Omega-6/Omega-3 Fatty Acid Ratios and of Enterolactone on Dairy Cow Endometrial Cells.", AAFC Scientific Symposium: Let's talk science at DSRDC, Sherbrooke, QC, Canada, November 28, 2012. (Poster)

Santos, N.W., dos Santos, G.T.D., da Silva-Kazama, D.C., Grande, P.A., Pauli, L., Jobim, C.C., and Petit, H.V. (2012). "Composição em ácidos graxos do leite de vacas alimentadas com silagem de resíduo de uva [Milk fatty acid profile of cows fed grape residue silage].", 49th Reunião Anual da Sociedade Brasileira de Zootecnia [SBZ 2012], Brasília, DF, Brazil, July 23-26, 2012. (Abstract)

Bachmann Schogor, A.L., Santos, G.T.D., do Prado, R.N., and Petit, H.V. (2012). "Indicadores oxidativos no sangue, leite e líquido ruminal de vacas leiteiras alimentadas com farelo de linhaça.", Simpósio sobre Sustentabilidade da Pecuária Leiteira na Região Sul do Brasil: Sistemas de Produção Leiteira de base familiar como forma de fixação do homem no campo, Universidade Estadual de Maringá, Maringá, PR, Brazil, October 4-6, 2012, Published in: Anais do V Sul leite. Simpósio sobre sustentabilidade da pecuária leiteira na região sul do Brasil. Núcleo Pluridisciplinar de Pesquisa e Estudo da Cadeia Produtiva do Leite, 2012. (CD-ROM), pp. 95-110.

## 2011

Petit, H.V. (2011). "Effect of concentration of flax hulls in the diet on intake, digestion, milk production, and milk composition of dairy cows.", Journal of Animal Science, 89(E-Suppl. 1), pp. 368. (Abstract)

Palin, M.-F., Beaudry, D., Vallée, M., Bissonnette, N., Murphy, B.D., and Petit, H.V. (2011). "Development of a two-species cDNA microarray for transcriptional profiling of sow reproductive traits.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011, Published in: J. Anim. Sci., 91(3), pp. 476-477.

Ross, S., Brito, A.F., Petit, H.V., and Soder, K.J. (2011). "Effects of corn meal or molasses supplemented with different protein sources on milk production and Nitrogen utilization of organic dairy cows.", Journal of Dairy Science (JDS), 94(E-Suppl. 1), pp. 622. (Abstract)

Santos, N.W., dos Santos, G.T.D., Pinto, P.T.M., Grande, P.A., da Silva-Kazama, D.C., and Petit, H.V. (2011). "Concentration and activity of antioxidants in milk of dairy cows fed soybean oil-based diets with different concentrations of grape residue silage.", XXII Reunión Latinoamericana de Producción Animal, Montevideo, Uruguay, October 24-26, 2011, Published in: Archivos Latinoamericanos de Producción Animal. (Abstract)

Santos, N.W., dos Santos, G.T.D., da Silva-Kazama, D.C., Valotto, A., and Petit, H.V. (2011). "Milk production and composition of dairy cows fed soybean oil-based diets with different concentrations of grape residue silage.", XXII Reunión Latinoamericana de Producción Animal, Montevideo, Uruguay, October 24-26, 2011, Published in: Archivos Latinoamericanos de Producción Animal. (Abstract)

Boroski, M., Giroux, H.J., Sabik, H., Petit, H.V., Pinto, P.T.M., Britten, M., and Visentainer, J.V. (2011). "Aspectos físico-químicos de bebidas lácteas (2% de óleo de linhaça) formuladas com a adição de extrato de orégano ou óleo essencial de orégano [Physico-chemical aspects of dairy beverages (2% of flax oil) containing oregano extract or oregano essential oil].", Simposio Latino Americano de Ciência de Alimentos, Campinas, São Paulo, Brazil, November 5-8, 2011. (Abstract)

Boroski, M., Giroux, H.J., Sabik, H., Petit, H.V., Pinto, P.T.M., Britten, M., and Visentainer, J.V. (2011). "Estudo comparativo da eficiência de extrato de orégano ou óleo essencial de orégano na proteção lipídica de bebida láctea enriquecida com óleo de linhaça [Comparative study of the efficiency of oregano extract or oregano essential oil to protect dairy beverages enriched in flax oil].", Simposio Latino Americano de Ciência de Alimentos, Campinas, São Paulo, Brazil, November 5-8, 2011. (Abstract)

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## **Other Science Related Publications:**

2012

Pietrzak, L.N., Neves, E., Matwin, S., Baum, B.R., Parisien, I.D., and Gale, J. (2012). "Nonlinear quality modeling of Eastern Canadian winter wheat.", 2012 International Annual Meeting of the American Association of Cereal Chemists (AACC), Hollywood, FL, USA, September 30-October 3, 2012, Published in: Supplement Cereal Food World, 57(4) A65. (Abstract)

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## Research Publications:

2015

Winton, C.L., Plante, Y., Hind, P.L., McMahon, R., Hegarty, M.J., Mcewan, N.R., Davies-Morel, M.C.G., Morgan, C.M., Powell, W., and Nash, D.M. (2015). "Comparative genetic diversity in a sample of pony breeds from the U.K. and North America: A case study in the conservation of global genetic resources.", *Ecology and Evolution*, 5(16), pp. 3507-3522. doi : 10.1002/ece3.1562

Smyth, T., Roquet, I., Plante, Y., Hind, P.L., Goslin, T., and Carmalt, J.L. (2015). "Application and viability of full-thickness coronary band grafting in equids.", *Pferdeheilkunde*, 31(2), pp. 119-124.

2012

Mwambene, P.L., Katule, A.M., Chenyambuga, S.W., Plante, Y., and Mwakilembe, P.A.A. (2012). "Fipa cattle in the southwestern highlands of Tanzania: molecular characterization.", *Animal Genetic Resources*, 51, pp. 31-43. doi : 10.1017/S2078633612000392

Prystupa, J.M., Hind, P.L., Cothran, E.G., and Plante, Y. (2012). "Maternal lineages in native Canadian equine populations and their relationship to the Nordic and Mountain and Moorland pony breeds.", *Journal of Heredity*, 103(3), pp. 380-390. doi : 10.1093/hered/ess003

Prystupa, J.M., Juras, R., Cothran, E.G., Buchanan, F.C., and Plante, Y. (2012). "Genetic diversity and admixture among Canadian, Mountain and Moorland and Nordic pony populations.", *Animal*, 6(1), pp. 19-30. doi : 10.1017/S1751731111001212

2011

Carruthers, C.R., Plante, Y., and Schmutz, S.M. (2011). "Comparison of Angus cattle populations using gene variants and microsatellites.", *Canadian Journal of Animal Science*, 91(1), pp. 81-85. doi : 10.4141/cjas10058

## Other Science Related Publications:

2014

Blackburn, H.D. and Plante, Y. (2014). "North American animal breeding and production: Meeting the needs of a changing landscape (Editorial).", *Journal of Animal Breeding and Genetics*, 131(4), pp. 247-248.

2012

Hiendleder, S., Javadmanesh, A., Hind, P.L., Nassiri, M.R., Pirastru, M., Mereu, P., Masala, B., and Plante, Y. (2012). "Mitochondrial DNA lineage sorting from one diverse founder population can explain extant domestic sheep haplotypes.", 33rd Conference of the International Society of Animal Genetics, Cairns, Australia, July 15-20, 2012, P3058.

Blackburn, H.D., Plante, Y., Rohrer, G.A., Welch, E.W., and Paiva, S.R. (2012). "Impact of genetic drift on developing access and benefit sharing guidelines under the Nagoya Protocol: The case of Meishan pigs imported into the United States.", 7th Session of the Intergovernmental Technical Working Group on Animal Genetic Resources for Food and Agriculture (2012), Rome, Italy, October 24-26, 2012, #554.

Diederichsen, A., Blackburn, H.D., and Plante, Y. (2012). "The reduction in biodiversity in agriculture: myth or reality?", 5th World Congress of Agronomists and Agrologists, Québec City Convention Centre, Québec City, QC, Canada, September 17-21, 2012.

2011

Prystupa, J.M. and Plante, Y. (2011). "Assessment of mitochondrial diversity in pony breeds and Canadian equine populations.", Plant & Animal Genome XIX Conference, Town & Country Convention Center, San Diego, CA, USA, January 15-19, 2011.

Blackburn, H.D., Plante, Y., Paiva, S.R., and Toishbekov, Y. (2011). "Genetic perspectives in the exchange of animal genetic resources and the implications for ABS.", 2011, Rome, Italy. (Presentation)

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## Research Publications:

2015

Cloutier, L., Pomar, C., Létoumeau-Montminy, M.-P., Bernier, J.F., and Pomar, J. (2015). "Evaluation of a method estimating real-time individual lysine requirements in two lines of growing-finishing pigs.", *Animal*, 9(4), pp. 561-568. doi : 10.1017/S1751731114003073

Font-i-Fumols, M., Carabús, A., Pomar, C., and Gispert, M. (2015). "Estimation of carcass composition and cut composition from computed tomography images of live growing pigs of different genotypes.", *Animal*, 9(1), pp. 166-178. doi : 10.1017/S1751731114002237

2014

Oviedo-Rondon, E.O., Pomar, C., and Conceicao, L.E.C. (2014). "Modelagem na Nutrição de Monogástricos.", in Sakomura, N.K., Silva, J.H.V., Costa, F.G.P., Fernandes, J.B.K. and Hauschild, L. (eds.) - *Nutrição de não ruminantes*, Funep, Jaboticabal, pp. 594-620.

Pomar, C., Pomar, J., Dubeau, F., Joannopoulos, É., and Dussault, J.-P. (2014). "The impact of daily multiphase feeding on animal performance, body composition, nitrogen and phosphorus excretions, and feed costs in growing-finishing pigs.", *Animal*, 8(5), pp. 704-713. doi : 10.1017/S1751731114000408

Andretta, I., Pomar, C., Rivest, J., Pomar, J., Lovatto, P.A., and Neto, J.R. (2014). "The impact of feeding growing-finishing pigs with daily tailored diets using precision feeding techniques on animal performance, nutrient utilization, and body and carcass composition.", *Journal of Animal Science*, 92(9), pp. 3925-3936. doi : 10.2527/jas.2014-7643

Létoumeau-Montminy, M.-P., Lovatto, P.A., and Pomar, C. (2014). "Apparent total tract digestibility of dietary calcium and phosphorus and their efficiency in bone mineral retention are affected by body mineral status in growing pigs.", *Journal of Animal Science*, 92(9), pp. 3914-3924. doi : 10.2527/jas.2013-7320

Pomar, C., Pomar, J., Rivest, J., Cloutier, L., Létoumeau-Montminy, M.P., Andretta, I., and Hauschild, L. (2014). "Estimating real-time individual amino acid requirements in growing-finishing pigs: towards a new definition of nutrient requirements?", in Gous, R. and Kyriazakis, I. (eds.) - *Modelling in pig and poultry production*, CABI Publishing, Oxon, UK, pp. 157-174.

2012

Hauschild, L., Lovatto, P.A., Pomar, J., and Pomar, C. (2012). "Development of sustainable precision farming systems for swine: Estimating real-time individual amino acid requirements in growing-finishing pigs.", *Journal of Animal Science*, 90(7), pp. 2255-2263. doi : 10.2527/jas.2011-4252

2011

Guillot, M., Alexander, K., Pomar, C., and del Castillo, J.R.E. (2011). "In growing pigs, chlortetracycline induces a reversible green bone discoloration and a persistent increase of bone mineral density dependent of dosing regimen.", *Research in Veterinary Science*, 90(3), pp. 484-490. doi : 10.1016/j.rvsc.2010.06.022

Zhang, G.-H., Pomar, C., and Yang, G.-S. (2011). "The Impact of Individual Daily Feeding on Animal Performance and Excretion of Nitrogen and Phosphorus in Growing Pigs.", *Journal of Animal and Veterinary Advances*, 10(22), pp. 2980-2985. doi : 10.3923/javaa.2011.2980.2985

Dubeau, F., Julien, P.-O., and Pomar, C. (2011). "Formulating diets for growing pigs: economic and environmental considerations.", *Annals of Operations Research*, 190(1), pp. 239-269. doi : 10.1007/s10479-009-0633-1

Pomar, J., López, V., and Pomar, C. (2011). "Agent-based simulation framework for virtual prototyping of advanced livestock precision feeding systems.", *Computers and Electronics in Agriculture*, 78(1), pp. 88-97. doi : 10.1016/j.compag.2011.06.004

Zhang, G.-H., Pomar, C., and Yang, G.-S. (2011). "Estimation of lysine requirement for growing-finishing pigs using a precision feeding technique.", *Scientia Agricultura Sinica*, 44, pp. 3840-3849.

Létoumeau-Montminy, M.-P., Narcy, A., Lescoat, P., Magnin, M., Bernier, J.F., Sauvart, D., Jondreville, C., and Pomar, C. (2011). "Modeling the fate of dietary phosphorus in the digestive tract of growing pigs.", *Journal of Animal Science*, 89(11), pp. 3596-3611. doi: 10.2527/jas.2010-3397

## Other Science Related Publications:

2015

Andretta, I., Pomar, C., Rivest, J., Pomar, J., Hauschild, L., Kipper, M., and Radünz, J. (2015). "Impact de l'alimentation de précision sur le comportement alimentaire du porc charcutier.", *Journées de la Recherche Porcine en France*, 47, pp. 63-68.

Kipper, M., Pomar, C., Marcoux, M., and Radünz, J. (2015). "Évaluation de la technologie DXA pour étudier la composition des carcasses de porc et de ses coupes principales.", *Journées de la Recherche Porcine en France*, 47, pp. 31-36.

Gonzalo, E., Palin, M.-F., Letoumeau-Montminy, M.P., Narcy, A., and Pomar, C. (2015). "Effects of phosphorus and calcium depletion-repletion periods on intestinal and renal expression of genes associated with Ca, P and vitamin D metabolism in pigs.", 13th Digestive Physiology of Pigs (DPP) Symposium, Kliczkow, Poland, May 19-21, 2015, Abstract #338. (Abstract)

Gonzalo, E., Letoumeau-Montminy, M.P., Crenshaw, J.D., Palin, M.-F., Narcy, A., and Pomar, C. (2015). "Dietary phosphorus and calcium deficiency (depletion) and recovery (repletion) sequences can allow to optimize mineral utilization in growing pigs.", Eastern Nutrition Conference, Montreal, Canada, May 13-14, 2015.

2014

Gonzalo, E., Letoumeau-Montminy, M.P., Narcy, A., Bernier, J.F., and Pomar, C. (2014). "Optimisation des apports de phosphore et calcium pour maximiser leur utilisation chez le porc en croissance dans un contexte de durabilité.", *Journées de la Recherche Porcine en France*, 46, pp. 113-118.

Kipper, M., Pomar, C., and Marcoux, M. (2014). "Precision of dual-energy X-ray absorptiometry measurements obtained on pork half-carcasses.", *Journal of Animal Science*, 92(Suppl. 2), pp. 131. (Abstract)

Pomar, C., Rivest, J., Andretta, I., and Hauschild, L. (2014). "Modelling real-time individual lysine requirements in growing-finishing pigs: model update and validation (Extended Abstracts of papers presented at the 8th International Workshop on Modelling Nutrient Digestion and Utilisation in Farm Animals).", *Animal Production Science*, 54, pp. xiv. (Abstract)

Letoumeau-Montminy, M.P., Narcy, A., Crenshaw, J.D., Doumad, J.Y., and Pomar, C. (2014). "Modelling the metabolic fate of dietary phosphorus and calcium in growing pigs and the dynamics of body composition: model evaluation and inversion (Extended Abstracts of papers presented at the 8th International Workshop on Modelling Nutrient Digestion and Utilisation in Farm Animals).", *Animal Production Science*, 54, pp. lvii. (Abstract)

Pomar, C. (2014). "The utilization of mathematical models to improve swine production.", VI Congresso Latino-Americano de Nutrição Animal. Colégio Brasileiro de Nutrição Animal – CBNA, Estância de São Pedro, Brazil, September 23-26, 2014. (Abstract)

Font-i-Fumols, M., Ouellet, F., Laroche, H., Marcoux, M., and Pomar, C. (2014). "Détermination de la composition de la carcasse de porc et la composition des coupes principales selon différentes méthodes d'analyses statistiques.", *Journées de la Recherche Porcine en France*, 46, pp. 53-54.

Font-i-Fumols, M. and Pomar, C. (2014). "Prédiction du rendement de la carcasse et de la composition du jambon à partir d'images de tomographie à rayons X de porcs vivants durant leur croissance.", *Journées de la Recherche Porcine en France*, 46, pp. 51-52.

Andretta, I., Pomar, C., Rivest, J., Pomar, J., Lovatto, P.A., and Radünz, J. (2014). "Effet de l'alimentation de précision sur les performances, l'excrétion de nutriments et le coût d'alimentation du porc charcutier.", *Journées de la Recherche Porcine en France*, 46, pp. 107-112.

Gonzalo, E., Letoumeau-Montminy, M.P., Narcy, A., Bernier, J.F., and Pomar, C. (2014). "Effect of phosphorus and calcium depletion and repletion sequences on growth performance, bone mineralization, and endogenous phosphorus losses in pigs.", *Journal of Animal Science*, 92(Suppl. 2), pp. 84. (Abstract)

2013

Pomar, C., Rivest, J., Hauschild, L., Andretta, I., Cloutier, L., Letoumeau-Montminy, M.P., Bernier, J.F., and Pomar, J. (2013). "Estimating real-time energy and nutrient requirements of growing-finishing pigs.", International symposium: modelling in pig and poultry production, Faculdade de Ciências Agrárias Veterinárias – Unesp, Jaboticabal, São Paulo, Brazil, June 18-20, 2013.

Joannopoulos, É., Pomar, C., Dussault, J.-P., and Dubeau, F. (2013). "Impact économiques et environnementaux de différents programmes de formulation et d'alimentation chez le porc charcutier.", 45es Journées de la Recherche Porcine, Paris, France, February 5-6, 2013, pp. 161-162.

Pomar, C., Rivest, J., Hauschild, L., Andretta, I., Cloutier, L., Letourneau-Montminy, M.P., Bernier, J.F., and Pomar, J. (2013). "Precision feeding on an individual basis: are we heading towards a new definition of nutritional needs in grower-finisher pigs?", 49th Annual Eastern Nutrition Conference of the Animal Nutrition Association of Canada (ANAC), Hôtel Château Laurier, Québec City, QC, Canada, May 15-16, 2013.

Cloutier, L., Letourneau-Montminy, M.P., Bernier, J.F., Pomar, J., and Pomar, C. (2013). "L'alimentation de précision: effet d'un protocole de déplétion-réplétion en lysine chez le porc en croissance.", Journée d'information scientifique en productions animales, Drummondville, QC, Canada, February 27, 2013, pp. 32-33.

Cloutier, L., Letourneau-Montminy, M.P., Bernier, J.F., Pomar, J., and Pomar, C. (2013). "Effet d'un protocole de déplétion-réplétion en lysine chez le porc en croissance.", Journées de la Recherche Porcine en France, 45, pp. 149-154.

## 2012

Létourneau-Montminy, M.-P., Narcy, A., and Pomar, C. (2012). "Développement d'un modèle simulant le devenir du phosphore et calcium alimentaires au niveau métabolique chez le porc en croissance.", Journées de la Recherche Porcine en France, 44, pp. 153-158.

Pomar, C. and Pomar, J. (2012). "The Future of Livestock Farming" Focus on Feed Efficiency in Pork Production.", Webminar, Prairie Swine Center, Saskatoon, SK, Canada, March 5, 2012.

Hauschild, L., Lovatto, P.A., Pomar, J., Pomar, C., and Andretta, I. (2012). "Estimating the daily individual nutrient requirements of growing-finishing pigs according to their actual growth and feed intake patterns.", AAFC Scientific Symposium: Let's talk science at DSRDC, Sherbrooke, QC, Canada, November 28, 2012.

Rousseau, X., Létourneau-Montminy, M.-P., Magnin, M., Narcy, A., and Pomar, C. (2012). "Effet de différents apports alimentaires de calcium sur la réponse à la phytase microbienne de porcs en croissance.", Journées de la Recherche Porcine en France, 44, pp. 183-184.

Rivest, J., Pomar, C., Pomar, J., and Hauschild, L. (2012). "Estimating optimal smoothing parameters for the daily feed intake and weight forecasts required to implement sustainable precision farming systems for swine.", 2012 Meeting of the Animal Science Modelling Group, Hyatt Regency, Phoenix, AZ, USA, July 14, 2012, Published in: J. Anim. Sci., 92(4), pp. 554.

Zhang, G.-H., Pomar, C., Pomar, J., and del Castillo, J.R.E. (2012). "L'alimentation de précision chez le porc charcutier: Estimation des niveaux dynamiques de lysine digestible nécessaires à la maximisation du gain de poids.", Journées de la Recherche Porcine en France, 44, pp. 171-176.

Joannopoulos, É., Pomar, C., Dussault, J.-P., and Dubeau, F. (2012). "Feeding cost optimization of several diet formulations and environmental impact in the swine industry.", 21st International Symposium on Mathematical Programming (ISMP 2012), Berlin, Germany, August 19-24, 2012.

## 2011

Zhang, G.-H., Pomar, C., Pomar, J., Letourneau-Montminy, M.P., Oliveira, V., and Yang, G.-S. (2011). "Estimating Response of growing-finishing pigs to increasing levels of dietary lysine: a meta-analysis study.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011, pp. 58. (Abstract)

Rousseau, X., Létourneau-Montminy, M.-P., Magnin, M., Narcy, A., and Pomar, C. (2011). "Effect of different dietary calcium concentrations on the digestive and metabolic response of growing pigs to microbial phytase.", ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 11-14, 2011.

Zhang, G.-H., Pomar, C., Pomar, J., del Castillo, J.R.E., and Yang, G.-S. (2011). "Estimating the dynamic requirements of lysine supporting maximal protein deposition in individually-fed growing-finishing pigs.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011, pp. 57. (Abstract)

Pomar, C., Hauschild, L., Zhang, G.-H., Pomar, J., and Lovatto, P.A. (2011). "Precision feeding can significantly reduce feeding cost and nutrient excretion in growing animals.", in Sauvant, D., van Milgen, J., Faverdin, P., and Friggens, N. (eds.) - Modelling Nutrition Digestion and Utilization in Farm Animals, Wageningen Academic Publishers, The Netherlands, pp. 327-334.

Pomar, C. and Pomar, J. (2011). "Sustainable Precision Livestock Farming: A Vision for the Future of the Canadian Swine Industry.", 41st Banff Pork Seminar, Banff Centre, Banff, AB, Canada, January 17-21, 2012, Advances in Pork Production Volume 23, Abstract No. 23, pp. 207-213.

Létourneau-Montminy, M.-P., Lovatto, P.A., and Pomar, C. (2011). "Effets d'un protocole de déplétion-réplétion en phosphore et calcium sur l'utilisation digestive et métabolique de phosphore et de calcium chez le porc en croissance.", Journées de la Recherche Porcine en France, 43, pp. 87-94.



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## Other Science Related Publications:

2013

Pouleur, S. (2013). "Amélioration de la santé des racines et des rendements des grandes cultures par l'allongement des rotations.", 17<sup>e</sup> séminaire du CRDSGC / 17<sup>th</sup> seminar of SCRDC, Centre de Recherche et de Développement sur les Sols et les Grandes Cultures / Soils and Crops Research and Development Centre, Québec City, QC, Canada, February 21, 2013. (Presentation)

Pouleur, S. (2013). "Rendement et santé des grandes cultures par les rotations.", Séminaire du CRDSGC / Seminar of SCRDC, Centre de Recherche et de Développement sur les Sols et les Grandes Cultures / Soils and Crops Research and Development Centre, Québec City, QC, Canada, February 21, 2013. (Presentation)

2012

Pouleur, S., Audy, P., Gilbert, G., and Laberge, S. (2012). "Première mention du *Polymyxa graminis* chez le maïs au Canada.", Congrès annuel de la Société de Protection des Plantes du Québec (SPPQ), Québec, QC, Canada, du 5 au 6 juin 2013.

2011

Rioux, S., Pouleur, S., Randall, P., Turkington, T.K., Vanasse, A., and Dion, Y. (2011). "La vapeur d'acide acétique et la chaleur sèche comme traitements de semences chez les céréales.", La Journée: Grandes cultures biologiques, Centre communautaire de Saint-Rémi, Saint-Rémi, QC, Canada, December 6, 2011, pp. 17.

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## Research Publications:

2016

Power, K.A., Lepp, D., Zarepoor, L., Monk, J.M., Wu, W., Tsao, R., and Liu, R. (2016). "Dietary flaxseed modulates the colonic microenvironment in healthy C57Bl/6 male mice which may alter susceptibility to gut-associated diseases.", *Journal of Nutritional Biochemistry*, 28, pp. 61-69. doi: 10.1016/j.jnutbio.2015.09.028

2015

Monk, J.M., Liddle, D.M., De Boer, A.A., Brown, M., Power, K.A., Ma, D.W.L., and Robinson, L.E. (2015). "Fish-oil-derived n-3 PUFAs reduce inflammatory and chemotactic adipokine-mediated cross-talk between co-cultured murine splenic CD8+T cells and adipocytes.", *Journal of Nutrition*, 145(4), pp. 829-838. doi: 10.3945/jn.114.205443

Monk, J.M., Zhang, C., Wu, W., Zarepoor, L., Lu, J.T., Liu, R., Pauls, K.P., Wood, G.A., Tsao, R., Robinson, L.E., and Power, K.A. (2015). "White and dark kidney beans reduce colonic mucosal damage and inflammation in response to dextran sodium sulfate.", *Journal of Nutritional Biochemistry*, 26(7), pp. 752-760. doi: 10.1016/j.jnutbio.2015.02.003

Villeneuve, S., Power, K.A., Guévremont, É., Mondor, M., Tsao, R., Wanasundara, P.K.J.P.D., Zarepoor, L., and Mercier, S. (2015). "Effect of a short-time germination process on the nutrient composition, microbial counts and bread-making potential of whole flaxseed.", *Journal of Food Processing and Preservation*, 39(6), pp. 1574-1586. doi: 10.1111/jfpp.12385

Monk, J.M., Lepp, D., Zhang, C., Wu, W., Zarepoor, L., Lu, J., Pauls, K.P., Tsao, R., Wood, G.A., Robinson, L.E., and Power, K.A. (2015). "Diets enriched with cranberry beans alter the microbiota and mitigate colitis severity and associated inflammation.", *Journal of Nutritional Biochemistry*. doi: 10.1016/j.jnutbio.2015.10.014

Monk, J.M., Liddle, D.M., Brown, M., Zarepoor, L., De Boer, A.A., Ma, D.W.L., Power, K.A., and Robinson, L.E. (2015). "Anti-inflammatory and anti-chemotactic effects of dietary flaxseed oil on CD8+ T cell/adipocyte-mediated cross-talk.", *Molecular Nutrition and Food Research*. doi: 10.1002/mnfr.201500541

De Boer, A.A., Monk, J.M., Liddle, D.M., Power, K.A., Ma, D.W.L., and Robinson, L.E. (2015). "Fish oil-derived long-chain n-3 polyunsaturated fatty acids reduce expression of M1-associated macrophage markers in an ex vivo adipose tissue culture model, in part through adiponectin.", *Frontiers in Nutrition*, 2(Article 31), pp. 1-16. doi: 10.3389/fnut.2015.00031

2014

Zarepoor, L., Lu, J.T., Zhang, C., Wu, W., Lepp, D., Robinson, L.E., Wanasundara, P.K.J.P.D., Cui, S.W., Villeneuve, S., Fofana, B., Tsao, R., Wood, G.A., and Power, K.A. (2014). "Dietary flaxseed intake exacerbates acute colonic mucosal injury and inflammation induced by dextran sodium sulfate.", *American Journal of Physiology: Gastrointestinal and Liver Physiology*, 306(12), pp. G1042-G1055. doi: 10.1152/ajpgi.00253.2013

Monk, J.M., Turk, H.F., Liddle, D.M., De Boer, A.A., Power, K.A., Ma, D.W.L., and Robinson, L.E. (2014). "n-3 Polyunsaturated fatty acids and mechanisms to mitigate inflammatory paracrine signaling in obesity-associated breast cancer.", *Nutrients*, 6(11), pp. 4760-4793. doi: 10.3390/nu6114760

Mercier, S., Villeneuve, S., Moresoli, C., Mondor, M., Marcos, B., and Power, K.A. (2014). "Production of flaxseed-enriched cereal-based products: a review of the processing conditions impacts.", *Comprehensive Reviews in Food Science and Food Safety*, 13(4), pp. 400-412. doi: 10.1111/1541-4337.12075

Zhang, C., Zarepoor, L., Lu, J., and Power, K.A. (2014). "Functional foods and gut health.", in Brar, S.K., Kaur, S., and Dhillon, G.S. (eds.) - *Nutraceuticals and Functional Foods: Natural Remedy*, Nova Science Publishers Inc, pp. 313-349.

Zhang, C., Monk, J.M., Lu, J.T., Zarepoor, L., Wu, W., Liu, R., Pauls, K.P., Wood, G.A., Robinson, L.E., Tsao, R., and Power, K.A. (2014). "Cooked navy and black bean diets improve biomarkers of colon health and reduce inflammation during colitis.", *British Journal of Nutrition*, 111(9), pp. 1549-1563. doi: 10.1017/S0007114513004352

2011

Zierau, O. and Power, K.A. (2011). "Lifelong and prenatal effects of phytoestrogens.", *Current Bioactive Compounds*, 7(3), pp. 172-179. doi : 10.2174/157340711796817931

## Other Science Related Publications:

2015

Power, K.A., Monk, J.M., Lepp, D., and Wu, W. (2015). "Bean-supplemented diet alters the colonic microenvironment to enhance barrier integrity and reduce colitis-associated inflammation and tissue damage.", *FASEB: Gastrointestinal Tract XVI: GI Homeostasis: The Microbiome and the Barrier, Development, and Disease*, Steamboat Springs, CO, USA, August 2-7, 2015.

Monk, J.M., Lepp, D., Zhang, C., Wu, W., Wood, G.A., Robinson, L.E., and Power, K.A. (2015). "Cranberry beans alter gut microbial activity and community structure, improve gut health and mitigate colitis severity.", *Canadian Nutrition Society Annual Meeting*, Winnipeg, Canada, May 28-30, 2015. (Abstract)

Liddle, D.M., Monk, J.M., Hutchinson, A.S., De Boer, A.A., Power, K.A., Ma, D.W.L., and Robinson, L.E. (2015). "Fish oil-derived n-3 polyunsaturated fatty acids mitigate lean and obese CD8+ T cell-adipocyte inflammatory cross-talk, in part through a TNF $\alpha$ -dependent mechanism.", *Canadian Nutrition Society Annual Meeting*, Winnipeg, Canada, May 28-30, 2015, Published: *Applied Physiology, Nutrition and Metabolism*, 2015; 40:495-533. (p516). (Abstract)

Monk, J.M., Lepp, D., Wu, W., Pauls, K.P., and Power, K.A. (2015). "Navy bean supplementation attenuates obesity-related impairments in gut barrier function.", *Bean Improvement Cooperatives 2015*, Niagara Falls, ON, Canada, November 1-4, 2015, Oral presentation.

Power, K.A., Monk, J.M., Lepp, D., Wu, W., and Pauls, K.P. (2015). "Bean supplementation enhances the colonic microenvironment and barrier integrity resulting in reduced colitis-associated tissue damage.", *Bean Improvement Cooperatives 2015*, Niagara Falls, ON, Canada, November 1-4, 2015.

Monk, J.M., Lepp, D., Wu, W., and Power, K.A. (2015). "Navy bean supplementation alters microbial activity and community structure and improves gut barrier integrity in lean and obese mice.", *8th Probiotics, Prebiotics and New Foods for Microbiota and Human Health*, Rome, Italy, September 13-15, 2015.

Monk, J.M., Liddle, D.M., Hucik, B., Hutchinson, A.S., Power, K.A., and Robinson, L.E. (2015). "The obesity-associated inflammatory phenotype and subsequent metabolic impairments are attenuated by dietary supplementation with fish oil-derived n-3 polyunsaturated fatty acids.", *Canadian Nutrition Society Annual Meeting*, Winnipeg, Canada, May 28-30, 2015. (Abstract)

2014

Monk, J.M., Wu, W., Carey, C.M., Cam, Y., Zarepoor, L., Zhang, C., Robinson, L.E., and Power, K.A. (2014). "Navy and black bean containing diets reduce the acute colitis associated inflammatory profile and promote wound healing following mucosal injury.", *Applied Physiology, Nutrition, and Metabolism*, 39(5), pp. 632. (Abstract)

Monk, J.M., Zhang, C., Wu, W., Wood, G.A., Robinson, L.E., and Power, K.A. (2014). "Kidney bean diets enhance microbial activity and gut barrier integrity, priming the colon to attenuate intestinal inflammation during colitis.", *Applied Physiology, Nutrition, and Metabolism*, 39(5), pp. 631. (Abstract)

Monk, J.M., Lepp, D., Zhang, C., Wu, W., Wood, G.A., Robinson, L.E., and Power, K.A. (2014). "A cooked cranberry bean-enriched diet alters the microbiota, improves gut health, and mitigates colitis severity.", *2nd World Congress on Targeting Microbiota: Towards Clinical Revolution*, Paris, France, October 2014, pp. 121. (Abstract)

Monk, J.M., De Boer, A.A., Liddle, D.M., Power, K.A., Ma, D.W.L., and Robinson, L.E. (2014). "n-3 polyunsaturated fatty acids derived from fish oil and flaxseed oil reduce chemotactic and inflammatory cross-talk between co-cultured adipocytes and CD8+ T cells.", *Applied Physiology, Nutrition, and Metabolism*, 39(5), pp. 631. (Abstract)

Lu, J., Monk, J.M., Buchsbaum, D., Wu, W., Zhang, C., Zarepoor, L., Carey, C.M., Liddle, D.M., and Power, K.A. (2014). "Dietary asparagus and its purified flavonoid, rutin, reduce colonic inflammation and enhance intestinal wound healing in dextran sodium sulfate (DSS)-exposed mice.", *Applied Physiology, Nutrition, and Metabolism*, 39(5), pp. 627. (Abstract)

2012

Zhang, C., Lu, J., Zarepoor, L., Wu, W., Cunha, R.D., Tsao, R., Pauls, K.P., and Power, K.A. (2012). "Black and Navy Beans Induce both Beneficial and Adverse Effects on Biomarkers of Colonic Inflammation in Mice.", *Keystone Symposium: The Role of Inflammation during Carcinogenesis*, Dublin, Ireland, May 20-25, 2012.

Zhang, C., Lu, J., Zarepoor, L., Wu, W., Cunha, R.D., Tsao, R., Pauls, K.P., and Power, K.A. (2012). "Preventative Effect of Non-Darkening and Darkening Cranberry Beans in Colon Inflammation.", *Cancer Research Symposium*, Institute for Comparative Cancer Investigation, University of Guelph, Guelph, ON, Canada, May 16, 2012.

Zhang, C., Zarepoor, L., Lu, J., Da, C.R., Wu, W., Tsao, R., Pauls, K.P., and Power, K.A. (2012). "Bean health benefits depend on timing of consumption.", Ontario Ministry of Agriculture Food and Rural Affairs (OMAFRA) Food for Health Meeting, Guelph, ON, Canada, June 2012. (Poster)

Zhang, C., Lu, J., Zarepoor, L., Tsao, R., and Power, K.A. (2012). "Common Beans Induce both Beneficial and Adverse Effects on Colitis Symptoms in Mice.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012.

Zhang, C., Lu, J., Zarepoor, L., Tsao, R., and Power, K.A. (2012). "Power Common Beans Induce both Beneficial and Adverse Effects on Colitis Symptoms in Mice.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012.

Perry, G.E., Crosby, W.L., Yu, K., Navabi, A., Zou, X., Power, K.A., Marsolais, F., Xie, W., Weersink, A., Tsao, R., Cooper, D., and Pauls, K.P. (2012). "Sequencing the bean genome: Using comparative genomics to examine interspecific introgressions.", Canadian Society of Plant Biologists Meeting (CSPB 2012), University of Alberta Campus, Edmonton, AB, Canada, June 25-27, 2012. (Presentation)

Power, K.A. and Villeneuve, S. (2012). "Recent progress on the incorporation of flaxseed into cereal based matrices: delivery of bioactives to target sites and comprehensive assessment of their biological effects.", 64th Flax Institute of the United States, Doublewood Inn, Fargo, ND, USA, March 29-30, 2012.

Power, K.A., Villeneuve, S., Mondor, M., Fustier, P., Arcand, Y., Lamarche, F., Britten, M., Cui, S.W., Tsao, R., Fofana, B., and Wanasundara, J.P.D. (2012). "Recent progress on the incorporation of flaxseed into cereal based matrices: delivery of bioactives to target sites and a comprehensive assessment of their biological effects.", 64th Flax Institute of the United States, Doublewood Inn, Fargo, ND, USA, March 29-30, 2012. (Presentation)

## 2011

Perry, G.E., Crosby, W., Shi, C., Power, K.A., Marsolais, F., Xie, W., Weersink, A., Tsao, R., Cooper, D.M., and Pauls, K.P. (2011). "Sequencing the bean genome: the applied bean genomics and bioproducts project.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011. (Poster)

Power, K.A. (2011). "The effects of flaxseed and its seed components on colonic inflammation in mice.", 15th Annual Federal Food Safety and Nutrition Research Meeting (FFSNRM), Ottawa, ON, Canada, December 6, 2011.

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## Research Publications:

2013

Comeau, C., Privé, J.-P., and Moreau, G. (2013). "Effects of reflective groundcovers on ground beetles (Coleoptera: Carabidae) in red raspberry (*Rubus idaeus*) cropping systems.", *Journal of Applied Entomology*, 137(4), pp. 264-274. doi : 10.1111/j.1439-0418.2012.01731.x

2012

Privé, J.-P., Russell, L., Hildebrand, P.D., Boyd, N., and Percival, D.C. (2012). "Intelligent Irrigation of Lowbush Blueberries in Atlantic Canada.", *Acta Horticulturae (ISHS)*, 926, pp. 471-476.

Comeau, C., Privé, J.-P., and Moreau, G. (2012). "Beneficial impacts of the combined use of rain shelters and reflective groundcovers in an organic raspberry cropping system.", *Agriculture, Ecosystems and Environment*, 155, pp. 117-123. doi : 10.1016/j.agee.2012.04.007

2011

Khanizadeh, S., Groleau, Y., Granger, R., Rousselle, G.L., Privé, J.-P., and Embree, C.G. (2011). "Ottawa 3 amélioré (O.3A) apple rootstock", *Acta Horticulturae (ISHS)*, 903, pp. 189-190.

Privé, J.-P., Russell, L., and LeBlanc, A. (2011). "Impact of reflective groundcover on growth, flowering, yield and fruit quality in gala apples in New Brunswick", *Canadian Journal of Plant Science*, 91(4), pp. 765-772. doi : 10.4141/cjps10199

Privé, J.-P., Embree, C.G., and Khanizadeh, S. (2011). "Performance of Eight Semi-Dwarf Apple Rootstocks at Three Apple Growing Regions in Eastern Canada.", *Acta Horticulturae (ISHS)*, 903, pp. 341-347.

Khanizadeh, S., Groleau, Y., Granger, R., Rousselle, G.L., Privé, J.-P., and Embree, C.G. (2011). "St Jean 84 (SJ84) dwarf winter hardy apple rootstock series.", *Acta Horticulturae (ISHS)*, 903, pp. 187-188.

## Other Science Related Publications:

2013

Pelletier, Y., Nie, X., Privé, J.-P., and Boquel, S. (2013). Evaluation of the efficacy and mode of action of mineral oil for the inhibition of PVY transmission in potato. Project Report., Canada: New Brunswick Department of Agriculture, Aquaculture and Fisheries. (Report)

2012

Moreau, G., Comeau, C., and Privé, J.-P. (2012). "Disentangling the effects of structural and compositional heterogeneity of habitat on animal community assembly.", 72nd Annual Meeting of the Acadian Entomological Society: Bugs, Forests, and Food, Lord Beaverbrook Hotel, Fredericton, NB, Canada, August 15-17, 2012.

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## Research Publications:

2015

Padhi, E., Blewett, H.J., Duncan, A.M., Guzman, R.P., Hawke, A., Seetharaman, K., Tsao, R., Wolever, T.M.S., and Ramdath, D.D. (2015). "Whole Soy Flour Incorporated into a Muffin and Consumed at 2 Doses of Soy Protein Does Not Lower LDL Cholesterol in a Randomized, Double-Blind Controlled Trial of Hypercholesterolemic Adults.", *Journal of Nutrition*, 145(12), pp. 2665-2674. doi: 10.3945/jn.115.219873

Padhi, E., Ramdath, D.D., Carson, S.J., Hawke, A., Blewett, H.J., Wolever, T.M.S., Vella, D., Seetharaman, K., Duizer, L.M., and Duncan, A.M. (2015). "Liking of soy flour muffins over time and the impact of a health claim on willingness to consume.", *Food Research International*, 77(Part 3), pp. 491-497. doi: 10.1016/j.foodres.2015.09.006

Zhang, B., Deng, Z.-Y., Ramdath, D.D., Tang, Y., Chen, P., Liu, R., Liu, Q., Tsao, R., and Tsao, R. (2015). "Phenolic profiles of 20 Canadian lentil cultivars and their contribution to antioxidant activity and inhibitory effects on  $\alpha$ -glucosidase and pancreatic lipase.", *Food Chemistry*, 172, pp. 862-872. doi: 10.1016/j.foodchem.2014.09.144

2014

Zhang, B., Deng, Z.-Y., Tang, Y., Chen, P.X., Liu, R., Ramdath, D.D., Liu, Q., Hernandez, M., and Tsao, R. (2014). "Effect of domestic cooking on carotenoids, tocopherols, fatty acids, phenolics, and antioxidant activities of lentils (*Lensculinaris*).", *Journal of Agricultural and Food Chemistry*, 62(52), pp. 12585-12594. doi: 10.1021/jf504181r

Zhang, B., Deng, Z.-Y., Tang, Y., Chen, P., Liu, R., Ramdath, D.D., Liu, Q., Hernandez, M., and Tsao, R. (2014). "Fatty acid, carotenoid and tocopherol compositions of 20 Canadian lentil cultivars and synergistic contribution to antioxidant activities.", *Food Chemistry*, 161, pp. 296-304. doi: 10.1016/j.foodchem.2014.04.014

Cuthbert, C.E., Ramdath, D.D., and Foster, J.E. (2014). "Frequency of Fat Mass and Obesity-Associated Gene rs9939609 and Peroxisome Proliferator-Activated Receptor Gamma 2 Gene rs1801282 Polymorphisms among Trinidadian Neonates of Different Ethnicities and Their Relationship to Anthropometry at Birth.", *Journal of Nutrigenetics and Nutrigenomics*, 7(1), pp. 40-47. doi: 10.1159/000363138

Ramdath, D.D., Padhi, E., Hawke, A., Sivaramalingam, T., and Tsao, R. (2014). "The glycemic index of pigmented potatoes is related to their polyphenol content.", *Food & Function*, 5(5), pp. 909-915. doi: 10.1039/c3fo60395d

2013

Ramdath, D.D., Singh, S., Hilaire, D., and Nayak, B.S. (2013). "Determinants of plasma triglyceride levels in a multiethnic working class Caribbean population: Effect of ethnicity, diet and obesity.", *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*, 7(4), pp. 198-201. doi: 10.1016/j.dsx.2013.10.019

2011

Gougeon, L.A.R., Henry, C.J., Ramdath, D.D., and Whiting, S.J. (2011). "Dietary analysis of randomly selected meals from the Child Hunger and Education Program School Nutrition Program in Saskatchewan, Canada, suggests that nutrient target levels are being provided.", *Nutrition Research*, 31(3), pp. 215-222. doi: 10.1016/j.nutres.2011.03.002

## Other Science Related Publications:

2013

Clarke, S.T., Kalmokoff, M.L., Brooks, S.P.J., Avila, C., Bercik, P., Ramdath, D.D., and Green-Johnson, J.M. (2013). "Investigating effects of fructans on host and immune parameters in a human clinical trial.", *EFFoST Annual Meeting: Bio-based Technologies in the Context of European Food Innovation Systems*, Bologna, Italy, November 12-15, 2013. (Presentation)

Clarke, S.T., Kalmokoff, M.L., Brooks, S.P.J., Bercik, P., Ramdath, D.D., and Green-Johnson, J.M. (2013). "Evaluating influences of fructans on cytokine and immunoglobulin production in a human clinical trial.", *Cytokine*, 63(3), pp. 255. (Abstract)

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## Research Publications:

2015

Day, J., Gietz, R.D., and Rampitsch, C. (2015). "Proteomic changes induced by *Pyrenophora tritici-repentis* ToxA in both insensitive and sensitive wheat indicate senescence-like signalling.", *Proteome Science*, 13(1: Article number 3). doi : 10.1186/s12953-014-0060-3

Rampitsch, C., Günel, A., Beimcik, E., and Mauthe, W.R. (2015). "Proteome of monoclonal antibody-purified haustoria from *Puccinia triticina* Race-1.", *Proteomics*, 15(7), pp. 1307-1315. doi : 10.1002/pmic.201400241

Hu, J., Rampitsch, C., and Bykova, N.V. (2015). "Advances in plant proteomics toward improvement of crop productivity and stress resistance.", *Frontiers in Plant Science*, 6(209), pp. 1-15. doi : 10.3389/fpls.2015.00209

2014

Nazemof, N., Couroux, P., Rampitsch, C., Xing, T., and Robert, L.S. (2014). "Proteomic Profiling Reveals Insights into Triticeae Stigma Development and Function.", *Journal of Experimental Botany*, 65(20), pp. 6069-6080. doi : 10.1093/jxb/eru350

2013

Agrawal, G.K., Sarkar, A., Righetti, P.G., Pedreschi, R., Carpentier, S., Wang, T., Barkla, B.J., Kohli, A., Ndimba, B.K., Bykova, N.V., Rampitsch, C., Zolla, L., Rafudeen, M.S., Cramer, R., Bindschedler, L.V., Tsakirpaloglou, N., Ndimba, R.J., Farrant, J.M., Renaut, J., Job, D., Kikuchi, S., and Rakwal, R. (2013). "A decade of plant proteomics and mass spectrometry: Translation of technical advancements to food security and safety issues.", *Mass Spectrometry Reviews*, 32(5), pp. 335-365. doi : 10.1002/mas.21365

Gao, F., Rampitsch, C., Chitnis, V.R., Humphreys, D.G., Jordan, M.C., and Ayele, B.T. (2013). "Integrated analysis of seed proteome and mRNA oxidation reveals distinct post-transcriptional features regulating dormancy in wheat (*Triticum aestivum* L.).", *Plant Biotechnology Journal*, 11(8), pp. 921-932. doi : 10.1111/pbi.12083

Bykova, N.V. and Rampitsch, C. (2013). "Modulating protein function through reversible oxidation: Redox-mediated processes in plants revealed through proteomics.", *Proteomics*, 13(3-4), pp. 579-596. doi : 10.1002/pmic.201200270

Subramaniam, R. and Rampitsch, C. (2013). "Towards Systems Biology of Mycotoxin Regulation.", *Toxins*. doi : 10.3390/toxins50x000x

Derksen, H., Rampitsch, C., and Daayf, F. (2013). "Signaling cross-talk in plant disease resistance.", *Plant Science*, 207, pp. 79-87. doi : 10.1016/j.plantsci.2013.03.004

Rampitsch, C., Day, J., Subramaniam, R., and Walkowiak, S. (2013). "Comparative secretome analysis of *Fusarium graminearum* and two of its non-pathogenic mutants upon deoxynivalenol induction in vitro.", *Proteomics*, 13(12-13), pp. 1913-1921. doi : 10.1002/pmic.201200446

Conroy, C., Ching, J., Gao, Y., Wang, X.-J., Rampitsch, C., and Xing, T. (2013). "Knockout of AtMEK1 enhances salt tolerance and modifies metabolic activities in *Arabidopsis*.", *Plant Signaling & Behavior*, 8(5): e24206, pp. 1-10. doi : 10.4161/psb.24206

Park, S., Rampitsch, C., Humphreys, D.G., and Ayele, B.T. (2013). "Wheat seed proteins regulated by imbibition independent of dormancy status.", *Plant Signaling & Behavior*, 8(12): e26601.

2012

Yao, Z., Liu, L., Gao, F., Rampitsch, C., Reinecke, D.M., Ozga, J.A., and Ayele, B.T. (2012). "Developmental and seed aging mediated regulation of antioxidative genes and differential expression of proteins during pre- and post-germinative phases in pea.", *Journal of Plant Physiology*, 169(15), pp. 1477-1488. doi : 10.1016/j.jplph.2012.06.001

Bakkeren, G., Song, X., Panwar, V., Linning, R., Wang, X., Rampitsch, C., McCallum, B.D., Fellers, J.P., and Saville, B. (2012). "Functional genomic approaches in cereal rusts.", *Canadian Journal of Plant Pathology*, 34(1), pp. 3-12. doi : 10.1080/07060661.2012.664567

Rampitsch, C., Tinker, N.A., Subramaniam, R., Barkow-Oesterreicher, S., and Laczko, E. (2012). "Phosphoproteome profile of *Fusarium graminearum* grown in vitro under nonlimiting conditions.", *Proteomics*, 12(7), pp. 1002-1005. doi : 10.1002/pmic.201100065

Rampitsch, C. and Bykova, N.V. (2012). "Proteomics and plant disease: Advances in combating a major threat to the global food supply. (Review).", *Proteomics*, 12(4-5), pp. 673-690. doi: 10.1002/pmic.201100359

Rampitsch, C. and Bykova, N.V. (2012). "The beginnings of crop phosphoproteomics: exploring early warning systems of stress.", *Frontiers in Plant Science*, 3(144), pp. 1-15. doi : 10.3389/fpls.2012.00144

2011

Bykova, N.V., Hoehn, B., Rampitsch, C., Banks, T.W., Stebbing, J.A., Fan, T., and Knox, R.E. (2011). "Redox-sensitive proteome and antioxidant strategies in wheat seed dormancy control.", *Proteomics*, 11(5), pp. 865-882. doi : 10.1002/pmic.200900810

Song, X., Rampitsch, C., Soltani, B.M., Mauthe, W.R., Linning, R., Banks, T.W., McCallum, B.D., and Bakkeren, G. (2011). "Proteome analysis of wheat leaf rust fungus, *Puccinia triticina*, infection structures enriched for haustoria.", *Proteomics*, 11(5), pp. 944-963. doi : 10.1002/pmic.201000014

Bykova, N.V., Hoehn, B., Rampitsch, C., Hu, J., Stebbing, J.A., and Knox, R.E. (2011). "Thiol redox-sensitive seed proteome in dormant and non-dormant hybrid genotypes of wheat.", *Phytochemistry*, 72(10), pp. 1162-1172. doi : 10.1016/j.phytochem.2010.12.021

Rampitsch, C., Leung, W.W.Y., Blackwell, B.A., and Subramaniam, R. (2011). "MAP kinase Mgv1: a potential shared control point of butenolide and deoxynivalenol biosynthesis in *Fusarium graminearum*.", *Plant Breeding and Seed Science*, 54, pp. 81-88.

## Other Science Related Publications:

2015

Eranthodi, A., Subramaniam, R., Rampitsch, C., Ouellet, T., Schultz, E.A., and Foroud, N.A. (2015). "Generation of *Fusarium graminearum* mutants to screen candidate pathogen-associated molecular patterns.", National Fusarium Head Blight Forum, St. Louis, MO, USA, December 6-8, 2015. (Poster)

Eranthodi, A., Subramaniam, R., Ouellet, T., Rampitsch, C., Schultz, E.A., and Foroud, N.A. (2015). "Towards the identification and characterization of pathogen-associated molecular patterns from the *Fusarium graminearum* secretome.", 1st Lethbridge Research Centre Graduate Student Symposium, Lethbridge, AB, Canada, November 26, 2015.

Eranthodi, A., Subramaniam, R., Ouellet, T., Rampitsch, C., Schultz, E.A., and Foroud, N.A. (2015). "Fusarium graminearum mutant screening towards identification of pathogen-associated molecular patterns in the Fusarium head blight-wheat interaction.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015, Oral Presentation.

2014

Rampitsch, C., Bakkeren, G., and McCallum, B.D. (2014). "Custom database searching to reveal differences in the haustoria proteomes of three races of wheat leaf rust, *Puccinia triticina*.", 1st Meeting of the International Plant Proteomics Organization, Hamburg, Germany, August 31 - September 4, 2014. (Presentation)

Ponts, N., Djuric-Ciganovic, S., and Rampitsch, C. (2014). "Analysis of Post-translational Modifications of Histones in *Fusarium graminearum*.", Canadian Workshop on Tandem Mass Spectrometry, Lake Louise, Canada. (Poster)

Rampitsch, C. et al. (2014). "Quantitative proteomics with custom database searching to reveal differences in the haustorial proteomes of three races of wheat leaf rust, *Puccinia triticina*.", 12th European Conference on Fungal Genetics, Sevilla, Spain. (Poster)

Bakkeren, G., Fellers, J.P., Panwar, V., Joly, D.L., Szabo, L.J., Kolmer, J.A., Hulbert, S., Wang, M., Yin, C., Chen, X., Rampitsch, C., McCallum, B.D., Wang, X., Goldberg, J., Young, S., Hamelin, R.C., Saville, B.J., and Cuomo, C.A. (2014). "Comparative genomics of rust fungi drives research and innovations.", XXII Plant & Animal Genome Conference, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014.

Rampitsch, C., Beimcik, E., Bakkeren, G., Linning, R., Joly, D.L., and McCallum, B.D. (2014). "Quantitative proteomics with custom database searching to reveal differences in the haustorial proteomes of three races of wheat leaf rust, *Puccinia triticina*.", 12th European Conference on Fungal Genetics, Sevilla, Spain, March 2014.

Bykova, N.V., Rampitsch, C., and others (2014). "Proteomic approaches to revealing mechanisms of physiological transition from seed dormancy to high germination potential in wheat.", Plant Biology 2014, Portland, Oregon, USA, July 12-16, 2014. (Poster)



Bykova, N.V., Hu, J.-N., Rampitsch, C., Fan, T., and Radovanovic, N. (2014). "Quantitative comparative proteomic profiling of tissue-specific and membrane-associated seed proteomes in pre-harvest sprouting resistant and susceptible hybrid wheat genotypes.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

Bakkeren, G., Fellers, J.P., Panwar, V., Joly, D.L., Szabo, L.J., Kolmer, J.A., Hulbert, S., Wang, M., Yin, C., Chen, X., Rampitsch, C., McCallum, B.D., Wang, X., Goldberg, J., Young, S., Hamelin, R.C., Saville, B.J., and Cuomo, C.A. (2014). "Comparative genomics of rust fungi drives research and innovations for crop protection.", 16th conference of the International Society for Molecular Plant-Microbe Interactions, Rhodes, Greece, July 6-10, 2014.

Rampitsch, C., Beimcik, E., Günel, A., Bakkeren, G., Linning, R., Joly, D.L., McCallum, B.D., and Fan, T. (2014). "Custom database searching to reveal differences in the haustorial proteomes of three races of wheat leaf rust, *Puccinia triticina*.", Canadian Society of Mass Spectrometry, Montreal, QC, Canada, April 13-16, 2014.

## 2013

Günel, A., Rampitsch, C., Beimcik, E., Fan, T., and Akkaya, M. (2013). "Purification of Stripe Rust *Haustoria* with monoclonal antibodies.", VPCAPlant pathogen Interactions, Vienna, Austria. (Poster)

Bykova, N.V., Hu, J.-N., Rampitsch, C., Stebbing, J.A., and Fan, T. (2013). "Proteomic profiling of membrane-associated protein complexes in wheat aleurone tissue using Blue Native gels and label-free semi-quantitative LC-MS/MS approach.", 5th Canadian National Proteomics Network Symposium, Vancouver, BC, Canada. (Poster)

Rampitsch, C., Gordon, J.I., and others (2013). "Identification of a novel MADS-box phosphorylation motif by phospho-peptide mapping using CID and ETD.", 26th CSMS conference, Lake Louise AB, Canada. (Poster)

Bykova, N.V., Hoehn, B., Rampitsch, C., Hu, J.-N., and Fan, T. (2013). "Redox-mediated regulation of wheat seed dormancy revealed through modification specific proteomics.", 11th International Conference on Reactive Oxygen and Nitrogen Species in Plant, Warsaw, Poland. (Poster)

Hu, J.-N., Stebbing, J.A., Fan, T., Rampitsch, C., and Bykova, N.V. (2013). "Proteomic analysis reveals changes in abundance, composition, and phosphorylation of membrane-associated protein complexes from wheat aleurone in response to alteration in seed dormancy.", CSPB Annual Meeting, Quebec City, Canada. (Poster)

Bajracharya, P., Rampitsch, C., Daayf, F., and McCartney, C.A. (2013). "Purification and characterization of *Phaeosphaeria nodorum* toxins and mapping of toxin insensitivity.", Canadian Phytopathological Society (CPS) & Pacific Division of the American Phytopathological Society Joint 2010 Meeting, University of British Columbia, Vancouver, BC, Canada, June 20-23, 2010. (Poster)

Bajracharya, P., Rampitsch, C., Daayf, F., and McCartney, C. (2013). "Purification and characterization of *Phaeosphaeria nodorum* toxins and mapping of toxin insensitivity.", CPS Annual Meeting, Edmonton, AB, Canada. (Poster)

Rampitsch, C., Beimcik, E., Bakkeren, G., and Fan, T. (2013). "Comparative proteomics in *Puccinia triticina* using race-specific database searches.", 26th CSMS conference, Lake Louise AB, Canada. (Poster)

Bajracharya, P., McCartney, C., Rampitsch, C., Friesen, T.L., and Daayf, F. (2013). "Purification and characterization of *Stagonospora nodorum* toxins and mapping of toxin insensitivity.", Plant & Animal Genome XXI Conference, Town & Country Convention Center, San Diego, CA, USA, January 12-16, 2013. (Poster)

Simõesa, M., Santos, C., Rampitsch, C., and Lima, N. (2013). "Proteomic analysis of *Aspergillus niger* type strain (MUM 03.01) after accelerated freeze-drying preservation.", 13th International Conference on Culture Collections, Beijing, China. (Poster)

Rampitsch, C., Beimcik, E., Günel, A., Bakkeren, G., McCallum, B.D., and Fan, T. (2013). "Comparative proteomics of monoclonal-antibody enriched haustoria from three races of *Puccinia triticina*.", 27th American Genetics Society meeting on Fungal Genetics, Asilomar, CA, USA. (Poster)

Rampitsch, C., Subramaniam, R., Joshi, M., and Fan, T. (2013). "Using redox-proteomics to identify targets of NADPH oxidase-generated reactive oxygen species in *Fusarium graminearum*.", 12th European *Fusarium* Seminar, Bordeaux, France, Oral presentation. (Abstract)

Rampitsch, C., Day, J., Subramaniam, R., and Walkowiak, S. (2013). "Comparative secretome analysis of *Fusarium graminearum* and two of its non-pathogenic mutants under nitrogen-limitation in vitro.", FHB Satellite Meeting to 27th Fungal Genetics Conference, Asilomar, CA, USA, Oral presentation. (Abstract)

## 2012

Rampitsch, C., Beimcik, E., Günel, A., Günel, A., Bakkeren, G., McCallum, B.D., and Fan, T. (2012). "The proteome of haustoria from *Puccinia triticina*.", 13th International Cereal Rusts and Powdery Mildews Conference (ICRPMC), Beijing Friendship Hotel, Beijing, China, August 28-31, 2012. (Poster)

Joshi, M., Subramaniam, R., and Rampitsch, C. (2012). "Identifying targets of NADPH oxidase-mediated redox signalling in *Fusarium graminearum* using proteomics approaches.", 11th European conference on fungal genetics (ECFG11), Philipps-Universität, Marburg, Germany, March 30-April 2, 2012. (Presentation)

2011

Joshi, M., Subramaniam, R., and Rampitsch, C. (2011). "Identifying targets of NADPH oxidase-mediated redox signalling in *Fusarium graminearum* using an LC-MS approach.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 97.

Rampitsch, C., Subramaniam, R., Hoehn, B., Djuric-Ciganovic, S., and Fan, T. (2011). "Phosphoproteomics approach to understand signalling during the *Fusarium graminearum*-wheat interaction.", 12th International Symposium on Plant Protein Phosphorylation, Tübingen, Germany, September 14-16, 2011. (Poster)

Rampitsch, C., Günel, A., Beimcik, E., and Fan, T. (2011). "The proteome of intracellular feeding structures purified from the wheat leaf rust pathogen, *Puccinia triticina*.", Lake Louise XXIV - 24th Annual Tandem Mass Spectrometry Workshop, Lake Louise, AB, Canada, November 30-December 3, 2011. (Poster)

Hu, J., Hoehn, B., Rampitsch, C., and Bykova, N.V. (2011). "Impact of dormancy genotypes on differential protein expression profiles and redox-sensitive landscape of the proteome in hybrid spring wheat lines.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011. (Poster)

Bakkeren, G., Song, X., Panwar, V., Linning, R., Joly, D.L., Wang, X., Rampitsch, C., McCallum, B.D., Fellers, J.P., and Saville, B. (2011). "Functional genomic approaches for the wheat leaf rust fungus.", North American Rust Workers Meeting (NARW), St. Paul, MN, USA, June 12, 2011. (Presentation)

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## Research Publications:

2015

Graf, R.J., Beres, B.L., Randhawa, H.S., Gaudet, D.A., Laroche, A., and Eudes, F. (2015). "AAC Elevate hard red winter wheat.", *Canadian Journal of Plant Science*, 95(5), pp. 1021-1027. doi: 10.4141/cjps-2015-094

Randhawa, H.S., Graf, R.J., and Sadasivaiah, R.S. (2015). "AAC Indussoft white spring wheat.", *Canadian Journal of Plant Science*, 95(4), pp. 793-797. doi: 10.4141/cjps-2015-026

Brown, P.D., Randhawa, H.S., Fetch, J.M., Fox, S.L., Humphreys, D.G., Meiklejohn, M., Green, D.A., Wise, I.L., Fetch Jr., T.G., Gilbert, J., McCallum, B.D., and Menzies, J.G. (2015). "AAC Foray red spring wheat.", *Canadian Journal of Plant Science*, 95(4), pp. 799-803. doi: 10.4141/cjps-2015-007

Randhawa, H.S., Graf, R.J., and Sadasivaiah, R.S. (2015). "AAC Innova general purpose spring wheat.", *Canadian Journal of Plant Science*, 95(4), pp. 787-791. doi: 10.4141/cjps-2015-024

Brown, P.D., Randhawa, H.S., Fetch, J.M., Meiklejohn, M., Fox, S.L., Humphreys, D.G., Green, D.A., Wise, I.L., Fetch Jr., T.G., Gilbert, J., McCallum, B.D., and Menzies, J.G. (2015). "AAC Tenacious red spring wheat.", *Canadian Journal of Plant Science*, 95(4), pp. 805-810. doi: 10.4141/cjps-2015-011

2014

Asif, M., Eudes, F., Randhawa, H.S., Amundsen, E.J., and Spaner, D.M. (2014). "Phytosulfokine alpha enhances microspore embryogenesis in both triticale and wheat.", *Plant Cell, Tissue and Organ Culture*, 116(1), pp. 125-130. doi: 10.1007/s11240-013-0379-y

Randhawa, H.S., Graf, R.J., and Sadasivaiah, R.S. (2014). "AAC Chiffon soft white spring wheat.", *Canadian Journal of Plant Science*, 94(7), pp. 1303-1308. doi: 10.4141/cjps-2014-029

Randhawa, H.S., Singh, D., Pozniak, C.J., McCallum, B.D., Fetch Jr., T.G., Goyal, A., and Graf, R.J. (2014). "Genetic mapping of stem, leaf and stripe rust resistance in a spring wheat population using a 90K SNP Infinium iSelect assay.", *EUCARPIA-ITMI 2014*.

Kamran, A., Kubota, H., Yang, R.-C., Randhawa, H.S., and Spaner, D.M. (2014). "Relative performance of Canadian spring wheat cultivars under organic and conventional field conditions.", *Euphytica*, 196, pp. 13-24. doi: 10.1007/s10681-013-1010-3

Asif, M., Eudes, F., Randhawa, H.S., Amundsen, E.J., and Spaner, D.M. (2014). "Induction medium osmolality improves microspore embryogenesis in wheat and triticale.", *In Vitro Cellular & Developmental Biology - Plant*, 50(1), pp. 121-126. doi: 10.1007/s11627-013-9545-5

Kamran, A., Randhawa, H.S., Yang, R.-C., and Spaner, D.M. (2014). "The effect of VRN1 genes on important agronomic traits in high-yielding Canadian soft white spring wheat.", *Plant Breeding*, 133(3), pp. 321-326. doi: 10.1111/pbr.12149

2013

Asif, M., Eudes, F., Randhawa, H.S., Amundsen, E.J., Yanke, L.J., and Spaner, D.M. (2013). "Cefotaxime prevents microbial contamination and improves microspore embryogenesis in wheat and triticale.", *Plant Cell Reports*, 32(10), pp. 1637-1646. doi: 10.1007/s00299-013-1476-4

Beres, B.L., Pozniak, C.J., Eudes, F., Graf, R.J., Randhawa, H.S., Salmon, D.F., McLeod, G.J., Dion, Y., Irvine, R.B., Volden, H.D., Martin, R.A., Pageau, D., Comeau, A., DePauw, R.M., Phelps, S.M., and Spaner, D.M. (2013). "A Canadian Ethanol Feedstock Study to Benchmark the Relative Performance of Triticale: I. Agronomics.", *Agronomy Journal*, 105, pp. 1695-1706. doi: 10.2134/agnonj2013.0192

Kamran, A., Randhawa, H.S., Pozniak, C.J., and Spaner, D.M. (2013). "Phenotypic effects of the flowering gene complex in Canadian spring wheat germplasm.", *Crop Science*, 53(1), pp. 84-94. doi: 10.2135/cropsci2012.05.0313

Puchalski, B., Kundrik, K., Wogsberg, S., Wilson, M., Randhawa, H.S., and Gaudet, D.A. (2013). "Survey of stripe rust and other foliar diseases of wheat in 2012 in southern Alberta.", *Canadian Plant Disease Survey*, 93, pp. 123-124.

Randhawa, H.S., Asif, M., Pozniak, C.J., Clarke, J.M., Graf, R.J., Fox, S.L., Humphreys, D.G., Knox, R.E., DePauw, R.M., Singh, A.K., Cuthbert, R.D., Hucl, P.J., and Spaner, D.M. (2013). "Application of Molecular Markers for Wheat Breeding in Canada.", *Plant Breeding*, 132(5), pp. 458-471. doi: 10.1111/pbr.12057

Singh, M., Singh, S., Randhawa, H.S., and Singh, J. (2013). "Polymorphic homoeolog of key gene of RdDM pathway, ARGONAUTE4\_9 class is associated with Pre-harvest Sprouting in wheat (*Triticum aestivum* L.)", *PLoS ONE*, 8(10), pp. e77009. doi: 10.1371/journal.pone.0077009

Beres, B.L., Pozniak, C.J., Bressler, D., Gibreel, A., Eudes, F., Graf, R.J., Randhawa, H.S., Salmon, D.F., McLeod, G.J., Dion, Y., Irvine, R.B., Voldeng, H.D., Martin, R.A., Pageau, D., Comeau, A., DePauw, R.M., Phelps, S.M., and Spaner, D.M. (2013). "A Canadian Ethanol Feedstock Study to Benchmark the Relative Performance of Triticale: II. Grain Quality and Ethanol Production.", *Agronomy Journal*, 105, pp. 1707-1720. doi: 10.2134/agronj2013.0193

Asif, M., Eudes, F., Goyal, A., Amundsen, E.J., Randhawa, H.S., and Spaner, D.M. (2013). "Organelle antioxidants improve microspore embryogenesis in wheat and triticale.", *In Vitro Cellular & Developmental Biology - Plant*. doi: 10.1007/s11627-013-9514-z

Kamran, A., Iqbal, M., Navabi, A., Randhawa, H.S., Pozniak, C.J., and Spaner, D.M. (2013). "Earliness per se QTLs and their interaction with the photoperiod insensitive allele Ppd-D1a in the Cutler 3 AC Barrie spring wheat population.", *Theoretical and Applied Genetics (TAG)*. doi: 10.1007/s00122-013-2110-0

Graf, R.J., Beres, B.L., Randhawa, H.S., Gaudet, D.A., Badea, A., Laroche, A., Eudes, F., and Pandeya, R.S. (2013). "AAC Gateway hard red winter wheat.", *Canadian Journal of Plant Science*, 93(3), pp. 541-548. doi: 10.4141/CJPS2012-266

Kavanagh, V.B., Hills, M.J., Goyal, A., Randhawa, H.S., Topinka, A.K., Eudes, F., and Hall, L.M. (2013). "Molecular markers as a complementary tool in risk assessments: quantifying interspecific gene flow from triticale to spring wheat and durum wheat.", *Transgenic Research*. doi: 10.1007/s11248-012-9683-2

Graf, R.J., Beres, B.L., Laroche, A., Gaudet, D.A., Eudes, F., Pandeya, R.S., Badea, A., and Randhawa, H.S. (2013). "Emerson hard red winter wheat.", *Canadian Journal of Plant Science*, 93(4), pp. 741-748. doi: 10.4141/CJPS2012-262

Singh, A., Pandey, M.P., Singh, A.K., Knox, R.E., Ammar, K., Clarke, J.M., Clarke, F.R., Singh, R.P., Pozniak, C.J., DePauw, R.M., McCallum, B.D., Cuthbert, R.D., Randhawa, H.S., and Fetch Jr., T.G. (2013). "Identification and mapping of leaf, stem and stripe rust resistance quantitative trait loci and their interactions in durum wheat.", *Molecular Breeding*, 31(2), pp. 405-418. doi: 10.1007/s11032-012-9798-4

## 2012

Randhawa, H.S., Puchalski, B., Frick, M., Goyal, A., Despina, T., Graf, R.J., Laroche, A., and Gaudet, D.A. (2012). "Stripe rust resistance among western Canadian spring wheat and triticale varieties.", *Canadian Journal of Plant Science*, 92(4), pp. 713-722. doi: 10.4141/CJPS2011-252

Beres, B.L., Skovmand, B., Randhawa, H.S., Eudes, F., Graf, R.J., and McLeod, G.J. (2012). "Sunray spring triticale.", *Canadian Journal of Plant Science*, 92(2), pp. 363-367. doi: 10.4141/CJPS2011-138

McLeod, G.J., Randhawa, H.S., Ammar, K., Beres, B.L., and Muri, R. (2012). "Brevis spring triticale.", *Canadian Journal of Plant Science*, 92(1), pp. 199-202. doi: 10.4141/CJPS2011-103

## 2011

McLeod, G.J., Randhawa, H.S., Ammar, K., Payne, J.F., and Muri, R. (2011). "Bumper spring triticale.", *Canadian Journal of Plant Science*, 91(2), pp. 351-354. doi: 10.4141/cjps10161

Goyal, A., Beres, B.L., Randhawa, H.S., Navabi, A., Salmon, D.F., and Eudes, F. (2011). "Yield stability analysis of broadly adaptive triticale germplasm in southern and central Alberta, Canada for industrial end-use suitability.", *Canadian Journal of Plant Science*, 91(1), pp. 125-135. doi: 10.4141/CJPS10063

DePauw, R.M., Knox, R.E., Humphreys, D.G., Thomas, J.B., Fox, S.L., Brown, P.D., Singh, A.K., Pozniak, C.J., Randhawa, H.S., Fowler, D.B., Graf, R.J., and Hucl, P.J. (2011). "New breeding tools impact Canadian commercial farmer fields.", *Czech Journal of Genetics and Plant Breeding (CJGPB)*, 47(Spec. Issue 1), pp. S28-S34.

Randhawa, H.S., Sadasivaiah, R.S., Graf, R.J., and Beres, B.L. (2011). "Bhishaj soft white spring wheat.", *Canadian Journal of Plant Science*, 91(4), pp. 805-810. doi: 10.4141/cjps10144

## Other Science Related Publications:

### 2015

Ryabova, D., Randhawa, H.S., Bihari, L., Eudes, F., Spaner, D.M., Hucl, P.J., Graf, R.J., Prus, J., Amundsen, E.J., and Forou, N.A. (2015). "Production of double haploids with resistance to *Fusarium* mycotoxins.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015.

Cabral, A.L., Knox, R.E., Ammar, K., Pozniak, C.J., Ruan, Y., Laroche, A., Randhawa, H.S., Sharpe, A.G., N'Daiye, A., Sari, E., Schmidt, P.J., Boyle, K., Zhang, W., Condie, J., Campbell, H., Meyer, B., and Fobert, P. (2015). "The ADF Durum CWA Enhanced Fusarium and Rust Tolerance Project.", 2nd Annual Science Meeting of the Canadian Wheat Association, Saskatoon, Canada, July 14-16, 2015. (Abstract)

Laroche, A., Frick, M., Puchalski, B., Amundsen, E.J., Puchalski, B., Randhawa, H.S., Graf, R.J., and Gaudet, D.A. (2015). "Characterization of Stripe Rust Isolates from Western Canada Using NGS.", XXIII Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2015, pp.P0467.

## 2014

Laroche, A., Frick, M., Xu, Y., Puchalski, B., Puchalski, B., Randhawa, H.S., Graf, R.J., and Gaudet, D.A. (2014). "Comparisons of *Puccinia striiformis* f.sp. *tritici* (Pst) isolates from Southern Alberta.", Canadian Wheat Alliance 1st Annual Science Meeting, NRC-Saskatoon, Saskatoon, Canada, April 7-8, 2014.

Lin, X., N'Dayegamiye, A., Ruan, Y., Kutcher, H.R., Randhawa, H.S., Clarke, J.M., Sharpe, A.G., and Pozniak, C.J. (2014). "Genetic analysis of resistance to stripe rust in durum wheat (*Triticum turgidum* L. var. *durum*).", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

Dhariwal, R., Randhawa, H.S., Pozniak, C.J., McCallum, B.D., Fetch Jr., T.G., and Graf, R.J. (2014). "Genetic analysis of stem, leaf and stripe rust resistance in a spring wheat.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Graf, R.J., Randhawa, H.S., Gaudet, D.A., and Laroche, A. (2014). "Rust resistance in western Canadian winter wheat.", Borlaug Global Rust Initiative Technical Workshop, Obregon, México, March 22-25, 2014. (Poster)

Laroche, A., Frick, M., Xu, Y., Puchalski, B., Puchalski, B., Randhawa, H.S., Graf, R.J., and Gaudet, D.A. (2014). "Molecular characterization of Pst races isolates from Western Canada.", Borlaug Global Rust Initiative Technical Workshop, Obregon, México, March 22-25, 2014.

Brûlé-Babel, A.L., DePauw, R.M., Cuthbert, R.D., Pozniak, C.J., Hucl, P.J., Spaner, D.M., Randhawa, H.S., Graf, R.J., Kirigw, F., Humphreys, D.G., and Tamburic-Ilicic, L. (2014). "Breeding for FHB resistance: Progress and challenges.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Frick, M., Puchalski, B., Amundsen, E.J., Puchalski, B., Gaudet, D.A., Randhawa, H.S., Graf, R.J., and Laroche, A. (2014). "Molecular characterization of Pst races from western Canada.", 2014 Plant Pathology Symposium of Alberta, Canmore, AB, Canada, October 27-29, 2014.

Laroche, A., Frick, M., Xu, Y., Puchalski, B., Puchalski, B., Singh, A., Randhawa, H.S., Graf, R.J., and Gaudet, D.A. (2014). "NGS to identify, characterize and compare isolates of stripe rust, a fungal pathogen of wheat.", Canada NGS Symposia - Lethbridge NGS Symposium, University of Lethbridge, April 24, 2014. (Presentation)

## 2013

Laroche, A., Puchalski, B., Singh, A., Puchalski, B., Gaudet, D.A., Randhawa, H.S., Graf, R.J., and Frick, M. (2013). "Next-generation sequencing to characterize Pst races from western Canada.", Borlaug Global Rust Initiative (BGRI) Technical Workshop, New Delhi, India, August 19-22, 2013. (Presentation)

Gaudet, D.A., Puchalski, B., Randhawa, H.S., Despins, T., and Laroche, A. (2013). "Control of stripe rust in western Canada.", Canadian Phytopathological Society Annual Meeting, Edmonton, Alberta, Canada, June 16-19, 2013. (Presentation)

Randhawa, H.S., Eudes, F., Beres, B.L., Graf, R.J., Fedak, G., Comeau, A., Langevin, F., Dion, Y., and Pozniak, C.J. (2013). "Integrated approaches for triticale breeding.", The 8th International Triticale Symposium, Ghent, Belgium, June 10-14, 2013, (Presentation).

Ziemienowicz, A., Shim, Y.-S., Matsuoka, A., Eudes, F., Kovalchuk, I.E., and Randhawa, H.S. (2013). "Nano-Complex Mediated Transformation of Triticale.", The 8th International Triticale Symposium, Ghent, Belgium, June 10-14, 2013, (Presentation).

Kavanagh, V.B., Hall, L.M., Hills, M.J., Eudes, F., and Randhawa, H.S. (2013). "Interspecific Gene Flow from GM Triticale: Can Triticale Hybridize with Spring Wheat, Durum or Rye Under Field Conditions?", The 8th International Triticale Symposium, Ghent, Belgium, June 10-14, 2013.

Kumar, S., Knox, R.E., Clarke, F.R., Pozniak, C.J., Singh, A., DePauw, R.M., Cuthbert, R.D., Hucl, P.J., Randhawa, H.S., Fox, S.L., Fetch Jr., T.G., McCartney, C., and He, Y. (2013). "High-resolution Mapping of Agronomic and Disease Related Traits Featuring Pre-harvest Sprouting and Common Bunt Resistance.", Canadian Triticum Advancement through Genomics (CTAG) annual meeting 2014, Saskatoon, SK, Canada.

Laroche, A., Puchalski, B., Singh, A., Puchalski, B., Gaudet, D.A., Randhawa, H.S., Graf, R.J., and Frick, M. (2013). "Next-generation sequencing to characterize Pst races from western Canada.", 5th Borlaug Global Rust Initiative Technical Workshop, New Delhi, India, August 19-22, 2013. (Poster)

Randhawa, H.S., Puchalski, B., Puchalski, B., Laroche, A., Graf, R.J., and Gaudet, D.A. (2013). "Virulence analysis of Pst isolates collected from western Canada.", Borlaug Global Rust Initiative (BGRI) Technical Workshop, New Delhi, India, August 19-22, 2013. (Presentation)

Frick, M., Puchalski, B., Puchalski, B., Gaudet, D.A., Randhawa, H.S., Graf, R.J., Laroche, A., and Forbert, P. (2013). "Molecular characterization of stripe rust races from Western Canada.", 2013 Canadian Society of Plant Biologist Annual Meeting, Quebec, Canada, June 25-28, 2013.

Sinha, R.K., Asif, M., Amundsen, E.J., Eudes, F., and Randhawa, H.S. (2013). "Isolated microspore culture in cereals by mediating stresses and nursing.", The 8th International Triticale Symposium, Ghent, Belgium, June 10-14, 2013, (Presentation).

Puchalski, B., Gaudet, D.A., Randhawa, H.S., Despins, T., and Laroche, A. (2013). "The occurrence of stripe rust in Southern Alberta.", 34th Annual Meeting of the Plant Pathology Society of Alberta, Brooks, AB, Canada, November 4-6, 2013.

Laroche, A., Frick, M., Puchalski, B., Puchalski, B., Singh, A., Randhawa, H.S., Graf, R.J., and Gaudet, D.A. (2013). "Differential make-up in older and newer stripe rust strains.", 34th Annual Meeting of the Plant Pathology Society of Alberta, Brooks, AB, Canada, November 4-6, 2013.

Gaudet, D.A., Puchalski, B., Randhawa, H.S., Despins, T., and Laroche, A. (2013). "Fungicide Control of Stripe Rust in Western Canada.", 34th Annual Meeting of the Plant Pathology Society of Alberta, Brooks, AB, Canada, November 4-6, 2013.

Frick, M., Puchalski, B., Puchalski, B., Singh, A., Randhawa, H.S., Graf, R.J., and Laroche, A. (2013). "Molecular characterization of Pst races from Alberta.", 34th Annual Meeting of the Plant Pathology Society of Alberta, Brooks, AB, Canada, November 4-6, 2013.

## 2012

Kutcher, H.R., Turkington, T.K., Gaudet, D.A., Randhawa, H.S., Puchalski, B., Wogsberg, S., and Graf, R.J. (2012). "Managing cereal and canola diseases.", Crop Talk, Prince Albert Exhibition Centre, Saskatoon, SK, Canada, March 7, 2012, (Presentation).

Singh, A., Pandey, M.P., Singh, A.K., Clarke, J.M., Knox, R.E., Ammar, K., Singh, R.P., Pozniak, C.J., DePauw, R.M., Clarke, F.R., McCallum, B.D., Cuthbert, R.D., and Randhawa, H.S. (2012). "Molecular mapping of leaf rust and stripe rust resistance QTL in durum wheat.", Canadian Journal of Plant Science, 92, pp. 593. (Abstract)

Kamran, A., Randhawa, H.S., Pozniak, C.J., and Spaner, D.M. (2012). "Phenotypic effects of the flowering gene complex in Canadian spring wheat germplasm.", The Annual General Meeting of Canadian Triticum Advancement through Genomics (CTAG), Saskatoon, SK, Canada, November 23-24, 2012.

Kamran, A., Iqbal, M., Navabi, A., Randhawa, H.S., Pozniak, C.J., and Spaner, D.M. (2012). "Mapping earliness per se QTL and exploring their interaction with the photoperiod insensitive gene Ppd-D1a in the Cutler x Barrie spring wheat population.", The Annual General Meeting of Canadian Triticum Advancement through Genomics (CTAG), Saskatoon, SK, Canada, November 23-24, 2012.

Asif, M., Navabi, A., Randhawa, H.S., Pozniak, C.J., and Spaner, D.M. (2012). "QTL mapping in the Attila x CDC Go Spring Wheat Population.", The Annual General Meeting of Canadian Triticum Advancement through Genomics (CTAG), Saskatoon, SK, Canada, November 23-24, 2012.

Randhawa, H.S. (2012). "Incorporation of common bunt resistance in western Canadian spring wheat.", XVII Biennial Workshop on the Smuts and Bunts, Shenzhen, Guangdong, China, July 9-13, 2012, (Presentation).

Kutcher, H.R., Randhawa, H.S., Puchalski, B., Wogsberg, S., Graf, R.J., and Gaudet, D.A. (2012). "The 2011 stripe rust epidemic in western Canada.", Borlaug Global Rust Initiative (BGRI) Technical Workshop, Beijing, China, September 1-4, 2012.

Knox, R.E., Hucl, P.J., Cuthbert, R.D., Singh, A.K., Clarke, F.R., DePauw, R.M., Pozniak, C.J., Fox, S.L., Humphreys, D.G., Clarke, J.M., Randhawa, H.S., Spaner, D.M., McCartney, C., Gaudet, D.A., Menzies, J.G., Gilbert, J.R., Fetch Jr., T.G., McCallum, B.D., and Brûlé-Babel, A.L. (2012). "Phenomics.", Canadian Triticum Advancement through Genomics (CTAG) annual meeting 2014, Saskatoon, SK, Canada.

McCartney, C., Pozniak, C.J., Sharpe, A.G., MacLachlan, R., Hucl, P.J., Jordan, M.C., Knox, R.E., Randhawa, H.S., Spaner, D.M., Bekkaoui, F., Galushko, V., and Gray, R. (2012). "Overview and Progress on the CTAG Project. Canadian Wheat Symposium.", Canadian Journal of Plant Science, 92, pp. 593. (Abstract)

Humphreys, D.G., DePauw, R.M., Knox, R.E., Singh, A.K., Cuthbert, R.D., Fox, S.L., and Randhawa, H.S. (2012). "Weathering and pre-harvest sprouting resistance.", Canadian Journal of Plant Science, 92, pp. 593. (Abstract)

Nilsen, K., Randhawa, H.S., McCallum, B.D., McCartney, C., MacLachlan, R., Humphreys, D.G., Martin, R.A., and Pozniak, C.J. (2012). "Application of Illumina 9K iSelect Genotyping Towards Mapping Leaf and Stripe Rust Resistance in the Spring Wheat Cross AC Domain x RL4452.", The Annual General Meeting of Canadian Triticum Advancement through Genomics (CTAG), Saskatoon, SK, Canada, November 23-24, 2012.

- Randhawa, H.S., Puchalski, B., Graf, R.J., Goyal, A., Despina, T., and Gaudet, D.A. (2011). "Reactions of western Canadian wheat and triticale varieties to stripe rust.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011. (Poster)
- Humphreys, D.G., DePauw, R.M., Knox, R.E., Singh, A.K., Cuthbert, R.D., Fox, S.L., and Randhawa, H.S. (2011). "Weathering and pre-harvest sprouting resistance.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.
- Singh, M.P., Singh, A.K., Clarke, J.M., Knox, R.E., Ammar, K., Singh, R.P., Pozniak, C.J., DePauw, R.M., Clarke, F.R., McCallum, B.D., Cuthbert, J.L., and Randhawa, H.S. (2011). "Molecular mapping of leaf rust and stripe rust resistance QTL in durum wheat.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.
- Fox, S.L., DePauw, R.M., Humphreys, D.G., Hucl, P.J., Singh, A.K., Pozniak, C.J., Brown, P.D., Graf, R.J., Randhawa, H.S., Voldeng, H.D., McCartney, C.A., Hiebert, C.W., Knox, R.E., Thomas, J.B., Townley-Smith, L., and Fetch Jr., T.G. (2011). "Canadian initiatives in breeding for stem rust resistance to race Ug99 and variants.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, pp. 121-126.
- Comeau, A., Langevin, F., Randhawa, H.S., Dion, Y., and Voldeng, H.D. (2011). "Development of fusarium head blight-resistant wheat: a systemic approach deserves more attention.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 93.
- Laroche, A., Frick, M., Puchalski, B., Graf, R.J., Randhawa, H.S., and Gaudet, D.A. (2011). "Towards the genome sequencing of Alberta races of *Puccinia striiformis*, the causal agent of stripe rust.", 32nd Annual Meeting of the Plant Pathology Society of Alberta (PPSA), University of Alberta, Edmonton, AB, Canada, November 7-9, 2011, pp. 9.
- Randhawa, H.S., Eudes, F., McKenzie, R.I.H., Beres, B.L., and Gaudet, D.A. (2011). "The Future of Triticale: The Growing Triticale Competitive Advantage Resulting from Continued CTBI Research.", 2011 Annual Canadian Triticale Biorefinery Initiative, Calgary, Alberta, Canada, March 7, 2011.
- Gaudet, D.A., Randhawa, H.S., Puchalski, B., Graf, R.J., Despina, T., and Laroche, A. (2011). "Stripe rust resistance among western Canadian wheat and triticale cultivars.", Canadian Phytopathological Society (CPS) 82nd Annual Meeting (with Plant Canada 2011), Halifax, NS, Canada, July 17-21, 2011.
- Pozniak, C.J., Hucl, P.J., MacLachlan, R., Sharpe, A.G., Randhawa, H.S., Spaner, D.M., Knox, R.E., Jordan, M.C., and McCartney, C. (2011). "Applied Genomic Strategies for Wheat Improvement in Canada.", Conference on the Development and Use of Molecular Markers for Crop Improvement, New Delhi, India.
- Comeau, A., Langevin, F., Voldeng, H.D., Haber, S.M., Gilbert, J., Randhawa, H.S., Dion, Y., Rioux, S., Eudes, F., Blackwell, B.A., and Martin, R.A. (2011). "One quick solution to FHB problems: the systemic approach.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 72.
- Goyal, A., Puchalski, B., Gaudet, D.A., Graf, R.J., McCallum, B.D., and Randhawa, H.S. (2011). "Genetics of resistance to common bunt, leaf and stripe rust in N9195 spring wheat.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011. (Abstract)
- Randhawa, H.S., Gaudet, D.A., Puchalski, B., and Graf, R.J. (2011). "New virulence races of stripe rust in Western Canada.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011. (Abstract)
- Gaudet, D.A., Randhawa, H.S., Puchalski, B., Frick, M., Goyal, A., Despina, T., Graf, R.J., and Laroche, A. (2011). "Stripe rust resistance among western Canadian wheat and triticale cultivars.", 32nd Annual Meeting of the Plant Pathology Society of Alberta (PPSA), University of Alberta, Edmonton, AB, Canada, November 7-9, 2011, pp. 7.
- Randhawa, H.S., Pozniak, C.J., Hucl, P.J., Knox, R.E., McCartney, C., and Spaner, D.M. (2011). "Application of Molecular Markers for Wheat Breeding in Canada.", Indo-US Science and Technology Forum (IUSSTF) Sponsored Conference On Development and Use of Molecular Markers for Crop Improvement, NASC Complex, New Delhi, India, October 29-31, 2011, Invited presentation.
- Puchalski, B., Gaudet, D.A., Randhawa, H.S., Graf, R.J., and Wogsberg, S. (2011). "The 2011 stripe rust epidemic in western Canada.", 32nd Annual Meeting of the Plant Pathology Society of Alberta (PPSA), University of Alberta, Edmonton, AB, Canada, November 7-9, 2011.
- Pozniak, C.J., Hucl, P.J., MacLachlan, R.P., Sharpe, A.G., Randhawa, H.S., and McCartney, C. (2011). "Applied Genomic Strategies for Wheat Improvement in Canada.", Indo-US Science and Technology Forum (IUSSTF) Sponsored Conference On Development and Use of Molecular Markers for Crop Improvement, NASC Complex, New Delhi, India, October 29-31, 2011.
- Nilsen, K., Humphreys, D.G., Randhawa, H.S., Martin, R.C., McCartney, C., McCallum, B.D., and Pozniak, C.J. (2011). "Mapping field reaction to leaf and stripe rust in the spring wheat cross RL4452 x AC Domain.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, Presentation.

McCartney, C., Pozniak, C.J., Sharpe, A.G., MacLachlan, R., Hucl, P.J., Jordan, M.C., Knox, R.E., Randhawa, H.S., Spaner, D.M., Bekkaoui, F., Galushko, V., and Gray, R. (2011). "Overview and Progress on the CTAG Project.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, Presentation.

Kamran, A., Asif, M., Randhawa, H.S., and Spaner, D.M. (2011). "Genetic Analysis of flowering gene complex in historical and elite Canadian wheat germplasm.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, Presentation.

Goyal, A., Amundsen, E.J., Eudes, F., and Randhawa, H.S. (2011). "Effect of Antioxidant on the regeneration of green plantlets in Isolated Microspore Culture (IMC) derived doubled haploid in wheat and triticale.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, Presentation.

Comeau, A., Langevin, F., Voldeng, H.D., Haber, S.M., Gilbert, J., Randhawa, H.S., Dion, Y., Rioux, S., McCallum, B.D., Fetch Jr., T.G., Eudes, F., Blackwell, B.A., Martin, R.A., Scheeren, P., Caetano, V., Frégeau-Reid, J.A., and Fedak, G. (2011). "The systemic approach : faster genetic progress for complex goals.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Beres, B.L., Randhawa, H.S., McKenzie, R.H., and Gaudet, D.A. (2011). "Triticale Today: Proven CTBI Results Showing the Promise of Triticale for the Near-Term Biorefinery.", 2011 Annual Canadian Triticale Biorefinery Initiative, Calgary, Alberta, Canada, March 7, 2011.

Asif, M., Randhawa, H.S., Yang, R.-C., Navabi, A., and Spaner, D.M. (2011). "Agronomic evaluation of a wheat breeding population in weed competitive organic and weed free conventional management systems.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Randhawa, H.S., Puchalski, B., Wogsberg, S., Graf, R.J., Kutcher, H.R., and Gaudet, D.A. (2011). "The occurrence of stripe rust epidemic in western Canada.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011. (Abstract)



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## Research Publications:

2015

Mathew, F.M., Rashid, K.Y., Gulya, T.J., and Markell, S.G. (2015). "First report of Phomopsis stem canker of sunflower (*Helianthus annuus*) caused by *Diaporthe gulyae* in Canada.", *Plant Disease*, 99(1), pp. 160. doi : 10.1094/PDIS-08-14-0858-PDN

2014

Duguid, S.D., Rashid, K.Y., and Kenaschuk, E.O. (2014). "Shape flax.", *Canadian Journal of Plant Science*, 94(1), pp. 157-160. doi : 10.4141/CJPS2013-197

Vera, C.L., Irvine, R.B., Duguid, S.D., Rashid, K.Y., Clarke, F.R., and Slaski, J.J. (2014). "Pasm disease and lodging in flax as affected by pyraclostrobin fungicide, N fertility and year.", *Canadian Journal of Plant Science*, 94(1), pp. 119-126. doi : 10.4141/cjps2013-046

Duguid, S.D., Rashid, K.Y., Busch, H., and Schaupp, H. (2014). "AAC Bravo flax.", *Canadian Journal of Plant Science*, 94(1), pp. 153-156. doi: 10.4141/CJPS2013-199

2013

Asgarinia, P., Cloutier, S., Duguid, S.D., Rashid, K.Y., Mirlohi, A.F., Banik, M., and Saeidi, G. (2013). "Mapping QTL for powdery mildew resistance in flax (*Linum usitatissimum* L.)", *Crop Science*, 53(6), pp. 2462-2472. doi : 10.2135/cropsci2013.05.0298

2012

Vera, C.L., Duguid, S.D., Fox, S.L., Rashid, K.Y., Dribnenki, J.C.P., and Clarke, F.R. (2012). "Comparative effect of lodging on seed yield of flax and wheat.", *Canadian Journal of Plant Science*, 92(1), pp. 39-43. doi: 10.4141/CJPS2011-031

2011

Fetch Jr., T.G., McCallum, B.D., Menzies, J.G., Rashid, K.Y., and Tenuta, A.U. (2011). "Rust diseases in Canada.", *Prairie Soils and Crops*, 4, pp. 87-96.

Turkington, T.K., Kutcher, H.R., McLaren, D.L., and Rashid, K.Y. (2011). "Managing Sclerotinia in Oilseed and Pulse Crops.", *Prairie Soils and Crops*, 4, pp. 105-113.

## Other Science Related Publications:

2013

Rashid, K.Y., Desjardins, M., and Duguid, S.D. (2013). "Diseases of flax in Manitoba and Saskatchewan in 2012.", *Canadian Plant Disease Survey*, 93, pp. 161-162.

Rashid, K.Y. and Desjardins, M. (2013). "Diseases of sunflower in Manitoba in 2012.", *Canadian Plant Disease Survey*, 93, pp. 174-176.

2012

Rashid, K.Y. (2012). "Promising resistance to pasmo in flax genotypes and update on fungicides to reduce yield and quality losses", 64th Flax Institute of the United States, Doublewood Inn, Fargo, ND, USA, March 29-30, 2012.

Rashid, K.Y. and Desjardins, M.L. (2012). "Diseases of sunflower in Manitoba in 2011.", *Canadian Plant Disease Survey*, 92, pp. 152-153.

Rashid, K.Y. (2012). "Updates on fungicide treatment to reduce powdery mildew and yield losses in flax.", 64th Flax Institute of the United States, Doublewood Inn, Fargo, ND, USA, March 29-30, 2012.

Rashid, K.Y., Desjardins, M.L., Duguid, S.D., and Northover, P.R. (2012). "Diseases of flax in Manitoba and Saskatchewan in 2011.", *Canadian Plant Disease Survey*, 92, pp. 134-135.

## 2011

Rashid, K.Y. (2011). "Seminar on Major diseases of flax.", 2nd year Agriculture Diploma Students, University of Manitoba, Winnipeg, MB, Canada, November 2, 2011. (Presentation)

Rashid, K.Y., Desjardins, M.L., and Duguid, S.D. (2011). "Diseases of flax in Manitoba and Saskatchewan in 2010.", *Canadian Plant Disease Survey*, 91, pp. 128-129.

Rashid, K.Y. and Desjardins, M.L. (2011). "Diseases of sunflower in Manitoba in 2010.", *Canadian Plant Disease Survey*, 91, pp. 142-144.

Fetch Jr., T.G., Zegeye, T., Singh, D., Wanyera, R., Penner, M., and Rashid, K.Y. (2011). "Virulence of Ug99 (race TTKSK) and race TRTTF on Canadian wheat cultivars.", *Canadian Journal of Plant Science*, 92(3), pp. 602. (Abstract)

Rashid, K.Y. (2011). "Report on the flax and sunflower disease situation in 2010.", *Canadian Phytopathological Society (CPS) Manitoba Regional 2011 Meeting*, Winnipeg, MB, Canada, December 8, 2011.

Rashid, K.Y. (2011). "Seminar on epidemiology and management of flax diseases.", 3rd year students, Faculty of Agriculture, University of Manitoba, Winnipeg, MB, Canada, November 2, 2011. (Presentation)

Rashid, K.Y. (2011). Diseases of oilseed crops. Chapter 4. In: *Guidelines of plant disease control*, Western Committee of Plant Disease, Western Forum on Pest Management, Western Committee on Plant Diseases, Canada.

Vera, C.L. and Rashid, K.Y. (2011). "Lodging in association with disease in flax breeding plots.", *Soils and Crops Workshop 2011*, Prairieland Park, Saskatoon, SK, Canada, March 15-16, 2011. (Poster)

Vera, C.L., Irvine, R.B., Duguid, S.D., and Rashid, K.Y. (2011). "Effect of fungicide and N application on lodging and disease in flax.", *Soils and Crops Workshop 2011*, Prairieland Park, Saskatoon, SK, Canada, March 15-16, 2011. (Poster)

Rashid, K.Y. (2011). "Interaction between flax genotypes and *Septoria linicola* isolates from western Canada.", *Canadian Phytopathological Society Saskatchewan Regional (CPS-SK) 2010 Meeting*, Saskatoon, SK, Canada, December 9, 2010, published in *Canadian Journal of Plant Pathology / Revue canadienne de phytopathologie*, 33(2), pp. 290. (Presentation)

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## Research Publications:

2013

Rathgeber, B.M., McCarron, P., and Budgell, K.L. (2013). "Salmonella penetration through eggshells of chickens of different genetic backgrounds.", *Poultry Science*, 92(9), pp. 2457-2462. doi : 10.3382/ps.2013-03139

Kaur, R., Rathgeber, B.M., Thompson, K.L., and Maclsaac, J.L. (2013). "Uterine fluid proteins and egg quality characteristics for 2 commercial and 2 heritage laying hen lines in response to manipulation of dietary calcium and vitamin D<sub>3</sub>.", *Poultry Science*, 92(9), pp. 2419-2432. doi : 10.3382/ps.2012-02983

2011

Rathgeber, B.M., Anderson, D.M., Thompson, K.L., Maclsaac, J.L., and Budge, S.M. (2011). "Color and fatty acid profile of abdominal fat pads from broiler chickens fed lobster meal.", *Poultry Science*, 90(6), pp. 1329-1333. doi : 10.3382/ps.2010-01111

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## Research Publications:

2015

Seelan, J.S.S., Justo, A., Nagy, L.G., Grand, E.A., Redhead, S.A., and Hibbett, D.S. (2015). "Phylogenetic relationships and morphological evolution in *Lentinus*, *Polyporellus* and *Neofavolus*, emphasizing Southeast Asian taxa.", *Mycologia*, 107(3), pp. 460-474. doi: 10.3852/14-084

Liu, M., McCabe, E., Chapados, J.T., Carey, J., Wilson, S.K., Tropiano, R., Redhead, S.A., Lévesque, C.A., and Hambleton, S. (2015). "Detection and identification of selected cereal rust pathogens by TaqMan® real-time PCR.", *Canadian Journal of Plant Pathology*, 37(1), pp. 92-105. doi: 10.1080/07060661.2014.999123

2014

Lodge, J.D., Padamsee, M., Matheny, B., Aime, C., Cantrell, S.A., Boertmann, D., Kovalenko, A., Vizzini, A., Dentinger, B., Kirk, P.M., Ainsworth, A.M., Moncalvo, J.-M., Vilgalys, R., Larsson, E., Lücking, R., Griffith, G.W., Smith, M.E., Norvell, L.L., Desjardin, D.E., Redhead, S.A., Ovrebo, C.L., Lickey, E.B., Ercole, E., Hughes, K.M., Courtecuisse, R., Young, A., Binder, M., Minnis, A.M., Lindner, D.L., Ortiz-Santana, B., Haight, J., Læssøe, T., Baroni, T.J., Geml, J., and Hattori, T. (2014). "Molecular phylogeny, morphology, pigment chemistry and ecology in *Hygrophoraceae* (Agaricales).", *Fungal Diversity*, 64(1), pp. 1-99. doi: 10.1007/s13225-013-0259-0

Vydryakova, G.A., Morozova, O.V., Redhead, S.A., and Bissett, J.D. (2014). "Observations of morphologic and genetic diversity in populations of *Filobolus manipularis* (Fungi: Mycenaceae) in southern Vietnam.", *Mycology*, 5(2), pp. 81-97. doi: 10.1080/21501203.2014.902402

Hofstetter, V., Redhead, S.A., Kauff, F., Moncalvo, J.-M., Matheny, P.B., and Vilgalys, R. (2014). "Taxonomic revision and examination of ecological transitions of the *Lyophyllaceae* (Basidiomycota, Agaricales) based on a multigene phylogeny.", *Cryptogamie Mycologie*, 35(4), pp. 399-425. doi: 10.7872/crym.v35.iss4.2014.399

Redhead, S.A., Demoulin, V., Hawksworth, D.L., Seifert, K.A., and Turland, N.J. (2014). "Fungal Nomenclature at IMC10: Report of the Nomenclature Sessions.", *IMA Fungus*, 5(2), pp. 449-462. doi: 10.5598/ima fungus.2014.05.02.09

2013

Redhead, S.A. and Norvell, L.L. (2013). "Report of the Nomenclature Committee for Fungi 19: Official repositories for fungal names.", *Taxon*, 62(1), pp. 173-174.

Redhead, S.A. (2013). "(2128) Proposal to conserve the name *Flammula* (Fr.) P. Kumm. (Fungi: Agaricales) against *Flammula* (Webb ex Spach) Fourr. (Spermatophyta: Ranunculaceae).", *Taxon*, 62(2), pp. 401-402.

Smith, D.S., Rocheleau, H.J., Rocheleau, H., Chapados, J.T., Abbott, C.L., Ribero, S., Redhead, S.A., Lévesque, C.A., and De Boer, S.H. (2013). "Phylogeny of the genus *Synchytrium* and the development of a real-time TaqMan PCR assay for sensitive detection of *Synchytrium endobioticum* sporangia in the chloroform flotation fraction of sieved field soil.", *The Western Producer*, 104(4), pp. 422-432. doi: 10.1094/PHYTO-05-13-0144-R

2012

Wu, S.-H., Kirk, P.M., Redhead, S.A., Stalpers, J.A., Dai, Y.-C., Norvell, L.L., Yang, Z.-L., Ryvarden, L., Su, C.-H., Li, Y., Zhuang, W.-Y., and Yao, Y.-J. (2012). "Resolution of the nomenclature for *niu-chang-chih* (*Taiwanofungus camphoratus*), an important medicinal polypore.", *Taxon*, 61(6), pp. 1305-1310.

Geml, J., Kauff, F., Brochmann, C., Lutzoni, F., Laursen, G.A., Redhead, S.A., and Taylor, D.L. (2012). "Frequent circumpolar and rare transequatorial dispersals in the lichenised agaric genus *Lichenomphalia* (Hygrophoraceae, Basidiomycota).", *Fungal Biology*, 116(3), pp. 388-400. doi: 10.1016/j.funbio.2011.12.009

Daniel, H.-M., Redhead, S.A., Schnürer, J., Naumov, G.I., and Kurtzman, C.P. (2012). "(2049-2050) Proposals to conserve the name *Wickerhamomyces* against *Hansenula* and to reject the name *Saccharomyces sphaericus* (Ascomycota: Saccharomycotina).", *Taxon*, 61(2), pp. 459-461.

Redhead, S.A., Antonín, V., Tomšovský, M., Volk, T.J., Munda, A., and Piltaver, A. (2012). "(2044) Proposal to conserve the name *Agaricustabescens* against *A. socialis* (Basidiomycota).", *Taxon*, 61, pp. 252-253.

Redhead, S.A. and Norvell, L.L. (2012). "Mycobank, Index Fungorum, and Fungal Names recommended as official nomenclatural repositories for 2013.", *IMA Fungus*, 3(2), pp. 44-45.

Wu, S.-H., Yao, Y.-J., Wang, X.-C., Kirk, P.M., Redhead, S.A., Stalpers, J.A., Dai, Y.-C., Norvell, L.L., Yang, Z.-L., Ryvarden, L., Su, C.-H., Li, Y., Zhuang, W.-Y., Chen, C.-J., Chen, L.-C., and Yu, Z.-H. (2012). "(2101) Proposal to conserve the name *Ganoderma camphoratum* (*Taiwanofungus camphoratus*) (Polyporales) with a conserved type.", *Taxon*, 61(6), pp. 1321-1322.

## 2011

Hawksworth, D.L., Crous, P.W., Redhead, S.A., Reynolds, D.R., Samson, R.A., Seifert, K.A., Taylor, J.W., Wingfield, M.J., Abaci, Ö., Aime, C., Asan, A., Bai, F.-Y., De Beer, Z.W., Begerow, D., Berikten, D., Boekhout, T., Buchanan, P.K., Burgess, T.I., Buzina, W., Cai, L., Cannon, P.F., Crane, J.L., Damm, U., Daniel, H.-M., van Diepeningen, A.D., Druzhinina, I.S., Dyer, P.S., Eberhardt, U., Fell, J.W., Frisvad, J.C., Geiser, D.M., Geml, J., Glienke, C., Gräfenhan, T., Groenewald, J.Z., Groenewald, M., de Gruyter, J.Z., Guého-Kellemann, E., Hibbett, D.S., Hong, S.-B., de Hoog, G.S., Houbraken, J.A.M.P., Huhndorf, S.M., Hyde, K.D., Ismail, A., Johnston, P.R., Kadaifçiler, D.G., Kirk, P.M., Kõljalg, U., Kurtzman, C.P., Lagneau, P.-E., Lévesque, C.A., and others (2011). "The Amsterdam Declaration on Fungal Nomenclature.", *IMA Fungus*, 2(1), pp. 105-112. doi : 10.5598/ima fungus.2011.02.01.14

Hawksworth, D.L., Crous, P.W., Redhead, S.A., Samson, R.A., Seifert, K.A., Taylor, J.W., and Wingfield, M.J. (2011). "The Amsterdam Declaration on Fungal Nomenclature.", *Mycotaxon*, 116, pp. 491-500.

Redhead, S.A., Ammirati, J.F., Norvell, L.L., Vizzini, A., and Contu, M. (2011). "Validation of combinations with basionyms published by Fries in 1861.", *Mycotaxon*, 118, pp. 455-458. doi : 10.5248/118.455

Redhead, S.A., Bérubé, J., Cleary, M.R., Holdenrieder, O., Hunt, R.S., Korhonen, K., Marxmüller, H., and Morrison, D.J. (2011). "(2033) Proposal to conserve *Armillariella ostoyae* (*Armillaria ostoyae*) against *Agaricus obscurus*, *Agaricus occultans*, and *Armillaria solidipes* (Basidiomycota).", *Taxon*, 60(6), pp. 1770-1771.

## Other Science Related Publications:

### 2016

Redhead, S.A. and Kirk, P.M. (2016). "Nomenclatural novelties. (<http://www.indexfungorum.org/Publications/Index%20Fungorum%20no.287.pdf>)", *Index Fungorum*, 287, pp. 1.

Redhead, S.A. (2016). "Nomenclatural novelties. (<http://www.indexfungorum.org/Publications/Index%20Fungorum%20no.288.pdf>)", *Index Fungorum*, 288, pp. 1.

Redhead, S.A. (2016). "Nomenclatural novelties. (<http://www.indexfungorum.org/Publications/Index%20Fungorum%20no.285.pdf>)", *Index Fungorum*, 285, pp. 1.

### 2015

Redhead, S.A. (2015). "Nomenclatural novelties. (<http://www.indexfungorum.org/Publications/Index%20Fungorum%20no.283.pdf>)", *Index Fungorum*, 283, pp. 1.

Redhead, S.A. (2015). "Nomenclatural novelties. (<http://www.indexfungorum.org/Publications/Index%20Fungorum%20no.284.pdf>)", *Index Fungorum*, 284, pp. 1.

Redhead, S.A. (2015). "Review of Beug, M.W., Bessette, A.E. & Bessette, A.R. 2014. *Ascomycete Fungi of North America. A Mushroom Reference Guide.*", *Botanical Electronic News*, September(496).

Redhead, S.A. (2015). "Nomenclatural novelties.", *Index Fungorum*, 264, pp. 1.

Shernoff, L. and Redhead, S.A. (2015). "An interview with Scott Redhead.", *Mushroom, the journal of wild mushrooming*, 113(31), pp. 40-48.

### 2014

Redhead, S.A. (2014). "*Grovesinia moricola* (I. Hino) Redhead, comb. nov. MycoBank MB808807.", *IMA Fungus*, 5(1), pp. 100.

Redhead, S.A. (2014). "Nomenclatural novelties.", *Index Fungorum*, 205(1).

Redhead, S.A. (2014). "Nomenclatural novelties.", *Index Fungorum*, 158(1).

Redhead, S.A. (2014). "Nomenclatural novelties.", *Index Fungorum*, 202(1).

Redhead, S.A. (2014). "Nomenclatural novelties.", *Index Fungorum*, 148(1).

Redhead, S.A. (2014). "Protected names – Myth and Reality.", CBS Spring Symposium 2014: Genera and Genomes, Royal Netherlands Academy of Arts and Sciences, Amsterdam, The Netherlands.

Redhead, S.A. (2014). "Nomenclatural novelties.", *Index Fungorum*, 142(1).

Redhead, S.A. and Norvell, L.L. (2014). "Is the registration of fungal names actually working?", 10th International Mycologists Conference (IMC10), Queen Sirikit National Convention Center, Bangkok, Thailand, August 3-8, 2014.

Hambleton, S., Eggertson, Q.A., Edwards, T., Barasubiye, T., Redhead, S.A., and Lévesque, C.A. (2014). "DNA -barcoding herbarium specimens of obligate fungal pathogens – targeting the gaps in reference databases.", 10th International Mycological Conference (IMC10), Bangkok, Thailand, August 3-8, 2014. (Poster)

## 2013

Redhead, S.A. (2013). "Nomenclatural novelties.", *Index Fungorum*, 15, pp. 1-2.

Wilkinson, J., Mitrow, G., and Redhead, S.A. (2013). "Profile of the National Mycology Herbarium (DAOM).", The Society for the Preservation of Natural History Collections 28th Annual Meeting, South Dakota School of Mines and Technology, Rapid City, South Dakota, USA.

Redhead, S.A., Malloch, D., and Ginns, J. (2013). "Naiadolina flavomerulina.", *Omphalina*, 4(4), pp. 18-20. (Newsletter)

Minnis, A.M., Seifert, K.A., Redhead, S.A., and Halling, R.E. (2013). "Nomenclatural Procedures FAQ (ICN Melbourne Code): Help and Checklist for authors. Mycological Society of America, <http://www.mycologia.org/site/misc/FAQvers2.xhtml>".

Redhead, S.A. (2013). "Nomenclatural novelties.", *Index Fungorum*, 18, pp. 1.

## 2012

Norvell, L.L. and Redhead, S.A. (2012). "Registries of names and the new Code. (Editorial).", *IMA Fungus*, 3(1), pp. 2.

Redhead, S.A. (2012). "Nomenclatural novelties.", *Index Fungorum*, 4, pp. 1.

Norvell, L.L. and Redhead, S.A. (2012). "A mycologist's guide to the Melbourne Code.", *Inoculum*, 63(3), pp. 36.

Redhead, S.A. (2012). "Potential contributions towards a North American-wide Mycota from Canada – YouTube.", North American Mycoflora Workshop joined by Fungal Environmental Sampling and Informatics Network (FESIN) & Mycological Society of America (MSA), Connecticut Agricultural Experiment Station, New Haven, CT, USA, July 14-15, 2012.

Redhead, S.A. (2012). "Using name registration and lists of approved and rejected names to resolve mycological nomenclatural problems.", Symposium of the State Key Laboratory of Mycology (SKLM), Mycological Society of China (MSC), Nomenclatural Committee for Fungi & International Commission of the Taxonomy of Fungi: New Era of Fungal Nomenclature, Institute of Microbiology, Chinese Academy of Science, Beijing, China, August 9-10, 2012.

Redhead, S.A. (2012). "Conclusion.", Symposium of the State Key Laboratory of Mycology (SKLM), Mycological Society of China (MSC), Nomenclatural Committee for Fungi & International Commission of the Taxonomy of Fungi: New Era of Fungal Nomenclature, Institute of Microbiology, Chinese Academy of Science, Beijing, China, August 9-10, 2012.

McNeill, J., Redhead, S.A., and Wiersema, J.H. (Eds.) (2012). "Proposals to conserve or reject names.", *Taxon*, 61(6).

Redhead, S.A. (2012). "Nomenclatural novelties.", *Index Fungorum*, 14, pp. 1.

Redhead, S.A. (2012). "Nomenclatural novelties.", *Index Fungorum*, 8, pp. 1.

Redhead, S.A. (2012). "Nomenclatural novelties.", *Index Fungorum*, 5, pp. 1.

## 2011

Redhead, S.A. and Hawksworth, D.L. (2011). "Proposals to modify articles 1.3, 7.4, 7.9, 9.7, 11.1, 11.3, 14, 34.2, 51.1, 52.1, 56, 57.2, 59, regarding names of pleomorphic fungi in the International Code of Nomenclature for algae, fungi, and plants.", XVIII International Botanical Congress: Nomenclature Section, Melbourne Congress and Exhibition Centre, Melbourne, Australia, July 17-22, 2011. (Presentation)

Norvell, L.L., Pennycook, S.R., Redhead, S.A., Demoulin, V., Hawksworth, D.L., and Perry, G.E. (2011). "Proposals to modify articles 7.8, 9.2, 10.2, 10.5 & 48.1 bis regarding sanctioning in the International Code of Nomenclature for algae, fungi, and plants.", XVIII International Botanical Congress: Nomenclature Section, Melbourne Congress and Exhibition Centre, Melbourne, Australia, July 17-22, 2011. (Presentation)

Minnis, A.M., Redhead, S.A., Seifert, K.A., and Halling, R.E. (2011). "2012 Nomenclatural Procedures FAQ: Help and Checklist for Authors.", published in *Mycologia* (Web Page), Mycological Society of America, Washington, DC, USA.

Redhead, S.A., Norvell, L.L., Seifert, K.A., and Miller, A.N. (2011). "International meetings planned to discuss fungal nomenclature.", *IMA Fungus*, 2(2), pp. 44-45.

Redhead, S.A. (2011). Report to ECORC management on changes to the former International Code of Botanical Nomenclature (XVIII International Botanical Congress (IBC2011), Melbourne, Australia, July 23-30, 2011)., AAFC Eastern Cereal and Oilseed Research Centre, Ottawa, ON.

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## Research Publications:

2016

Kebede, A.Z., Woldemariam, T., Reid, L.M., and Harris, L.J. (2016). "Quantitative trait loci mapping for Gibberella ear rot resistance and associated agronomic traits using genotyping-by-sequencing in maize.", *Theoretical and Applied Genetics (TAG)*, 129(1), pp. 17-29. doi: 10.1007/s00122-015-2600-3

2015

Reid, L.M., Morrison, M.J., Zhu, X., Jindal, K.K., and Ma, B.-L. (2015). "High stalk sugar corn - A potential biofuel crop for Canada.", *Agronomy*, 107(2), pp. 475-485. doi: 10.2134/agronj14.0271

Du, X., Linghu, J., Shang, H., Reid, L.M., Zhu, X., Wang, J., and Wang, G. (2015). "Fine mapping of Leafy, a dominant mutant conferring extra leaves above the ear in maize.", *Euphytica*, 206(1), pp. 49-56. doi: 10.1007/s10681-015-1468-2

Tambong, J.T., Xu, R., Adam, Z., Cott, M., Rose, K., Reid, L.M., Daayf, F., Brière, S.C., and Bilodeau, G.J. (2015). "Draft genome sequence of *Clavibacter michiganensis* subsp. *nebraskensis* strain DOAB 397, isolated from an infected field corn plant in Manitoba, Canada.", *Genome Announcements*, 3(4): e00768-15, pp. 1-2. doi: 10.1128/genomeA.00768-15

Reid, L.M., Voloaca, C., Wu, J.-H., Woldemariam, T., Jindal, K.K., and Zhu, X. (2015). "CO453 corn inbred line.", *Canadian Journal of Plant Science*, 95(1), pp. 183-188. doi: 10.4141/CJPS-2014-206

Butrón, A., Reid, L.M., Santiago, R., Cao, A., and Malvar, R.A. (2015). "Inheritance of maize resistance to *Gibberella* and *Fusarium* ear rots and kernel contamination with deoxynivalenol and fumonisins.", *Plant Pathology*, 64(5), pp. 1053-1060. doi: 10.1111/ppa.12351

2014

Reid, L.M., Morrison, M.J., Zhu, X., Wu, J.-H., Woldemariam, T., Voloaca, C., and Xiang, K. (2014). "Selecting maize for rapid kernel drydown: timing of moisture measurement and relationship to corn heat units, rainfall and solar radiation.", *Maydica*, 59(1), pp. 9-15.

Reid, L.M., Zhu, X., Voloaca, C., Wu, J.-H., Woldemariam, T., Martin, R.A., and Beres, B.L. (2014). "CO450 corn inbred line.", *Canadian Journal of Plant Science*, 94(1), pp. 161-167. doi: 10.4141/cjps2013-190

Kebede, A.Z., Reid, L.M., Zhu, X., Wu, J.-H., Woldemariam, T., Voloaca, C., and Xiang, K. (2014). "Relationship between kernel drydown rate and resistance to *Gibberella* ear rot in maize.", *Euphytica*, 201(1), pp. 79-88. doi: 10.1007/s10681-014-1185-2

Reid, L.M., Voloaca, C., Wu, J.-H., Woldemariam, T., Jindal, K.K., and Zhu, X. (2014). "CO454 corn inbred line.", *Canadian Journal of Plant Science*, 94(8), pp. 1529-1533. doi: 10.4141/CJPS-2014-207

Reid, L.M., Voloaca, C., Wu, J.-H., Woldemariam, T., Jindal, K.K., and Zhu, X. (2014). "CO452 corn inbred line.", *Canadian Journal of Plant Science*, 94(8), pp. 1523-1527. doi: 10.4141/cjps-2014-205

Foroud, N.A., Chatterton, S., Reid, L.M., Turkington, T.K., Tittlemier, S.A., and Gräfenhan, T. (2014). "Fusarium Diseases of Canadian Grain Crops: Impact and Disease Management Strategies.", in Goyal A, and Manoharachary C. (eds.) - *Future Challenges in Crop Protection Against Fungal Pathogens*, Springer New York, pp. 267-316.

Reid, L.M., Zhu, X., Voloaca, C., Wu, J.-H., and Woldemariam, T. (2014). "CO451 corn inbred line.", *Canadian Journal of Plant Science*, 94(1), pp. 169-173. doi: 10.4141/cjps2013-191

2013

Li, L., Chen, W., Xiang, K., Reid, L.M., Lan, H., Yang, K.C., Zhang, M., Pan, G.-T., and Rong, T. (2013). "The effect of 5 cycles of biparental mass selection on a narrow base maize population based on phenotype, combining ability, and SSR analyses.", *Maydica*, 58(3-4), pp. 238-242.

Reid, L.M., Voloaca, C., Woldemariam, T., Wu, J.-H., and Zhu, X. (2013). "CO449 corn inbred line.", *Canadian Journal of Plant Science*, 93(2), pp. 331-335. doi: 10.4141/cjps2012-192



Reid, L.M., Zhu, X., Voloaca, C., Woldemariam, T., and Wu, J.-H. (2013). "CO448 corn inbred line.", *Canadian Journal of Plant Science*, 93(2), pp. 327-330. doi : 10.4141/cjps2012-191

Reid, L.M., Zhu, X., Voloaca, C., Woldemariam, T., and Wu, J.-H. (2013). "CO447 corn inbred line.", *Canadian Journal of Plant Science*, 93(2), pp. 323-326. doi : 10.4141/cjps2012-190

Cao, A., Santiago, R., Ramos, A.J., Marín, S., Reid, L.M., and Butrón, A. (2013). "Environmental factors related to fungal infection and fumonisin accumulation during the development and drying of white maize kernels.", *International Journal of Food Microbiology*, 164(1), pp. 15-22. doi : 10.1016/j.ijfoodmicro.2013.03.012

2012

Mesterházy, Á., Lemmens, M., and Reid, L.M. (2012). "Breeding for resistance to ear rots caused by *Fusarium* spp. in maize - A review.", *Plant Breeding*, 131(1), pp. 1-19. doi : 10.1111/j.1439-0523.2011.01936.x

2011

Cao, A., Reid, L.M., Butrón, A., Malvar, R.A., Souto, X.C., and Santiago, R. (2011). "Role of Hydroxycinnamic Acids in the Infection of Maize Silks by *Fusarium graminearum* Schwabe.", *Molecular Plant-Microbe Interactions*, 24(9), pp. 1020-1026. doi : 10.1094/MPMI-03-11-0079

Reid, L.M., Xiang, K., Zhu, X., Baum, B.R., and Molnar, S.J. (2011). "Genetic diversity analysis of 119 Canadian maize inbred lines based on pedigree and simple sequence repeat markers.", *Canadian Journal of Plant Science*, 91(4), pp. 651-661. doi : 10.4141/cjps10198

Xiang, K., Reid, L.M., Zhang, Z.-M., Zhu, X., and Pan, G.-T. (2011). "Characterization of correlation between grain moisture and ear rot resistance in maize by QTL meta-analysis.", *Euphytica*, 183(2), pp. 185-195. doi : 10.1007/s10681-011-0440-z

## Other Science Related Publications:

2015

Kebede, A.Z., Woldemariam, T., Reid, L.M., and Harris, L.J. (2015). "Molecular mapping of *Gibberella* ear rot resistance and kernel drydown rate in maize.", 13th European *Fusarium* Seminar, Martina Franca, Italy, May 10-14, 2015, pp. 168. (Abstract)

Reid, L.M. (2015). "AAFC 2015 Corn Inbred Line Release: CO456.", published by Agriculture and Agri-Food Canada. (Factsheet)

Reid, L.M. (2015). "AAFC 2015 Corn Inbred Line Release: CO455.", published by Agriculture and Agri-Food Canada. (Factsheet)

Kebede, A.Z., Woldemariam, T., Reid, L.M., and Harris, L.J. (2015). "Molecular mapping of *Gibberella* ear rot resistance and kernel drydown rate in maize.", 57th Annual Maize Genetics Conference, Charles, IL, USA, March 12-15, 2015. (Abstract)

Reid, L.M. (2015). *Corn Inbred Lines. 2015 Edition.*, Agriculture and Agri-Food Canada. (Report)

2014

Kebede, A.Z., Reid, L.M., Zhu, X., Woldemariam, T., Voloaca, C., and Wu, J.-H. (2014). "Does selection for fast kernel dry down result in gains for *Gibberella* ear rot resistance in maize?", 68th North Eastern Corn Improvement Conference, Wooster, Ohio, USA, February 13-14, 2014.

Zhu, X., Reid, L.M., Woldemariam, T., Voloaca, C., and Wu, J. (2014). "Yield analysis for Agriculture and Agri-Food Canada's corn program.", 68th Northeastern Corn Improvement Conference, Agriculture Research and Development Center, Wooster, Ohio, USA, February 13-14, 2014, pp. 12-13.

Reid, L.M. and Lawley, Y. (2014). "Update on AAFC's Corn Breeding Program.", CropConnect Conference, Winnipeg, MB, Canada, February 18-19, 2014.

Reid, L.M. (2014). *Corn Inbred Lines. 2014 Edition.*, Agriculture and Agri-Food Canada. (Report)

Reid, L.M. (2014). "AAFC 2014 Corn Inbred Line Release: CO453.", published by Agriculture and Agri-Food Canada. (Factsheet)

Reid, L.M. (2014). "AAFC 2014 Corn Inbred Line Release: CO452.", published by Agriculture and Agri-Food Canada. (Factsheet)

## 2013

Tian, L.-N., Eskin, N.A.M., Lu, J., Najak, A., Al Hejani, A., Tian, G., Vessey, K., Henry, H.A.L., Reid, L.M., and Yang, X. (2013). "Study *Gluconacetobacter diazotrophicus* in corn plants for colonization and potential nitrogen fixation.", 67th Northeastern Corn Improvement Conference, Ottawa, ON, Canada, February 14-15, 2013, pp. 11-15.

Tian, L.-N., Eskin, N.A.M., Vessey, K., Tian, G., Henry, H.A.L., Reid, L.M., and Yang, Y. (2013). "Study of biological nitrogen fixation in corn by *Gluconacetobacter diazotrophicus*.", 67th Northeastern Corn Improvement Conference, Ottawa, ON, Canada, February 14-15, 2013.

## 2012

Reid, L.M. (2012). "Corn Inbred Lines. 2012 Edition.", published by Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC). (Factsheet)

Zhu, X., Reid, L.M., Woldemariam, T., and Tenuta, A.U. (2012). "Survey of corn diseases and pests in Ontario and Québec in 2011.", *Canadian Plant Disease Survey*, 92, pp. 81-85.

Reid, L.M. (2012). "AAFC 2012 Corn Inbred Line Release: CO447.", published by Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC). (Factsheet)

Reid, L.M. (2012). "AAFC 2012 Corn Inbred Line Release: CO449.", published by Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC). (Factsheet)

Reid, L.M. (2012). "AAFC 2012 Corn Inbred Line Release: CO448.", published by Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC). (Factsheet)

## 2011

Zhu, X., Reid, L.M., Woldemariam, T., and Tenuta, A.U. (2011). "Survey of corn diseases and pests in Ontario and Québec in 2010.", *Canadian Plant Disease Survey*, 91, pp. 77-80.

Harris, L.J., Bosnich, W., Johnston, A., Woldemariam, T., Reid, L.M., Schneiderman, D., Mohammadi, M., and Gleddie, S.C. (2011). "Mapping gibberella ear rot resistance in maize using a large B73 X CO441 F6 recombinant inbred population.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 95.

Zhu, X., Reid, L.M., Woldemariam, T., Voloaca, C., and Wu, J.-H. (2011). "Expression of different Rp genes to common rust of corn in Ottawa, Ontario.", *Maize Genetics Cooperation Newsletter*, 85.

Zhu, X., Reid, L.M., Woldemariam, T., Voloaca, C., and Wu, J.-H. (2011). "Resistance breeding to northern corn leaf blight, *Exserohilum turcicum*, at Agriculture and Agri-Food Canada.", 65th Northeastern Corn Improvement Conference, University of Delaware, Newark, DE, Canada, February 17-18, 2011.

Xiang, K., Reid, L.M., Zhu, X., Zhang, Z.M., and Pan, G.-T. (2011). "Relationship among kernel drydown rates, agronomic traits and resistance to fusarium kernel rot and gibberella ear rot of corn.", 2011 Asian Corn Breeding Conference, Nanling, Guanxi, China, November 7-11, 2011.

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## Research Publications:

2015

Zhang, T.Q., Tan, C.S., Zheng, Z.M., Welacky, T.W., and Reynolds, W.D. (2015). "Impacts of soil conditioners and water table management on phosphorus loss in tile drainage from a clay loam soil.", *Journal of Environmental Quality*, 44(2), pp. 572-584. doi : 10.2134/jeq2014.04.0154

Reynolds, W.D. (2015). "A generalized variable-head borehole permeameter analysis for saturated, unsaturated, rigid or deformable porous media.", *Engineering Geology*, 185, pp. 10-19. doi : 10.1016/j.enggeo.2014.11.019

Reynolds, W.D., Drury, C.F., Tan, C.S., and Yang, X.M. (2015). "Temporal effects of food waste compost on soil physical quality and productivity.", *Canadian Journal of Soil Science*, 95(3), pp. 251-268. doi : 10.4141/CJSS-2014-114

2014

Drury, C.F., Reynolds, W.D., Yang, X.M., Tan, C.S., Guo, X.-B., McKenney, D.J., and Fleming, R. (2014). "Influence of compost source on corn grain yields, nitrous oxide and carbon dioxide emissions in southwestern Ontario.", *Canadian Journal of Soil Science*, 94(3), pp. 347-355. doi : 10.4141/CJSS2013-077

Reynolds, W.D., Drury, C.F., Yang, X.M., Tan, C.S., and Yang, J.Y. (2014). "Impacts of 48 years of consistent cropping, fertilization and land management on the physical quality of a clay loam soil.", *Canadian Journal of Soil Science*, 94(3), pp. 403-419. doi : 10.4141/CJSS2013-097

Zhang, B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, X. (2014). "Crop rotation, red clover and cropping history influences microbial amino sugars of a clay loam soil.", *Soil Science Society of America Journal*, 78(3), pp. 818-824. doi : 10.2136/sssaj2013.03.0098

Fan, R.-Q., Yang, X.M., Drury, C.F., Reynolds, W.D., and Zhang, X.-P. (2014). "Spatial distributions of soil chemical and physical properties prior to planting soybean in soil under ridge-, no- and conventional- tillage in a maize-soybean rotation.", *Soil Use and Management*, 30(3), pp. 414-442. doi : 10.1111/sum.12136

Guo, X.-B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Fan, R.-Q. (2014). "The extent of soil drying and rewetting affects nitrous oxide emissions, denitrification, and nitrogen mineralization.", *Soil Science Society of America Journal*, 78(1), pp. 194-204. doi : 10.2136/sssaj2013.06.0219

Reynolds, W.D., Schoenau, J.J., and Drury, C.F. (2014). "Scientific and practical benefits of long-term field studies.", *Canadian Journal of Soil Science*, 94(3), pp. 253-254. doi : 10.4141/CJSS-2014-501

Liu, S.Q., Yang, J.Y., Drury, C.F., Liu, H.L., and Reynolds, W.D. (2014). "Simulating maize (*Zea mays* L.) growth and yield, soil nitrogen concentration, and soil water content for a long-term cropping experiment in Ontario, Canada.", *Canadian Journal of Soil Science*, 94(3), pp. 435-452. doi : 10.4141/CJSS2013-096

Yang, X.M., Reynolds, W.D., Drury, C.F., Fleming, R., Tan, C.S., Denholm, K., and Yang, J.Y. (2014). "Organic carbon and nitrogen stocks in a clay loam soil 10 years after a single compost application.", *Canadian Journal of Soil Science*, 94(3), pp. 357-363. doi : 10.4141/CJSS2013-076

Drury, C.F., Tan, C.S., Welacky, T.W., Reynolds, W.D., Zhang, T.Q., Oloya, T.O., McLaughlin, N.B., and Gaynor, J.D. (2014). "Reducing nitrate loss in tile drainage water with cover crops and water-table management systems.", *Journal of Environmental Quality*, 43(2), pp. 587-598. doi : 10.2134/jeq2012.0495

Guo, X.-B., Drury, C.F., Yang, X.M., and Reynolds, W.D. (2014). "Water-Soluble carbon and the carbon dioxide pulse are regulated by the extent of soil drying and rewetting.", *Soil Science Society of America Journal*, 78(4), pp. 1267-1278. doi : 10.2136/sssaj2014.02.0059

Zhang, B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, X.D. (2014). "Effects of long-term and recently imposed tillage on the concentration and composition of amino sugars in a clay loam soil in Ontario, Canada.", *Soil & Tillage Research*, 135, pp. 9-17. doi : 10.1016/j.still.2013.08.011

Drury, C.F., Reynolds, W.D., Tan, C.S., McLaughlin, N.B., Yang, X.M., Calder, W., Oloya, T.O., and Yang, J.Y. (2014). "Impacts of 49-51 years of fertilization and crop rotation on growing season nitrous oxide emissions, nitrogen uptake and corn yields.", *Canadian Journal of Soil Science*, 94(3), pp. 421-433. doi : 10.4141/CJSS2013-101

2013

Reynolds, W.D. (2013). "An assessment of borehole infiltration analyses for measuring field-saturated hydraulic conductivity in the vadose zone.", *Engineering Geology*, 159(12), pp. 119-130. doi: 10.1016/j.enggeo.2013.02.006

Guo, X.-B., Drury, C.F., Reynolds, W.D., Yang, X.M., and Fan, R.-Q. (2013). "Nitrous oxide and carbon dioxide from aerobic and anaerobic incubations: Effect of core length.", *Soil Science Society of America Journal*, 77(3), pp. 817-829. doi: 10.2136/sssaj2012.0292

Liu, S., Yang, J.Y., Zhang, X.Y., Drury, C.F., Reynolds, W.D., and Hoogenboom, G. (2013). "Modelling crop yield, soil water content and soil temperature for a soybean-maize rotation under conventional and conservation tillage systems in Northeast China.", *Agricultural Water Management*, 123, pp. 32-44. doi: 10.1016/j.agwat.2013.03.001

2012

Drury, C.F., Reynolds, W.D., Yang, X.M., McLaughlin, N.B., Welacky, T.W., Calder, W., and Grant, C.A. (2012). "Nitrogen source, application time and tillage effects on soil nitrous oxide emissions and corn grain yields.", *Soil Science Society of America Journal*, 76(4), pp. 1268-1279. doi: 10.2136/sssaj2011.0249

Reynolds, W.D. and Lewis, J.K. (2012). "A drive point application of the Guelph Permeameter method for coarse-textured soils.", *Geoderma*, 187-188, pp. 59-66. doi: 10.1016/j.geoderma.2012.04.004

Saso, J.K., Parkin, G.W., Drury, C.F., Lauzon, J.D., and Reynolds, W.D. (2012). "Chloride leaching in two Ontario soils: Measurement and prediction using HYDRUS-1D.", *Canadian Journal of Soil Science*, 92(2), pp. 285-296. doi: 10.4141/CJSS2011-046

Zhang, B., Yang, X.M., Drury, C.F., Reynolds, W.D., He, H., and Zhang, X. (2012). "Effects of 49 years of fertilization on the distribution and accumulation of soil carbon under corn cultivation.", *Canadian Journal of Soil Science*, 92(6), pp. 835-839. doi: 10.4141/cjss2011-117

Guo, X.-B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, R. (2012). "Impacts of Wet-Dry Cycles and a Range of Constant Water Contents on Carbon Mineralization in Soils under Three Cropping Treatments.", *Soil Science Society of America Journal*, 76(2), pp. 485-493. doi: 10.2136/sssaj2011.0315

Shi, X.H., Yang, X.M., Drury, C.F., Reynolds, W.D., McLaughlin, N.B., and Zhang, X.-P. (2012). "Impact of ridge tillage on soil organic carbon and selected physical properties of a clay loam in southwestern Ontario.", *Soil & Tillage Research*, 120, pp. 1-7. doi: 10.1016/j.still.2012.01.003

Yang, X.M., Xie, H.T., Drury, C.F., Reynolds, W.D., Yang, J.Y., and Zhang, X.D. (2012). "Determination of organic carbon and nitrogen in particulate organic matter and particle size fractions of Brookston clay loam soil using infrared spectroscopy.", *European Journal of Soil Science*, 63(2), pp. 177-188. doi: 10.1111/j.1365-2389.2011.01421.x

2011

Shi, X.H., Yang, X.M., Drury, C.F., Reynolds, W.D., McLaughlin, N.B., Welacky, T.W., and Zhang, X.-P. (2011). "Zone Tillage Impact on Organic Carbon of a Clay Loam in Southwestern Ontario.", *Soil Science Society of America Journal*, 75(3), pp. 1083-1089. doi: 10.2136/sssaj2010.0319

Liu, H.L., Yang, J.Y., Tan, C.S., Drury, C.F., Reynolds, W.D., Zhang, T.Q., Bai, Y.L., Jin, J.Y., He, P., and Hoogenboom, G. (2011). "Simulating water content, crop yield and nitrate-N loss under free and controlled tile drainage with subsurface irrigation using the DSSAT model.", *Agricultural Water Management*, 98(6), pp. 1105-1111. doi: 10.1016/j.agwat.2011.01.017

Guo, X.-B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, R. (2011). "Influence of current and previous crops on soil basal and potential denitrification rates.", *Biology and Fertility of Soils*, 47(8), pp. 937-947. doi: 10.1007/s00374-011-0588-7

Reynolds, W.D. (2011). "Measuring soil hydraulic properties using a cased borehole permeameter: Steady flow analyses.", *Vadose Zone Journal*, 9(3), pp. 637-652. doi: 10.2136/vzj2009.0136

Liu, H.L., Yang, J.Y., Drury, C.F., Reynolds, W.D., Tan, C.S., Bai, Y.L., He, P., Jin, J.Y., and Hoogenboom, G. (2011). "Using the DSSAT-CERES-Maize model to simulate crop yield and nitrogen cycling in fields under long-term continuous maize production.", *Nutrient Cycling in Agroecosystems*, 89(3), pp. 313-328. doi: 10.1007/s10705-010-9396-y

Reynolds, W.D. (2011). "Measuring Soil Hydraulic Properties Using a Cased Borehole Permeameter: Falling-Head Analysis.", *Vadose Zone Journal*, 10(3), pp. 999-1015. doi: 10.2136/vzj2010.0145

## Other Science Related Publications:

## 2014

Zhang, B.L., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, X. (2014). "Crop Rotation, Cover Crops and Cropping History Influences Microbial Amino Sugars of a Clay Loam Soil.", CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.

Yang, X.M., Drury, C.F., Reynolds, W.D., Yang, J.Y., and Reeb, M.A. (2014). "Preliminary results of Nitro Radish on N scavenger in fall and mineral N dynamics in early spring in SW Ontario, Canada.", Lombard, IL, USA, July 27-30, 2014.

Yang, X.M., Drury, C.F., Reynolds, W.D., and Yang, J.Y. (2014). "Crop rotation: an effective way to preserve organic carbon in a soil converted from forest to agricultural use.", University of Chinese Academy of Sciences, Beijing, China, June 10-16, 2014. (Presentation)

Yang, X.M., Drury, C.F., Reynolds, W.D., and Yang, J.Y. (2014). "Crop rotation: an effective way to preserve organic carbon in a soil converted from forest to agricultural use.", International Symposium on resources, environment and sustainable development in Northeast Asia, Changchung, China, June 10-15, 2014.

Reynolds, W.D. and Rudy, H. (2014). Characterization of soil aeration and drought resilience for effective field crop management in southern Ontario. Final Report to: Ontario Soil and Crop Improvement Association (OSCIA), Guelph, Ontario, November 2014, pp. 39. (Report)

Yang, X.M., Zhang, X.-P., Drury, C.F., Reynolds, W.D., and Fan, R.-Q. (2014). "Profile Illustration of Soil Characteristics under Different Tillage Practices Using Surface Electrical Resistivity Tomography.", CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.

Reynolds, W.D., Drury, C.F., Yang, X.M., Tan, C.S., and Fleming, R.J. (2014). "Immediate and Long-Term Impacts of Compost on the Physical Quality and productivity of a Clay Loam Soil.", CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.

Drury, C.F., Reynolds, W.D., Tan, C.S., McLaughlin, N.B., Yang, X.M., Calder, W., Oloya, T.O., and Yang, J.Y. (2014). "Long-Term Fertilization and Crop Rotation Impacts on Growing Season Nitrous Oxide Emissions, Nitrogen Uptake and Corn Grain Yields.", CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.

Guo, X.-B., Drury, C.F., Yang, X.M., and Reynolds, W.D. (2014). "Water-Soluble Carbon Controls the Size of Carbon Mineralization Pulse in an Agricultural Soil Following Drying and Rewetting Processes.", CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.

## 2013

Drury, C.F., Reynolds, W.D., Yang, X.M., Tan, C.S., and McLaughlin, N.B. (2013). "Agronomic and soil quality benefits of cover crops.", Middle West Cover Crop Council Meeting - Making Sense with Cover Crops Workshop, London, ON, Canada, February 28 - March 1, 2013. (Workshop)

Yang, X.M., Drury, C.F., Yang, J.Y., and Reynolds, W.D. (2013). "Is Mid-Infrared Spectral Subtraction a Practical Approach for Accurate Study of Soil Organic Matter?", the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America 2013 International Annual Meetings, Tampa, FL, USA, November 3-6, 2013.

Yang, X.M., Drury, C.F., Reynolds, W.D., and Yang, J.Y. (2013). "Fall accumulation and spring release of soil mineral nitrogen following winter wheat and before corn planting on a Brookston clay loam in SW Ontario.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Zhang, B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, X. (2013). "Effects of long-term and recently imposed tillage on the concentration and composition of amino sugars in a clay loam soil.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Reynolds, W.D., Drury, C.F., Yang, X.M., and Yang, J.Y. (2013). "A generalized analysis for the variable-head borehole permeameter test.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Engbers, H., Rudy, H., and Reynolds, W.D. (2013). Field-Estimation of Drought Resilience for Efficient Row Crop Management - Interim report to: Farm and Food Care Ontario, Guelph, Ontario. (Report)

McLaughlin, N.B., Drury, C.F., Reynolds, W.D., Yang, X., Tan, C.S., and Yang, J. (2013). "Effect of long term crop rotation and fertilization on mouldboard plough draft in a clay loam soil.", 67th Northeastern Corn Improvement Conference, Lord Elgin Hotel, Ottawa, ON, Canada, February 14-15, 2013. (Presentation)

Reynolds, W.D., Rudy, H., and Engbers, H. (2013). "Scientific knowledge on soil properties relevant to drought resilience of field-crop soils; methodology and infrastructure for determination of soil physical and hydraulic properties on intact soil core samples." (Technology transfer)

Reynolds, W.D. and Handyside, P. (2013). "Scientific knowledge on soil properties relevant to irrigation scheduling of field-based horticultural crops; methodology and infrastructure for determination of plant-available soil air and water capacities on intact soil core samples." (Technology transfer)

Reynolds, W.D. and Hutchinson, A.S. (2013). "Computer spreadsheets of data analysis and calculations based on newly developed variable-head borehole permeameter (VHBP) technology; interpretation of VHBP results; recommendations on next steps." (Technology transfer)

Zhang, B.L., Drury, C.F., Yang, X., Reynolds, W.D., and Zhang, X. (2013). "Effects of long-term and recently imposed tillage on the concentration and composition of amino sugars in a clay loam soil.", Joint annual meetings of the Canadian Society of Soil Science, Manitoba Soil Science Society, and Canadian Society of Agricultural and Forest Meteorology, Fort Garry Hotel, Winnipeg, MB, Canada, July 22-25, 2013, Oral presentation.

Reynolds, W.D., Drury, C.F., Yang, X., and Yang, J. (2013). "A generalized analysis for the variable-head borehole permeameter test.", Joint annual meetings of the Canadian Society of Soil Science, Manitoba Soil Science Society, and Canadian Society of Agricultural and Forest Meteorology, Fort Garry Hotel, Winnipeg, MB, Canada, July 22-25, 2013, Oral presentation.

Guo, X.-B., Drury, C.F., Reynolds, W.D., Yang, X., and Fan, R.-Q. (2013). "Nitrous oxide and carbon dioxide emissions from aerobic and anaerobic incubations: effect of core length.", Joint annual meetings of the Canadian Society of Soil Science, Manitoba Soil Science Society, and Canadian Society of Agricultural and Forest Meteorology, Fort Garry Hotel, Winnipeg, MB, Canada, July 22-25, 2013, Oral presentation.

Guo, X.-B., Drury, C.F., Reynolds, W.D., Yang, X.M., and Fan, R.-Q. (2013). "Nitrous oxide and carbon dioxide emissions from aerobic and anaerobic incubations: effect of core length.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

## 2012

Zhang, T.Q., Tan, K.C.B., Drury, C.F., and Reynolds, W.D. (2012). "Changes of soil phosphorus fractions induced by fertilization and crop rotation in comparison with virgin forest.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012. (Abstract)

Guo, X.-B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Fan, R.-Q. (2012). "The Impact of the Degree of Soil Wetting and Drying on Nitrous Oxide Emissions.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012, pp. 85.

Zhang, T.Q., Tan, C.S., Welacky, T.W., Reynolds, W.D., Drury, C.F., Yang, J.Y., O'Halloran, I.P., Hua, Y.F., Prasher, S.O., and Lin, Z. (2012). Managing phosphorus and water in soils long-term continuously added with animal manures and inorganic fertilizers to increase crop use efficiency and to reduce adverse impacts on water quality in Great Lakes region. Report to AAFC. (Report)

Fan, R.-Q., Yang, X.M., Drury, C.F., Reynolds, W.D., and Zhang, X.-P. (2012). "Characterizing Organic Carbon in Aggregate Inner- and Outer-Core Fractions of Soils Under Different Land Use Systems.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012, pp. 74.

Drury, C.F., Reynolds, W.D., Tan, C.S., McLaughlin, N.B., Yang, X.M., and Calder, W. (2012). "Long-Term Effects of Fertilization and Crop Rotation on Nitrous Oxide Emissions From Soils.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012, pp. 72.

Yang, X.M., Drury, C.F., Reynolds, W.D., McLaughlin, N.B., and Yang, J.Y. (2012). "Impacts of Fifty-Years of Crop Rotation and Fertilization on SOC and N of a Brookston Clay Loam in Southwestern Ontario.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012, pp. 127.

Yang, X.M., Drury, C.F., and Reynolds, W.D. (2012). "Soil organic carbon and total nitrogen stocks 10 years after a single compost addition to brookston clay loam soil.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012, pp. 151.

## 2011

Drury, C.F., Reynolds, W.D., Yang, X.M., and Yang, J.Y. (2011). "Challenges and Opportunities for Agriculture over the Next 50 Years. Future of Food: bioCEP3.", Biotechnology, Crops, Education, Policy, Production and Perception, London, ON, Canada, September 20, 2011. (Presentation)

Guo, X.-B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, R. (2011). "Influence of current and previous crop on soil basal and potential denitrification rates.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Drury, C.F., Reynolds, W.D., Yang, X.M., Welacky, T.W., McLaughlin, N.B., Calder, W., and Grant, C.A. (2011). "Tillage and N source effects on nitrous oxide emissions from soils.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Reynolds, W.D., Drury, C.F., Yang, X.M., Tan, C.S., Zhang, T.Q., and Yang, J.Y. (2011). "Measuring Soil Hydraulic Properties Using a Falling-Head Borehole Permeameter.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Drury, C.F., Yang, J.Y., DeJong, R., Huffman, E.C., Yang, X.M., Reynolds, W.D., and Reid, D.K. (2011). "Validating the Residual Soil Nitrogen Indicator.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Shi, X.H., Yang, X.M., Drury, C.F., Reynolds, W.D., McLaughlin, N.B., and Zhang, X. -P. (2011). "Impact of Ridge Tillage on Organic Carbon Sequestration in a Clay Loam Soil in Southwestern Ontario.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Guo, X.-B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, R. (2011). "Impacts of constant versus fluctuating water-filled pore space on carbon mineralization in soils.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Zhang, T.Q., Tan, C.S., Drury, C.F., MacLeod, J.A., Grimmer, M.G., Welack, T.W., and Reynolds, W.D. (2011). Phosphorus cycling in agro-eco-systems and development for risk assessment tools and BMPs to improve water quality while maximizing crop productivity. Final Report, Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC). (Report)

Zhang, T.Q., Tan, C.S., Yang, J.Y., and Reynolds, W.D. (2011). "Soil fertility management, crop productivity and water quality: nutrient management research in AAFC.", International Workshop on Non-Point Source Pollution Control in the Three Gorges Reservoir Basin, Chongqing, China, January 8-17, 2011.

Yang, X.M., Drury, C.F., Reynolds, W.D., and Xie, H.T. (2011). "Determination of Organic Carbon and Nitrogen In Particulate and Particle Size Fractions of Brookston Clay Loam Soils Using Soil Infrared Spectroscopy.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

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## Research Publications:

2015

Lévesque-Lemay, M., Chabot, D., Hubbard, K., Chan, J., Miller, S.S., Miller, S.S., and Robert, L.S. (2015). "Tapetal oleosins play an essential role in tapetosome formation and protein relocation to the pollen coat.", *New Phytologist*. doi : 10.1111/nph.13611

2014

Nazemof, N., Couroux, P., Rampitsch, C., Xing, T., and Robert, L.S. (2014). "Proteomic Profiling Reveals Insights into Triticaceae Stigma Development and Function.", *Journal of Experimental Botany*, 65(20), pp. 6069-6080. doi : 10.1093/jxb/eru350

2013

Tran, F., Penniket, C., Patel, R.V., Provart, N.J., Laroche, A., Rowland, O., and Robert, L.S. (2013). "Developmental transcriptional profiling reveals key regulators of Triticaceae reproductive development.", *Plant Journal*, 74(6), pp. 971-988. doi : 10.1111/tpj.12206

2012

Zaidi, M.A., O'Leary, S., Wu, S., Gleddie, S.C., Eudes, F., Laroche, A., and Robert, L.S. (2012). "A molecular and proteomic investigation of proteins rapidly released from triticale pollen upon hydration.", *Plant Molecular Biology*, 79(1-2), pp. 101-121. doi : 10.1007/s11103-012-9897-y

2011

Laroche, A., Penniket, C., Frick, M., Genswein, B.M.A., Thomas, D.K., Puchalski, B., Graf, R.J., Selinger, L.B., Robert, L.S., Ouellet, T., Singh, J., and Gaudet, D.A. (2011). "Gene expression in Triticale.", in Chibar, R.N. and Dexter, J. (eds.) - *Wheat Science Dynamics: Challenges and Opportunities*, Agrobias International, Jodhpur, India, pp. 653-657.

Xu, Y., Badea, C., Tran, F., Frick, M., Schneiderman, D., Robert, L.S., Harris, L.J., Thomas, D.K., Tinker, N.A., Gaudet, D.A., and Laroche, A. (2011). "Next-Gen sequencing of the transcriptome of triticale.", *Plant Genetic Resources: Characterization and Utilization*, 9(2), pp. 181-184. doi : 10.1017/s1479262111000281

Gaudet, D.A., Wang, Y., Frick, M., Puchalski, B., Penniket, C., Ouellet, T., Robert, L.S., Singh, J., and Laroche, A. (2011). "Low temperature induced defence gene expression in winter wheat in relation to resistance to snow moulds and other wheat diseases.", *Plant Science*, 180(1), pp. 99-110. doi : 10.1016/j.plantsci.2010.07.023

## Other Science Related Publications:

2013

Xu, Y., Frick, M., Penniket, C., Robert, L.S., Harris, L.J., Tran, F., Schneiderman, D., Gulick, P.J., and Laroche, A. (2013). "Identification and regulation of cell wall transcripts in triticale (x *Triticosecale* Wittm.)", *The 8th International Triticale Symposium*, Ghent, Belgium, June 10-14, 2013, pp. 3. (Poster)

Zoghalmi, S., Bergeron, M., Moore, H., Labrie, G., Pageau, D., Robert, L.S., Robert, L.S., Tardif, E., and Tremblay, G. (2013). *Guide de production du canola*. Publication de la Fédération des Producteurs de Cultures Commerciales du Québec. 12 pages. (Report)

Laroche, A., Xu, Y., Penniket, C., Robert, L.S., Robert, L.S., Harris, L.J., Tran, F., Schneiderman, D., Gulick, P.J., and Frick, M. (2013). "A comprehensive reference transcriptome for triticale (x *Triticosecale* Wittm.)", *The 8th International Triticale Symposium*, Ghent, Belgium, June 10-14, 2013, O10.



2012

Frick, M., Xu, Y., Penniket, C., Robert, L.S., Harris, L.J., Tran, F., Schneiderman, D., Gulick, P., and Laroche, A. (2012). "A triticale (x Triticosecale Wittm.) reference transcriptome.", 22nd International Triticeae Mapping Initiative (ITMI) and 4th National Wheat Genomics Committee Joint Workshop, Fargo, ND, USA, June 25-29, 2012, pp. 12.

2011

Frick, M., Xu, Y., Robert, L.S., Gulick, P., Harris, L.J., Badea, C., Penniket, C., and Laroche, A. (2011). "Transcriptional analyses of plant defense pathway related genes in cereals.", VI International Scientific Seminar on Plant Health and II International Phytoplasma Workshop, Havana, Cuba, September 22-26, 2008, pp. 13.

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## Research Publications:

2014

Kagale, S., Koh, C.S., Nixon, J.H., Bollina, V., Clarke, W.E., Tuteja, R., Spillane, C., Robinson, S.J., Links, M.G., Clarke, C., Higgins, E.E., Huebert, T., Sharpe, A.G., and Parkin, I.A.P. (2014). "The emerging biofuel crop *Camelina sativa* retains a highly undifferentiated hexaploid genome structure.", *Nature Communications*, 5(April: Article number 3706), pp. 1-11. doi: 10.1038/ncomms4706

Kagale, S., Robinson, S.J., Nixon, J.H., Xiao, R., Huebert, T., Condie, J., Kessler, D., Clarke, W.E., Edger, P.P., Links, M.G., Sharpe, A.G., and Parkin, I.A.P. (2014). "Polyploid evolution of the Brassicaceae during the Cenozoic era.", *Plant Cell*, 26(7), pp. 2777-2791. doi: 10.1105/tpc.114.126391

2012

Taheri, A., Robinson, S.J., Parkin, I.A.P., and Gruber, M.Y. (2012). "Revised Selection Criteria for Candidate Restriction Enzymes in Genome Walking.", *PLoS ONE*, 7(4, Article No. e35117). doi: 10.1371/journal.pone.0035117

## Other Science Related Publications:

2014

Robinson, S.J., Cartar, R.V., Hoover, S.E.R., and Pernal, S.F. (2014). "Determinants of pollination, insect visitation, and nectar availability in commercial canola (*Brassica napus* L.)", 62nd Annual Meeting of the Entomological Society of Alberta, Lethbridge, AB, Canada, October 16-18, 2014, Presentation.

2012

Parkin, I.A.P., Kagale, S., and Robinson, S.J. (2012). "Capturing the Leaf Transcriptome of *Isatis tinctoria* L.", 6th International Symposium on Brassica and 18th Crucifer Genetics Workshop, Catania, Sicily, Italy, November 12-16, 2012.

# Robitaille, Gilles, Ph.D.

Research Scientist

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## Research Publications:

2014

Robitaille, G. and Champagne, C.P. (2014). "Growth-promoting effects of pepsin- and trypsin-treated caseinomacropeptide from bovine milk on probiotics.", *Journal of Dairy Research*, 81(3), pp. 319-324. doi: 10.1017/S0022029914000247

Robitaille, G., Choinière, S., Ells, T.C., Deschênes, L., and Mafu, A.A. (2014). "Attachment of *Listeria innocua* to Polystyrene: Effects of Ionic Strength and Conditioning Films from Culture Media and Milk Proteins.", *Journal of Food Protection*, 77(3), pp. 427-434.

2013

Demers-Mathieu, V., Gauthier, S.F., Britten, M., Fliss, I., Robitaille, G., and Jean, J. (2013). "Inhibition of *Listeria monocytogenes* growth in cheddar cheese by an anionic peptides-enriched extract from whey proteins.", *International Dairy Journal*, 32(1), pp. 6-12. doi: 10.1016/j.idairyj.2013.03.008

Demers-Mathieu, V., Gauthier, S.F., Britten, M., Fliss, I., Robitaille, G., and Jean, J. (2013). "Antibacterial activity of peptides extracted from tryptic hydrolyzate of whey protein by nanofiltration.", *International Dairy Journal*, 28(2), pp. 94-101. doi: 10.1016/j.idairyj.2012.09.003

Robitaille, G. (2013). "Growth-promoting effects of caseinomacropeptide from cow and goat milk on probiotics.", *Journal of Dairy Research*, 80(1), pp. 58-63. doi: 10.1017/S0022029912000660

2012

Robitaille, G., Lapointe, C., Leclerc, D., and Britten, M. (2012). "Effect of pepsin-treated bovine and goat caseinomacropeptide on *Escherichia coli* and *Lactobacillus rhamnosus* in acidic conditions.", *Journal of Dairy Science (JDS)*, 95(1), pp. 1-8. doi: 10.3168/jds.2010-4142

2011

Bissonnette, N., Dudemaine, P.-L., Thibault, C., and Robitaille, G. (2011). "Proteomic analysis and immunodetection of the bovine milk osteopontin isoforms.", *Journal of Dairy Science (JDS)*, 95(2), pp. 567-579. doi: 10.3168/jds.2011-4750

Matumoto-Pintro, P., Rabiey Motmaen, L., Robitaille, G., and Britten, M. (2011). "Use of modified whey protein in yoghurt formulations.", *International Dairy Journal*, 21(1), pp. 21-26. doi: 10.1016/j.idairyj.2010.07.003

## Other Science Related Publications:

2015

Jean, C., Robitaille, G., and Boulianne, M. (2015). "Antimicrobial activity of buttermilk peptides on poultry pathogens.", *American Association of Avian Pathologists Annual Meeting 2015, Boston, USA, July 12-14, 2015. (Abstract)*

Constant, E., Ibeagha-Awemu, E.M., Miglior, F., Robitaille, G., and Bissonnette, N. (2015). "Improving the genotyping-by-sequencing (GBS) approach for the identification of SNPs associated with Johne's disease.", *ADSA-ASAS JAM (Joint Annual Meeting) 2015, Orlando, Florida, USA, July 12-16, 2015, 2-15, Poster Session.*

2011

Michaud, N., Gauthier, S.F., Robitaille, G., Pouliot, Y., Tremblay, É., Beaulieu, J.-F., and Lessard, M. (2011). "Modulation de la réaction inflammatoire intestinale par des sous-produits du lait.", *Colloque bisannuel du STELA la recherche laitière 2011, Hôtel Palace Royal, Québec City, QC, Canada, May 30-31, 2011.*

# Rochette, Philippe, Ph.D.

Research Scientist

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## Research Publications:

2015

Bélanger, G., Rochette, P., Chantigny, M.H., Ziadi, N., Angers, D.A., Charbonneau, É., Pellerin, D., and Liang, C. (2015). "Nitrogen availability from dairy cow dung and urine applied to forage grasses in eastern Canada.", *Canadian Journal of Plant Science*, 95(1), pp. 55-65. doi: 10.4141/CJPS-2014-039

Miola, E.C.C., Aita, C., Rochette, P., Chantigny, M.H., Angers, D.A., Bertrand, N., and Gasser, M.-O. (2015). "Static chamber measurements of ammonia volatilization from manured soils: Impact of deployment duration and manure characteristics.", *Soil Science Society of America Journal*, 79(1), pp. 305-313. doi: 10.2136/sssaj2014.07.0305

Aita, C., Schirrmann, J., Pujol, S.B., Giacomini, S.J., Rochette, P., Angers, D.A., Chantigny, M.H., Gonzatto, R., Giacomini, D.A., and Doneda, A. (2015). "Reducing nitrous oxide emissions from a maize-wheat sequence by decreasing soil nitrate concentration: Effects of split application of pig slurry and dicyandiamide.", *European Journal of Soil Science*, 66(2), pp. 359-368. doi: 10.1111/ejss.12181

Faubert, P., Lemay-Bélisle, C., Bertrand, N., Bouchard, S., Chantigny, M.H., Durocher, S., Rochette, P., Tremblay, P., Ziadi, N., and Villeneuve, C. (2015). "La gestion des biosolides de papeteries au Québec: quelle serait la meilleure option pour réduire les émissions de gaz à effet de serre? Pulp and paper mill sludge management in Quebec: what should be the best option to reduce greenhouse gas emissions?", *Vecteur Environnement*, 48(5), pp. 50-58.

Maillard, É., Angers, D.A., Chantigny, M.H., Bittman, S., Rochette, P., Lévesque, G., Hunt, D.E., and Parent, L.-É. (2015). "Carbon accumulates in organo-mineral complexes after long-term liquid dairy manure application.", *Agriculture, Ecosystems and Environment*, 202, pp. 108-119. doi: 10.1016/j.agee.2014.12.013

2014

Jégo, G., Chantigny, M.H., Pattey, E., Bélanger, G., Rochette, P., Vanasse, A., and Goyer, C. (2014). "Improved snow-cover model for multi-annual simulations with the STICS crop model under cold, humid continental climates.", *Agricultural and Forest Meteorology*, 195-196, pp. 38-51. doi: 10.1016/j.agrformet.2014.05.002

Chantigny, M.H., Lamey, F.J., Bittman, S., Lapen, D.R., Angers, D.A., Rochette, P., and Hunt, D.E. (2014). "Transformations and fate of fall-applied nitrogen as a function of winter conditions – a multi-site experiment", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014, Extended Abstract – reviewed. (Abstract)

Chantigny, M.H., Angers, D.A., Rochette, P., and Pelster, D.E. (2014). "Evidencing overwinter loss of residual organic and clay-fixed nitrogen from spring-applied, 15N-labelled pig slurry.", *Canadian Journal of Soil Science*, 94(1), pp. 1-8. doi: 10.4141/cjss2013-072

Miola, E.C.C., Rochette, P., Chantigny, M.H., Angers, D.A., Aita, C., Gasser, M.-O., Pelster, D.E., and Bertrand, N. (2014). "Ammonia volatilization after surface application of laying-hen and broiler-chicken manures.", *Journal of Environmental Quality*, 43(6), pp. 1864-1872. doi: 10.2134/jeq2014.05.0237

Ziadi, N., Angers, D.A., Gagnon, B., Lalande, R., Morel, C., Rochette, P., and Chantigny, M.H. (2014). "Long-term tillage and synthetic fertilization affect soil functioning and crop yields in a corn-soybean rotation in eastern Canada.", *Canadian Journal of Soil Science*, 94(3), pp. 365-376. doi: 10.4141/CJSS2013-067

Aita, C., Gonzatto, R., Miola, E.C.C., dos Santos, D.B., Rochette, P., Angers, D.A., Chantigny, M.H., Pujol, S.B., Giacomini, D.A., and Giacomini, S.J. (2014). "Injection of dicyandiamide-treated pig slurry reduced ammonia volatilization without enhancing soil nitrous oxide emissions from no-till corn in Southern Brazil.", *Journal of Environmental Quality*, 43(3), pp. 789-800. doi: 10.2134/jeq2013.07.0301

Gregorich, E.G., McLaughlin, N.B., Lapen, D.R., Ma, B.-L., and Rochette, P. (2014). "Soil Compaction, Both an Environmental and Agronomic Culprit: Increased Nitrous Oxide Emissions and Reduced Plant Nitrogen Uptake.", *Soil Science Society of America Journal*, 78(6), pp. 1913-1923. doi: 10.2136/sssaj2014.03.0117

Grossel, A., Nicoulaud, B., Bourennane, H., Rochette, P., Guimbaud, C., Chartier, M., Catoire, V., and Hénault, C. (2014). "Simulating the spatial variability of nitrous oxide emission from cropped soils at the within-field scale using the NOE model.", *Ecological Modelling*, 288, pp. 155-165. doi: 10.1016/j.ecolmodel.2014.06.007

Rochette, P., Chantigny, M.H., Ziadi, N., Angers, D.A., Bélanger, G., Charbonneau, É., Pellerin, D., Liang, C., and Bertrand, N. (2014). "Soil Nitrous Oxide Emissions Following Deposition of Dairy Cow Excreta in Eastern Canada.", *Journal of Environmental Quality*, 43(3), pp. 829-841. doi: 10.2134/jeq2013.11.0474

Whalen, J.K., Gul, S., Poirier, V., Yanni, S.F., Simpson, M.J., Clemente, J.S., Feng, X.-J., Grayston, S.J., Barker, J., Ishimaru, K., Gregorich, E.G., Angers, D.A., Rochette, P., and Janzen, H.H. (2014). "Transforming plant carbon into soil carbon: process-level controls on carbon sequestration.", *Canadian Journal of Plant Science*, 94(6), pp. 1065-1073. doi: 10.4141/CJPS2013-145

Gu, J., Loustau, D., Hénault, C., Rochette, P., Cellier, P., Nicoullaud, B., Gossel, A., and Richard, G. (2014). "Modeling nitrous oxide emissions from tile-drained winter wheat fields in Central France.", *Nutrient Cycling in Agroecosystems*, 98(1), pp. 27-40. doi: 10.1007/s10705-013-9593-6

Delaby, L., Doumad, J.Y., Béline, F., Lescoat, P., Faverdin, P., Fiorelli, J.-L., Vertès, F., Veysset, P., Morvan, T., Pamaudeau, V., Durand, P., Rochette, P., and Peyraud, J.L. (2014). "Origin, quantities and fate of nitrogen flows associated with animal production.", *Advances in Animal Biosciences*, 5(S1), pp. 28-48. doi: 10.1017/S2040470014000272

Hansen, S., Bernard, M., Rochette, P., Whalen, J.K., and Dörsch, P. (2014). "Nitrous oxide emissions from a fertile grassland in Western Norway following the application of inorganic and organic fertilizers.", *Nutrient Cycling in Agroecosystems*, 98(1), pp. 71-85. doi: 10.1007/s10705-014-9597-x

Bockstaller, C., Vertès, F., Fiorelli, J.-L., Rochette, P., and Aarts, H.F.M. (2014). "Tools for evaluating and regulating nitrogen impacts in livestock farming systems.", *Advances in Animal Biosciences*, 5(S1), pp. 49-54. doi: 10.1017/S2040470014000284

Peyraud, J.L., Cellier, P., Aarts, H.F.M., Béline, F., Bockstaller, C., Bourblanc, M., Delaby, L., Doumad, J.Y., Dupraz, P., Faverdin, P., Fiorelli, J.-L., Gaigné, C., Kuikman, P.J., Langlais, A., Le Goffe, P., Lescoat, P., Morvan, T., Nicourt, C., Pamaudeau, V., Rochette, P., Vertès, F., Veysset, P., Réchauchère, O., and Donnars, C. (2014). "Nitrogen flows and livestock farming: lessons and perspectives.", *Advances in Animal Biosciences*, 5(S1), pp. 68-71. doi: 10.1017/S2040470014000314

Cellier, P., Rochette, P., Durand, P., Faverdin, P., Kuikman, P.J., and Peyraud, J.L. (2014). "Contribution of livestock farming systems to the nitrogen cascade and consequences for farming regions.", *Advances in Animal Biosciences*, 5(S1), pp. 8-19. doi: 10.1017/S2040470014000259

## 2013

Gu, J., Nicoullaud, B., Rochette, P., Gossel, A., Hénault, C., Cellier, P., and Richard, G. (2013). "A regional experiment suggests that soil texture is a major control of N<sub>2</sub>O emissions from tile-drained winter wheat fields during the fertilization period.", *Soil Biology & Biochemistry*, 60, pp. 134-141. doi: 10.1016/j.soilbio.2013.01.029

Rochette, P., Angers, D.A., Chantigny, M.H., Gasser, M.-O., MacDonald, J.D., Pelster, D.E., and Bertrand, N. (2013). "NH<sub>3</sub> volatilization, soil NH<sub>4</sub><sup>+</sup> concentration and soil pH following subsurface banding of urea at increasing rates.", *Canadian Journal of Soil Science*, 93(2), pp. 261-268. doi: 10.4141/cjss2012-095

Poirier, V., Angers, D.A., Rochette, P., and Whalen, J.K. (2013). "Initial soil organic carbon concentration influences the short-term retention of crop-residue carbon in the fine fraction of a heavy clay soil.", *Biology and Fertility of Soils*. doi: 10.1007/s00374-013-0794-6

Pelster, D.E., Chantigny, M.H., Rochette, P., Angers, D.A., Laganière, J., Zebarth, B.J., and Goyer, C. (2013). "Crop residue incorporation alters soil nitrous oxide emissions during freeze-thaw cycles.", *Canadian Journal of Soil Science*, 93(4), pp. 415-425. doi: 10.4141/cjss2012-043

Snowdon, E., Zebarth, B.J., Burton, D.L., Goyer, C., and Rochette, P. (2013). "Growing season N<sub>2</sub>O emissions from two-year potato rotations in a humid environment in New Brunswick, Canada.", *Canadian Journal of Soil Science*, 93(3), pp. 279-294. doi: 10.4141/CJSS2012-115

Rieux, C.M., Vanasse, A., Chantigny, M.H., Gélinas, P., Angers, D.A., Rochette, P., and Royer, I. (2013). "Yield and bread-making potential of spring wheat under mineral and organic fertilization.", *Crop Science*, 53(3), pp. 1139-1147. doi: 10.2135/cropsci2012.07.0448

Chantigny, M.H., MacDonald, J.D., Angers, D.A., Rochette, P., Royer, I., and Gasser, M.-O. (2013). "Soil nitrogen dynamics following herbicide kill and tillage of manured and unmanured grasslands.", *Canadian Journal of Soil Science*, 93(2), pp. 229-237. doi: 10.4141/cjss2012-094

Rochette, P., Angers, D.A., Chantigny, M.H., Gasser, M.-O., MacDonald, J.D., Pelster, D.E., and Bertrand, N. (2013). "Ammonia Volatilization and Nitrogen Retention: How Deep to Incorporate Urea?", *Journal of Environmental Quality*, 42, pp. 1635-1642. doi: 10.2134/jeq2013.05.0192

## 2012

Chantigny, M.H., Pelster, D.E., Perron, M.-H., Rochette, P., Angers, D.A., Parent, L.-É., Massé, D.I., and Ziadi, N. (2012). "Nitrous Oxide Emissions from Clayey Soils Amended with Paper Sludges and Biosolids of Separated Pig Slurry.", *Journal of Environmental Quality*, 42(1), pp. 30-39. doi: 10.2134/jeq2012.0196

Gasser, M.-O., Chantigny, M.H., Angers, D.A., Bittman, S., Buckley, K.E., Rochette, P., and Massé, D.I. (2012). "Plant-available and water-soluble phosphorus in soils amended with separated manure solids.", *Journal of Environmental Quality*, 41(4), pp. 1290-1300. doi: 10.2134/jeq2011.0290

Pelster, D.E., Chantigny, M.H., Rochette, P., Angers, D.A., Rieux, C.M., and Vanasse, A. (2012). "Nitrous Oxide Emissions Respond Differently to Mineral and Organic Nitrogen Sources in Contrasting Soil Types.", *Journal of Environmental Quality*, 41(2), pp. 427-435. doi: 10.2134/jeq2011.0261

2011

Lévesque, V., Dorais, M., Gravel, V., Ménard, C., Antoun, H., Rochette, P., and Roy, S. (2011). "The Use of Artificial Wetlands to Treat Greenhouse Effluents.", *Acta Horticulturae (ISHS)*, 893, pp. 1185-1192.

MacDonald, J.D., Rochette, P., Chantigny, M.H., Angers, D.A., Royer, I., and Gasser, M.-O. (2011). "Ploughing a poorly drained grassland reduced N<sub>2</sub>O emissions compared to chemical fallow.", *Soil & Tillage Research*, 111(2), pp. 123-132. doi: 10.1016/j.still.2010.09.005

Gu, J., Nicoulaud, B., Rochette, P., Pennock, D.J., Hénault, C., Cellier, P., and Richard, G. (2011). "Effect of topography on nitrous oxide emissions from winter wheat fields in Central France.", *Environmental Pollution*, 159(11), pp. 3149-3155. doi: 10.1016/j.envpol.2011.04.009

Rochette, P. (2011). "Towards a standard non-steady-state chamber methodology for measuring soil N<sub>2</sub>O emissions.", *Animal Feed Science and Technology*, 166-167, pp. 141-146. doi: 10.1016/j.anifeedsci.2011.04.063

MacDonald, J.D., Chantigny, M.H., Angers, D.A., Rochette, P., Royer, I., and Gasser, M.-O. (2011). "Soil soluble carbon dynamics of manured and unmanured grasslands following chemical kill and ploughing.", *Geoderma*, 164(1-2), pp. 64-72. doi: 10.1016/j.geoderma.2011.05.011

Pelster, D.E., Larouche, F., Rochette, P., Chantigny, M.H., Allaire, S.E., and Angers, D.A. (2011). "Nitrogen fertilization but not soil tillage affects nitrous oxide emissions from a clay loam soil under a maize-soybean rotation.", *Soil & Tillage Research*, 115-116, pp. 16-26. doi: 10.1016/j.still.2011.06.001

Gagnon, B., Ziadi, N., Rochette, P., Chantigny, M.H., and Angers, D.A. (2011). "Fertilizer Source Influenced Nitrous Oxide Emissions from a Clay Soil under Corn.", *Soil Science Society of America Journal*, 75(2), pp. 595-604. doi: 10.2136/sssaj2010.0212

## Other Science Related Publications:

2015

Chantigny, M.H., Angers, D.A., Rochette, P., and Goyer, C. (2015). "Nitrification occurs in frozen agricultural soils – consequences on fate and management of fall-applied and soil residual N under cold climate.", *Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.*

Jégo, G., Chantigny, M.H., Pattey, E., Bélanger, G., Rochette, P., Vanasse, A., and Goyer, C. (2015). "Improved snow-cover model for multi-annual simulations with the STICS crop model under northern climates.", *STICS workshop 2015, Rennes, France, March 24-26, 2015, pp. 2 pages.*

Watt, D., Rochette, P., Strachan, I.B., Bertrand, N., and VanderZaag, A.C. (2015). "The impact of the oasis effect on wind tunnel measurements of ammonia volatilization from urea-fertilized agricultural land.", *Joint Assembly AGU-GAC-MAC-CGU, Montreal, QC, Canada, May 5-6, 2015. (Poster)*

Chantigny, M.H., Rochette, P., Royer, I., Massé, D.I., and Benchaar, C. (2015). "Gaz à effet de serre, stratégies alimentation et entreposage des déjections.", *Le Producteur de Lait Québécois, Avril 2015, pp. 13-18.*

Chantigny, M.H., Royer, I., Rochette, P., Angers, D.A., Massé, D.I., Benchaar, C., and others (2015). "Influence des stratégies alimentaires et d'entreposage des effluents d'élevage sur la disponibilité de l'azote et les émissions de protoxyde d'azote des sols de fermes laitières.", *Journée d'information scientifique – Bovins laitiers et plantes fourragères, Centre de référence en agriculture et agroalimentaire du Québec, Drummondville, QC, Canada, 25 février 2015.*

2014

Rochette, P. (2014). "Soil N<sub>2</sub>O emission factors; The Canadian database.", *Presentation invitée au IPCC-FAO workshop, Rome, Italy, November 15, 2014. (Presentation)*

Durocher, S. et al. (2014). "Assessing the greenhouse gas emission budget: Using landfilled paper mill sludge in the afforestation of a non-acidic mine tailing site.", *7th Canadian Biosolids and Residual Conference - BC Water and Waste Association, Vancouver, BC, Canada, June 4-7, 2014.*

Rochette, P., Chantigny, M.H., Ziadi, N., Angers, D.A., Bélanger, G., Charbonneau, É., Pellerin, D., Liang, C., and Bertrand, N. (2014). "Nitrous oxide emission factors for dairy cow excreta in eastern Canada.", *18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, 30 juin -3 juillet, 2014.*

Faubert, P., Bertrand, N., Bouchard, S., Chantigny, M.H., Côté, R., Dessureault, P.L., Durocher, S., Lemay-Bélisle, C., Paré, M., Rochette, P., Tremblay, P., Ziadi, N., and Villeneuve, C. (2014). "Management of paper mill sludge: what is the best scenario to mitigate greenhouse gas emissions? Oral presentation.", 7th Canadian Biosolids and Residual Conference - BC Water and Waste Association, Vancouver, BC, Canada, June 4-7, 2014.

Chantigny, M.H., Rochette, P., Angers, D.A., Vanasse, A., and Goyer, C. (2014). "Significance and temporal dynamics of N<sub>2</sub>O emissions in snow-covered agricultural soils.", Canadian Soil Science Society – Canadian Geophysical Union Joint Annual Meetings – Advances in Geophysical and Soil Sciences, Banff, Alberta, Canada, May 4-8, 2014, Oral presentation.

Chantigny, M.H., Lamey, F.J., Bittman, S., Lapen, D.R., Angers, D.A., Rochette, P., and Hunt, D.W.A. (2014). "Transformation and fate of fall-applied nitrogen as a function of winter conditions – a multi-site experiment.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014. (Poster)

Royer, I., Chantigny, M.H., Angers, D.A., Rochette, P., Massé, D.I., Bittman, S., and Benchaar, C. (2014). "Trace metals content of soils and plants from different dairy manure types based on feeding and manure storage strategies", Annual meeting of the Canadian Soil Science Society, Banff, Alberta, Canada, May 4-7, 2014.

Royer, I., Chantigny, M.H., Angers, D.A., Rochette, P., Massé, D.I., Bittman, S., and Benchaar, C. (2014). "La stratégie d'alimentation et de stockage du fumier de bovin laitier influence-t-elle le contenu en éléments traces métalliques des sols?", Congrès annuel de l'AQSSS à Victoriaville, Québec, Canada, du 26 au 29 mai 2014.

Rochette, P. (2014). "Measurement issues and solutions to adequately characterize the effect of different management systems.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014, Présentation invitée au meeting "Measuring Nitrous Oxide Emissions from Soil".

Cambouris, A.N., Perron, I., Zebarth, B.J., and Rochette, P. (2014). "Denitrification rate under potato production effect of three nitrogen fertilizer sources in eastern Canada.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014. (Poster)

## 2013

Chantigny, M.H., Lamey, F.J., Angers, D.A., Bittman, S., Lapen, D.R., and Rochette, P. (2013). "Overwinter transformation and fate of fall-applied nitrogen in various Canadian ecozones.", Canadian Society of Soil Science - Manitoba Soil Science Soc. - Can. Soc. Agric. Forest Meteorology Joint Ann. Meeting, Winnipeg, MB, Canada, July 22-25, 2013, pp. 46. (Abstract)

Royer, I., Angers, D.A., Chantigny, M.H., and Rochette, P. (2013). "Influence of Liquid Swine Manure Application on the Trace Metal Contents and links with dissolved organic carbon.", International conference on the biogeochemistry of trace elements (ICOBTE) meeting, Athens, Georgia, USA, June 16-20, 2013.

Royer, I., Angers, D.A., Chantigny, M.H., and Rochette, P. (2013). "Contenu en éléments traces métalliques suite au travail du sol d'une vieille prairie fertilisée avec du lisier de porc.", Congrès annuel de l'AQSSS à Chicoutimi, Québec, Canada, du 28 au 30 mai 2013.

Perron, I., Cambouris, A.N., Rochette, P., Zebarth, B.J., and Drury, C.F. (2013). "Effect of three N Fertilizers on Denitrification Rate under Potato Crop.", ASA/CSSA/SSSA International annual meeting: Water, Food, Energy and Innovation for a Sustainable World, Tampa, Florida, USA, November 3-6, 2013. (Poster)

Bolduc, M., Dorais, M., Antoun, H., and Rochette, P. (2013). Does biochar improve wetland efficiency to treat organic and conventional greenhouse effluents?.

Bolduc, M., Dorais, M., Gravel, V., Rochette, P., and Antoun, H. (2013). "Using artificial wetlands enriched with biochar to treat greenhouse effluent and reduce N<sub>2</sub>O emission.", Greensys 2013 - New Technologies for Environment Control, Energy-saving and Crop Production in Greenhouse and Plant Factory, Jeju, South Korea, September 22-27, 2013. (Presentation)

## 2012

Bolduc, M., Dorais, M., Antoun, H., and Rochette, P. (2012). "Optimisation des marais filtrants artificiels à traiter leseau x usées d'une production serricole par l'ajout de biochar.", Journée du 100e anniversaire de la FSAA, Université Laval, Québec City, QC, Canada, Novembr 28, 2012.

Bolduc, M., Dorais, M., Gravel, V., Rochette, P., and Antoun, H. (2012). "Enrichment of Artificial Wetlands with Biochar to Improve their Efficiency and Reduce N<sub>2</sub>O Emission.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012.

Dorais, M., Pepin, S., Rochette, P., and Ménard, C. (2012). "Effect of biochar amendment to six types of organic soil on soil activity and plant productivity.", 2nd ISHS Symposium on Organic Greenhouse Horticulture, Avignon, France, October 28-31, 2013.

Bolduc, M., Dorais, M., Antoun, H., and Rochette, P. (2012). "Optimisation des marais filtrants artificiels à traiter leseau x usées d'une production serricole par l'ajout de biochar.", Journée annuel du Centre e recherche en Horticulture 2012, Université Laval, Sainte-Foy, QC, Canada, June 12, 2012.

Chantigny, M.H., Pelster, D.E., Rochette, P., Angers, D.A., Royer, I., and Vanasse, A. (2012). "Significance of n losses through gaseous emissions and leaching in the non-growing season in snow-covered agricultural soils.", Congrès conjoint SCSS-AQSSS à Lac Beauport, Québec, Canada, du 3 au 8 juin 2012.

Royer, I., MacDonald, J.D., Angers, D.A., Chantigny, M.H., Rochette, P., and Gasser, M.-O. (2012). "Influence of Liquid Swine Manure Application on the Trace Metal Contents of an Old Grassland Soil.", Annual meeting of the Soils Science Society of America, Cincinnati, Ohio, USA, October 21-24, 2012.

Chantigny, M.H., Royer, I., Rochette, P., Angers, D.A., Massé, D.I., and Benchaar, C. (2012). "Manure storage strategies altered nutrient availability and greenhouse gas emissions following application to soils.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012.

## 2011

Bruulsema, T.W., Bergeron, O., Rochette, P., and Zebbarth, B.J. (2011). "Nitrous oxide emissions from crop nitrogen applications in eastern Canada.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

Dorais, M., Jean-Paul, C., Gravel, V., Rochette, P., Antoun, H., and Ménard, C. (2011). "Oxygen enrichment for organic greenhouse crops.", 17th IFOAM Organic is Life, pp. 1:410-413.

Musset, G., Chantigny, M.H., Royer, I., Angers, D.A., Vanasse, A., Menasseri-Aubry, S., Morvan, T., Rochette, P., and MacDonald, J.D. (2011). "Étude lysimétrique de la lixiviation du phosphore selon le type de sol et de fertilisant.", Congrès annuel de l'AQSSS, Wendake, Québec, Canada, du 25 au 27 mai 2011.



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## Research Publications:

2014

Ghoshal, K., Theilmann, J., Reade, R., Sanfaçon, H., and Rochon, D. (2014). "The Cucumber leaf spot virus p25 auxiliary replicase protein binds and modifies the endoplasmic reticulum via N-terminal transmembrane domains.", *Virology*, 468-470, pp. 36-46. doi: 10.1016/j.virol.2014.07.020

Rochon, D., Singh, B., Reade, R., Theilmann, J., Ghoshal, K., Alam, S.B., and Maghodia, A. (2014). "The p33 auxiliary replicase protein of Cucumber necrosis virus targets peroxisomes and infection induces de novo peroxisome formation from the endoplasmic reticulum.", *Virology*, 452-453, pp. 133-142. doi: 10.1016/j.virol.2013.12.035

2013

Li, M., Kakani, K., Katpally, U., Johnson, S., Rochon, D., and Smith, T.J. (2013). "Atomic Structure of Cucumber necrosis virus and the role of the capsid in vector transmission.", *Journal of Virology*, 87(23), pp. 12166-12175. doi: 10.1128/JVI.01965-13

2011

Rochon, D. (2011). "Tombusviridae.", in King, A.M.Q., Adams, M.J., Carstens, E.B. and Lefkowitz, E.J. (eds.) - *Virus Taxonomy: Ninth Report of the International Committee on Taxonomy of Viruses*, Elsevier, pp. 1111-1138.

Sekimoto, S., Rochon, D., Long, J.E., Dee, J.M., and Berbee, M.L. (2011). "A multigene phylogeny of *Olpidium* and its implications for early fungal evolution.", *BMC Evolutionary Biology*, 11(331), pp. 331-341. doi: 10.1186/1471-2148-11-331

Hao, X., Lu, A., Sokal, N., Bhagwat, B., Leung, E., Mao, R., Reade, R., Wu, Y.F., Rochon, D., and Xiang, Y. (2011). "Cucumber necrosis virus p20 is a viral suppressor of RNA silencing.", *Virus Research*, 155(2), pp. 423-432. doi: 10.1016/j.virusres.2010.11.011

## Other Science Related Publications:

2014

Ghoshal, K. and Rochon, D. (2014). "Mapping the origin of assembly sequence on Cucumber necrosis virus RNA.", XVIth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada.

Rochon, D., Singh, B., Theilmann, J., Reade, R., Ghoshal, K., Alam, S.B., and Maghodia, A. (2014). "Cucumber necrosis virus infection results in de novo generation of peroxisomes from the endoplasmic reticulum and oxidative stress.", XVIth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada.

Alam, S.B. and Rochon, D. (2014). "Unravelling the story behind the recruitment of HSP70 as a novel strategy for uncoating of Cucumber necrosis virus (CNV).", XVIth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada.

2013

Alam, S-Y and Rochon, D. (2013). "Cucumber necrosis virus coat protein interacts with heat shock proteins both in vitro and in vivo.", 32nd Annual Meeting of the American Society for Virology, Pennsylvania State University, University Park, Pennsylvania, USA, July 20-24, 2013, Oral presentation.

2012

Alam, S-Y and Rochon, D. (2012). "Cucumber necrosis virus coat protein interacts with heat shock proteins both in vitro and in vivo.", Annual Meeting of the British Columbia Canadian Phytopathological Society, Victoria, BC, Canada, October 2013, Oral presentation.

Ghoshal, K., Reade, R., Theilmann, J., Lee, J., and Rochon, D. (2012). "Identification of the origin of assembly sequence on Cucumber necrosis virus RNA.", 31st Annual Meeting of American Society for Virology, University of Wisconsin-Madison, Madison, WI, USA, July 21-25, 2012.

2011

Ghoshal, K., Theilmann, J., Reade, R., and Rochon, D. (2011). "Cucumber leaf spot virus replication associated protein p25 targets the endoplasmic reticulum.", XV International Congress of Virology, Sapporo, Japan, September 11-16, 2011. (Poster)

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## Research Publications:

2015

Nyiraneza, J., Peters, R.D., Rodd, A.V., Grimmett, M.G., and Jiang, Y. (2015). "Improving productivity of managed potato crop ping systems in Eastern Canada: Crop rotation and nitrogen source effects.", *Agronomy Journal*, 107(4), pp. 1447-1457. doi : 10.2134/agronj14.0430

Khakbazan, M., Henry, R., Huang, J., Mohr, R.M., Peters, R.D., Fillmore, S.A.E., Rodd, A.V., and Mills, A.A.S. (2015). "Economics of organically managed and conventional potato production systems in Atlantic Canada.", *Canadian Journal of Plant Science*, 95(1), pp. 161-174. doi : 10.4141/CJPS-2014-050

2012

Thilakarathna, R.M.M.S., Papadopoulos, Y.A., Rodd, A.V., Gunawardena, A.H.L.A.N., Fillmore, S.A.E., and Prithiviraj, B. (2012). "Characterizing nitrogen transfer from red clover populations to companion bluegrass under field conditions.", *Canadian Journal of Plant Science*, 92(6), pp. 1163-1173.

2011

Sharifi, M., Zebarth, B.J., Burton, D.L., Rodd, A.V., and Grant, C.A. (2011). "Long-term effects of semisolid beef manure application to forage grass on soil mineralizable nitrogen.", *Soil Science Society of America Journal*, 75(2), pp. 649-658. doi : 10.2136/sssaj2010.0089

Warman, P.R., Rodd, A.V., and Hickleton, P.R. (2011). "The Effect of MSW Compost and Fertilizer on Extractable Soil Elements, Tuber Yield, and Elemental Concentrations in the Plant Tissue of Potato.", *Potato Research*, 54(1), pp. 1-11. doi : 10.1007/s11540-010-9167-9

## Other Science Related Publications:

2015

Grimmett, M.G., Nyiraneza, J., Rodd, A.V., Zebarth, B.J., and Danielescu, S. (2015). "Seasonal soil nitrate patterns under potato production in Prince Edward Island.", 14th International Symposium for Soil and Plant Analysis, Kona Beach, Hawaii, USA, January 26-30, 2015.

Whittaker, J., Nyiraneza, J., Burton, D.L., Zebarth, B.J., Rodd, A.V., and Grimmett, M.G. (2015). "Nitrogen cycling from legume and grass forages during forage phase and subsequent potato crop.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

2014

Rodd, A.V., Henry, R., Bezanson, G.S., Fuller, K.D., Fillmore, S.A.E., and Grimmett, M.G. (2014). "Manure storage conditions and E. coli survival. Sustainable Water Footprint.", Joint meeting NS Institute of Agrologists and PEI Institute of Agrologists, Stanley Bridge, PEI, Canada, July 20-22, 2014.

Danielescu, S., Grimmett, M.G., Rodd, A.V., Lamb, K., MacQuarrie, K.T.B., Zebarth, B.J., and Butler, K. (2014). "Evidence of transient perched water table conditions and possible implications for groundwater recharge and nitrate loading in Prince Edward Island.", Canadian Geophysical Union Joint Annual Meeting with Canadian Society of Soil Science, Banff, Alberta, Canada, May 4-7, 2014. (Poster)

Danielescu, S., Grimmett, M.G., Rodd, A.V., Nyiraneza, J., and Zebarth, B.J. (2014). "Groundwater recharge and nitrate loading from a field under a conventional potato production system in PEI.", Canada Water Resources Association (CWRA) 2014 Congress, Hamilton, ON, Canada, June 2-4, 2014, Presentation.

Fuller, K.D., Burton, D.L., Rodd, A.V., Smith, E., Grimmett, M.G., Nyiraneza, J., Jiang, Y., Khakbazan, M., and Van Roestel, J. (2014). "Nitrogen dynamics in twin row versus conventional row silage corn in Atlantic Canada.", ASA-CSSA-SSSA International Annual Meeting: Grand Challenges – Great Solutions, Long Beach, CA, USA, November 2-6, 2014.

Fuller, K.D., Burton, D.L., Rodd, A.V., Smith, E., Grimmett, M.G., Nyiraneza, J., Jiang, Y., Khakbazan, M., and Van Roestel, J. (2014). "Improving Hayfield for Forage Quality while Minimizing Nitrate Loading of Tile Drainage in Atlantic Canada.", ASA - CSSA-SSSA International Annual Meeting: Grand Challenges – Great Solutions, Long Beach, CA, USA, November 2-6, 2014.

Nyiraneza, J., Thompson, B., Fuller, K.D., Bizimungu, B., Bishop, G.A., Jiang, Y., Grimmett, M.G., Khiari, L., Rodd, A.V., and Anderson, S. (2014). "Potato response to phosphorus fertilization in Atlantic Canada and assessment of the degree of soil phosphorus saturation.", Northeast Potato Technology Forum 2014, Fredericton, NB, Canada, March 12-13, 2014.

Fuller, K.D., Nyiraneza, J., Thompson, B., Bizimungu, B., Bishop, G.A., Jiang, Y., Grimmett, M.G., Khiari, L., Rodd, A.V., and Anderson, S. (2014). "Optimum rates of phosphorus for potato production in soils of varying P status in Atlantic Canada... an AAFC Science & Technology Branch Project.", Scotia Horticultural Congress 2014, Kentville, NS, Canada, January 27-28, 2014.

Rodd, A.V., Smith, E., Burton, D.L., Grimmett, M.G., Fuller, K.D., Jiang, Y., Jenkins, S., Janes, D.E., Jolliemore, L., Murray, B., Power, I., and others (2014). "Effect of Temperature Based Fall Plowing on Soil N Dynamics in Potato Production.", Open house organized by AAFC, Crop and Livestock Research Centre. (Presentation)

Fuller, K.D., Burton, D.L., Rodd, A.V., Smith, E., Grimmett, M.G., Nyiraneza, J., Jiang, Y., Khakbazan, M., and Van Roestel, J. (2014). "Nitrogen dynamics in twin row versus conventional row silage corn in Atlantic Canada.", ASA - CSSA-SSSA International Annual Meeting: Grand Challenges – Great Solutions, Long Beach, CA, USA, November 2-6, 2014.

Fuller, K.D., Burton, D.L., Rodd, A.V., Smith, E., Grimmett, M.G., Nyiraneza, J., Jiang, Y., Khakbazan, M., and Van Roestel, J. (2014). "Improving Hayfield for Forage Quality while Minimizing Nitrate Loading of Tile Drainage in Atlantic Canada.", ASA - CSSA-SSSA International Annual Meeting: Grand Challenges – Great Solutions, Long Beach, CA, USA, November 2-6, 2014.

Nyiraneza, J., Mills, A.A.S., Rodd, A.V., Grimmett, M.G., and Jiang, Y. (2014). "The effects of different cover crops and their managements on subsequent potato growth.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014, Abstract/poster.

Nyiraneza, J., Peters, R.D., Grimmett, M.G., Jiang, Y., and Rodd, A.V. (2014). "Canola response to N fertilizer sources and rotation systems in Prince Edward Island.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014, Abstract/poster.

Jiang, Y., Chapman, S., Nyiraneza, J., Malenica, A., Li, Q., Murray, B., Grimmett, M.G., and Rodd, A.V. (2014). "Groundwater quality under a retired potato field evidences significant contribution of soil N to nitrate leaching.", 13th congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014.

Mills, A.A.S., Nyiraneza, J., and Rodd, A.V. (2014). "The impact of underseeding and overseeding cover crops on the agronomic performance of soybean and canola in the Northeast.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014. (Poster)

Rodd, A.V., Grimmett, M.G., Fuller, K.D., Bezanson, G.S., Nyiraneza, J., Henry, R., Jenkins, S., and others (2014). "Management of manure to decrease the potential for E. coli contamination.", Open houses organized by AAFC, Crop and Livestock Research Centre. (Presentation)

Rodd, A.V., Smith, E., Burton, D.L., Grimmett, M.G., Fuller, K.D., Jiang, Y., Jenkins, S., Janes, D.E., Jolliemore, L., Murray, B., Power, I., and others (2014). "Effect of Temperature Based Fall Plowing on Soil N Dynamics in Potato Production.", Sustainable Water Footprint. Joint meeting NS Institute of Agrologists and PEI Institute of Agrologist, Stanley Bridge, PEI, Canada, July 20-22, 2014.

## 2013

Nyiraneza, J., Peters, R.D., Rodd, A.V., Grimmett, M.G., Zebarth, B.J., Ziadi, N., Bélanger, G., and Jégo, G. (2013). "Impact of Crop Rotations, and Mineral and Organic N fertilizer on Soil Nitrogen Availability and Potato Yield.", Northeast Potato Technology Forum 2013, Delta Prince Edward, Charlottetown, PEI, Canada, March 5-6, 2013.

Nyiraneza, J., Peters, R.D., Rodd, A.V., Grimmett, M.G., Zebarth, B.J., Ziadi, N., Bélanger, G., and Jégo, G. (2013). "Soil N supply and potato yield as affected by Crop Rotations and N sources.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013, #038.

Grimmett, M.G., Rodd, A.V., Nyiraneza, J., Zebarth, B.J., and Danieleescu, S. (2013). "Nutrient analysis of groundwater and soil water from potato production systems.", 127th Association of Official Agricultural Chemists (AOAC) Annual Meeting, Palmer House Hilton, Chicago, IL, USA, August 25-28, 2013.

Rodd, A.V., Nyiraneza, J., Henry, R., Peters, R.D., Grimmett, M.G., and Mills, A.A.S. (2013). "Compost from the sea for agricultural production. Compost council of Canada regional meeting.", Compost matters in Atlantic Canada, Westmorland-Albert Solid Waste Corporation, Moncton, NB, Canada, March 13-14, 2013.

Fuller, K.D., Burton, D.L., Drury, C.F., Grimmett, M.G., Zebarth, B.J., Franklin, J.L., Rodd, A.V., Van Roestel, J., and George, E. (2013). "Growing season denitrification losses impacted by land management practices, soil properties, and weather conditions in manure-amended perennial hayfield and corn-soybean-wheat rotations in Atlantic Canada.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB, Canada, June 22-25, 2013. (Poster)

Anderson, S., Rodd, A.V., Grimmett, M.G., Nyiraneza, J., Zoski, E.D., Smith, E., Kuehnbaum, A., Handyside, P., Murray, B., Henry, R., Jenkins, S., and others (2013). "Woodchip bioreactor for decreasing nitrate in tile effluent.", Open houses organized by AAFC, Harrington, Charlottetown, PEI, Canada, August 16, 2013. (Presentation)

Nyiraneza, J., Fuller, K.D., Bizimungu, B., Bishop, G.A., Grimmett, M.G., Rodd, A.V., Jiang, Y., Mills, A.A.S., Gregory, D., Enman, B., and others (2013). "Increasing phosphorus use efficiency in potato production in Atlantic Canada.", Open houses organized by AAFC, Crop and Livestock Research Centre, August 16, 2013. (Presentation)

## 2012

Thilakarathna, R.M.M.S., Papadopoulos, Y.A., Rodd, A.V., Fillmore, S.A.E., Gunawardena, A.H.L.A.N., and Prithviraj, B. (2012). "Nitrogen fixation and transfer from red clover (*Trifolium pratense* L.) cultivars to companion bluegrass (*Poa pratensis* L.) under field conditions.", Plant Canada 2012 (joint meeting of the Canadian Society of Agronomy (CSA), Canadian Society for Horticultural Science (CSHS), Certified Crop Advisors (CCA), North American Fruit Explorers (NAFEX)): Adapting Crops to Change, University of Saskatchewan, Saskatoon, SK, Canada, July 16-19, 2012.

## 2011

Rodd, A.V., Grimmett, M.G., and Fuller, K.D. (2011). "Does Method of Manure Application Affect Nitrate Movement and *Escherichia coli* Survival?", Crops and Livestock Research Centre Open House, Charlottetown, PEI, Canada, August 6, 2011. (Poster)

# Rodrigue, Nicolas, Ph.D.

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## Research Publications:

2013

Lartillot, N., Rodrigue, N., Stubbs, D., and Richer, J. (2013). "PhyloBayesMPI. Phylogenetic reconstruction with infinite mixtures of profiles in a parallel environment.", *Systematic Biology*. doi : 10.1093/sysbio/syt022

Rodrigue, N. (2013). "On the Statistical Interpretation of Site-Specific Variables in Phylogeny-Based Substitution Models.", *Genetics*, 193(2), pp. 557-564. doi : 10.1534/genetics.112.145722

2012

Tang, J., Bromfield, E.S.P., Rodrigue, N., Cloutier, S., and Tambong, J.T. (2012). "Microevolution of symbiotic Bradyrhizobium populations associated with soybeans in east North America.", *Ecology and Evolution*, 2(12), pp. 2943-2961. doi : 10.1002/ece3.404

Wong, A., Rodrigue, N., and Kassen, R. (2012). "Genomics of adaptation during experimental evolution of the opportunistic pathogen *Pseudomonas aeruginosa*.", *PloS Genetics*, 8(9, Article No. e1002928). doi : 10.1371/journal.pgen.1002928

Dettman, J.R., Rodrigue, N., Melnyk, A.H., Wong, A., Bailey, S.F., and Kassen, R. (2012). "Evolutionary insight from whole-genome sequencing of experimentally evolved microbes.", *Molecular Ecology*, 21(9), pp. 2058-2077. doi : 10.1111/j.1365-294X.2012.05484.x

Thome, J.L., Lartillot, N., Rodrigue, N., and Choi, S.C. (2012). "Codon models as a vehicle for reconciling population genetics with interspecific sequence data.", in Cannarozzi, G.M. and Schneider, A. (eds.) - *Codon Evolution: Part I: Modeling Codon Evolution*, Oxford University Press, UK, Chapter 7.

Rodrigue, N. and Lartillot, N. (2012). "Monte Carlo Computational Approaches in Bayesian Codon Substitution Modeling.", in Cannarozzi, G.M. and Schneider, A. (eds.) - *Codon Evolution: Part I: Modeling Codon Evolution*, Oxford University Press, UK, Chapter 4.

Aris-Brosou, S. and Rodrigue, N. (2012). "The Essentials of Computational Molecular Evolution.", in Anisimona, M. (ed.) - *Evolutionary Genomics: Statistical and Computational Methods*, Vol. 1. Series: *Methods in Molecular Biology*, Vol. 855, Humana Press Inc, USA.

2011

Rodrigue, N. and Aris-Brosou, S. (2011). "Fast bayesian choice of phylogenetic models: Prospecting data augmentation-based thermodynamic integration.

.", *Systematic Biology*, 60(6), pp. 881-887. doi : 10.1093/sysbio/syr065

## Other Science Related Publications:

2011

Lévesque, C.A., Robideau, G.P., Eggertson, Q.A., Rodrigue, N., Chen, W., Spies, C.F.J., de Cock, A.W.A.M., Hamilton, J., Adhikari, B., and Buell, C.R. (2011). "Comparative genomics opens up a new era for oomycete taxonomy, ecology and diagnostics.", 71th Annual Meeting Meeting of the North-East Division of the American Phytopathological Society: The Oomycetes: Current and Future Challenges, New Brunswick, NJ, USA, October 12-14, 2011.

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## Research Publications:

2015

Ross, K.A., Godfrey, D.V., and Fukumoto, L.R. (2015). "Purification and Characterization of Polysaccharides from Sweet Cherries, Raspberries, and Ginseng: Chemical Composition and Bioactivity.", *Research in Health and Nutrition (RHN)*, 3, pp. 1-13.

deBruyn, R.A.J., Paetkau, M.J., Ross, K.A., Godfrey, D.V., and RossFriedman, C. (2015). "Thermogenesis-triggered seed dispersal in dwarf mistletoe.", *Nature Communications*, 6(Article number: 6262), pp. 5 pages. doi : 10.1038/ncomms7262

Ross, K.A., Siow, Y.L., Brown, D.C.W., Isaak, C.K., Godfrey, D.V., and Fukumoto, L.R. (2015). "Characterization of Water Extractable Crude Polysaccharides from Cherry, Raspberry, and Ginseng Berry Fruits: Chemical Composition and Bioactivity.", *International Journal of Food Properties*, 18(3), pp. 670-689. doi: 10.1080/10942912.2013.837066

2014

Ross, K.A. (2014). "Concepts Important in Understanding the Health Benefits of Phenolics in Fruits and Vegetables: Extractable and Non-Extractable Phenolics and the Influence of Cell Wall Polysaccharides.", *Research in Health and Nutrition (RHN)*, 2, pp. 29-43.

2012

Ross, K.A. and Godfrey, D.V. (2012). "Effect of Extractives on the Thermal Decomposition of Wheat, Triticale, and Flax Crop Residues: A Kinetic Study.", *International Journal of Biomass & Renewables*, 1(2), pp. 19-31.

Ross, K.A., Leung, A., Godfrey, D.V., and Mazza, G. (2012). "Evaluation of thermal decomposition and antioxidant activity of crop residues and ionic liquid extracted lignin.", *World Applied Sciences Journal*, 16(2), pp. 160-176.

2011

Ross, K.A. and Mazza, G. (2011). "Comparative Analysis of Pyrolysis Products of a Variety of Herbaceous Canadian Crop Residues.", *World Journal of Agricultural Sciences*, 7(6), pp. 763-776.

Ross, K.A., Leung, A., Godfrey, D.V., and Mazza, G. (2011). "Dynamic thermal analysis of lignocellulosic crop residues.", *World Journal of Natural Products Research*, 2(1), pp. 1-16.

## Other Science Related Publications:

2015

Siow, Y.L., Brown, D.C.W., Blewett, H.J., Debnath, S.C., and Ross, K.A. (2015). Lingonberry: characterization and preserving an emerging bioresource for Canada. Project ID: 13-1129; Research Project Annual Report 2014-2015., AAFC Science and Technology Branch. (Report)

2014

Ross, K.A., Siow, Y.L., and Brown, D.C.W. (2014). "Characterization and Purification of Water Extractable Polysaccharides from Sweet Cherries, Apples, Raspberries, and Ginseng.", IFT, New Orleans, USA. (Poster)

Siow, Y.L., Brown, D.C.W., Blewett, H.J., Debnath, S.C., and Ross, K.A. (2014). Lingonberry: characterization and preserving an emerging bioresource for Canada. Project ID: 13-1129; Research Project Annual Report 2013-2014, AAFC Science and Technology Branch. (Report)

Dawson, A., Ross, K.A., and Bach, S.J. (2014). "Antimicrobial activity of phenolic and crude polysaccharide compounds isolated from apples, cherries, and North American ginseng against foodborne pathogens.", United Fresh 2014, Chicago, IL, USA, June 10-14, 2014. (Abstract)

Harrison, N. and Ross, K.A. (2014). Development of innovative processes to produce a premium quality craft hard cider based on use of existing dessert apple cultivars grown in British Columbia (BC Tree Fruit Report). (Report)

Ross, K.A. (2014). "Value-Added Processing: Innovations and Trends for Apples.", Regional Research Users Meeting on Apple for the British Columbia Fruit Growers Association, Summerland, BC, Canada, November 26, 2014. (Presentation)

## 2013

Ross, K.A. (2013). "Enhancing Economic Opportunities for Sweet Cherries: Identification of Novel Compounds with Health Benefits & Development of Value-Added Products.", Regional Research Users Meeting on Cherries for the BC Cherry Association, Summerland, BC, Canada, December 10, 2013. (Presentation)

Ross, K.A., Siow, Y.L., and Brown, D.C.W. (2013). "Water Extractable Polysaccharides from Tree Fruits and Berries: Novel Compounds with Potential Health Benefits.", 3rd Food Studies Conference, Austin, TX, USA, October 15-16, 2013. (Poster)

## 2011

Brown, D.C.W., Mazza, G., Ross, K.A., Jordan, M.A., McCallum, J.L., Netticadan, T., Siow, Y.L., Khanizadeh, S., Ames, N.P., and Lui, E.M.K. (2011). "Plant Bioactives Research in Canada.", Plant Bioactives Research in Canada. Canada-United Kingdom Gut and Health Workshop, AAFC-FRDC / AAC-CRDA, Saint-Hyacinthe, QC, Canada, February 24-25, 2011.

Ross, K.A. and Mazza, G. (2011). "Conjugated polysaccharides as potential health promoting compounds in berries and cherries.", in Tuberoso, C. (ed.) - Berries: Properties Consumption and Nutrition, Nova Science Publishers Inc, Chapter 3.



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## Research Publications:

2013

Rieux, C.M., Vanasse, A., Chantigny, M.H., Gélinas, P., Angers, D.A., Rochette, P., and Royer, I. (2013). "Yield and bread-making potential of spring wheat under mineral and organic fertilization.", *Crop Science*, 53(3), pp. 1139-1147. doi : 10.2135/cropsci2012.07.0448

Chantigny, M.H., MacDonald, J.D., Angers, D.A., Rochette, P., Royer, I., and Gasser, M.-O. (2013). "Soil nitrogen dynamics following herbicide kill and tillage of manured and unmanured grasslands.", *Canadian Journal of Soil Science*, 93(2), pp. 229-237. doi: 10.4141/cjss2012-094

2011

MacDonald, J.D., Chantigny, M.H., Angers, D.A., Rochette, P., Royer, I., and Gasser, M.-O. (2011). "Soil soluble carbon dynamics of manured and unmanured grasslands following chemical kill and ploughing.", *Geoderma*, 164(1-2), pp. 64-72. doi : 10.1016/j.geoderma.2011.05.011

MacDonald, J.D., Rochette, P., Chantigny, M.H., Angers, D.A., Royer, I., and Gasser, M.-O. (2011). "Ploughing a poorly drained grassland and reduced N<sub>2</sub>O emissions compared to chemical fallow.", *Soil & Tillage Research*, 111(2), pp. 123-132. doi : 10.1016/j.still.2010.09.005

## Other Science Related Publications:

2015

Chantigny, M.H., Royer, I., Rochette, P., Angers, D.A., Massé, D.I., Benchaar, C., and others (2015). "Influence des stratégies alimentaires et d'entreposage des effluents d'élevage sur la disponibilité de l'azote et les émissions de protoxyde d'azote des sols de fermes laitières.", *Journée d'information scientifique – Bovins laitiers et plantes fourragères*, Centre de référence en agriculture et agroalimentaire du Québec, Drummondville, QC, Canada, 25 février 2015.

Chantigny, M.H., Rochette, P., Royer, I., Massé, D.I., and Benchaar, C. (2015). "Gaz à effet de serre, stratégies alimentation et entreposage des déjections.", *Le Producteur de Lait Québécois*, Avril 2015, pp. 13-18.

Royer, I., Cambouris, A.N., Claessens, A., Angers, D.A., Ziadi, N., and Perron, I. (2015). "Soil contaminated with trace metal for the production of bioenergy from biomass.", *Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference*, McGill University, Montreal, QC, Canada, July 5-10, 2015. (Poster)

2014

Royer, I., Chantigny, M.H., Angers, D.A., Rochette, P., Massé, D.I., Bittman, S., and Benchaar, C. (2014). "Trace metals content of soils and plants from different dairy manure types based on feeding and manure storage strategies", *Annual meeting of the Canadian Soil Science Society*, Banff, Alberta, Canada, May 4-7, 2014.

Royer, I., Chantigny, M.H., Angers, D.A., Rochette, P., Massé, D.I., Bittman, S., and Benchaar, C. (2014). "La stratégie d'alimentation et de stockage du fumier de bovin laitier influence-t-elle le contenu en éléments traces métalliques des sols?", *Congrès annuel de l'AQSSS à Victoriaville*, Québec, Canada, du 26 au 29 mai 2014.

2013

Royer, I. and Cambouris, A.C. (2013). "Preliminary results of the contaminated soil of the former incinerator of the city of Lévis, QC.", *Presentation to the managers of the environmental section of the city of Lévis*. (Presentation)

Royer, I., Angers, D.A., Chantigny, M.H., and Rochette, P. (2013). "Contenu en éléments traces métalliques suite au travail du sol d'une vieille prairie fertilisée avec du lisier de porc.", *Congrès annuel de l'AQSSS à Chicoutimi*, Québec, Canada, du 28 au 30 mai 2013.

Royer, I., Angers, D.A., Chantigny, M.H., and Rochette, P. (2013). "Influence of Liquid Swine Manure Application on the Trace Metal Contents and links with dissolved organic carbon.", *International conference on the biogeochemistry of trace elements (ICOBTE) meeting*, Athens, Georgia, USA, June 16-20, 2013.

Royer, I. (2013). "Éléments traces métalliques dans l'environnement: doit-on s'en préoccuper?", Congrès annuel de l'Ordre des Agronomes du Québec, (OAQ), Québec, Canada, du 12 au 13 septembre 2013.

## 2012

Chantigny, M.H., Pelster, D.E., Rochette, P., Angers, D.A., Royer, I., and Vanasse, A. (2012). "Significance of n losses through gaseous emissions and leaching in the non-growing season in snow-covered agricultural soils.", Congrès conjoint SCSS-AQSSS à Lac Beauport, Québec, Canada, du 3 au 8 juin 2012.

Royer, I., MacDonald, J.D., Angers, D.A., Chantigny, M.H., Rochette, P., and Gasser, M.-O. (2012). "Influence of Liquid Swine Manure Application on the Trace Metal Contents of an Old Grassland Soil.", Annual meeting of the Soils Science Society of America, Cincinnati, Ohio, USA, October 21-24, 2012.

Chantigny, M.H., Royer, I., Rochette, P., Angers, D.A., Massé, D.I., and Benchaar, C. (2012). "Manure storage strategies alter nutrient availability and greenhouse gas emissions following application to soils.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend or foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012.

## 2011

Musset, G., Chantigny, M.H., Royer, I., Angers, D.A., Vanasse, A., Menasseri-Aubry, S., Morvan, T., Rochette, P., and MacDonald, J.D. (2011). "Étude lysimétrique de la lixiviation du phosphore selon le type de sol et de fertilisant.", Congrès annuel de l'AQSSS, Wendake, Québec, Canada, du 25 au 27 mai 2011.

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## Research Publications:

2014

Hegedus, D.D., Baron, M., Labbe, N., Coutu, C., Lydiate, D.J., Liu, H.L., and Rozwadowski, K. (2014). "A strategy for targeting recombinant proteins to protein storage vacuoles by fusion to Brassica napus napin in napin-depleted seeds.", *Protein Expression and Purification*, 26(5), pp. 162-168.

Borg, M., Rutley, N., Kagale, S., Hamamura, Y., Gherghinoiu, M., Kumar, S., Sari, U., Esparza-Franco, M.A., Sakamoto, W., Rozwadowski, K., Higashiyama, T., and Twell, D. (2014). "An EAR-dependent regulatory module promotes male germ cell division and sperm fertility in Arabidopsis.", *Plant Cell*, 26(5), pp. 2098-2113. doi: 10.1105/tpc.114.124743

2012

Kagale, S., Uzuhashi, S., Wigness, M., Bender, T., Yang, W., Borhan, M.H., and Rozwadowski, K. (2012). "TMV-Gate vectors: Gateway compatible tobacco mosaic virus based expression vectors for functional analysis of proteins.", *Scientific Reports*, 2(Article No. 874), pp. 1-10. doi: 10.1038/srep00874

2011

Kagale, S. and Rozwadowski, K. (2011). "EAR motif-mediated transcriptional repression in plants: An underlying mechanism for epigenetic regulation of gene expression.", *Epigenetics*, 6(2), pp. 141-146. doi: 10.4161/epi.6.2.13627

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## Research Publications:

2015

Vasseur, E., Gibbons, J., Rushen, J.P., Pellerin, D., Pajor, E., Lefebvre, D.M., and de Passillé, A.M.B. (2015). "An assessment tool to help producers improve cow comfort on their farms.", *Journal of Dairy Science (JDS)*, 98(1), pp. 698-708. doi : 10.3168/jds.2014-8224

2014

Vaughan, A., de Passillé, A.M.B., Stookey, J.M., and Rushen, J.P. (2014). "Operant conditioning of urination by calves.", *Applied Animal Behaviour Science*, 158, pp. 8-15. doi: 10.1016/j.applanim.2014.06.009

Gibbons, J., Haley, D., Higginson Cutler, J., Nash, C., Zaffino Heyerhoff, J., Pellerin, D., Adam, S., Fournier, A., de Passillé, A.M.B., Rushen, J.P., and Vasseur, E. (2014). "Technical note: A comparison of 2 methods of assessing lameness prevalence in freestall herds.", *Journal of Dairy Science (JDS)*, 97(1), pp. 350-353. doi: 10.3168/jds.2013-6783

Charlton, G.L., Haley, D.B., Rushen, J.P., and de Passillé, A.M.B. (2014). "Stocking density, milking duration, and lying times of lactating cows on Canadian freestall dairy farms.", *Journal of Dairy Science (JDS)*, 97(5), pp. 2694-2700. doi : 10.3168/jds.2013-6923

Rushen, J.P. and de Passillé, A.M.B. (2014). "Locomotor play of veal calves in an arena: Are effects of feed level and spatial restriction mediated by responses to novelty?", *Applied Animal Behaviour Science*, 155, pp. 34-41. doi : 10.1016/j.applanim.2014.03.009

Vaughan, A., de Passillé, A.M.B., Stookey, J.M., and Rushen, J.P. (2014). "Urination and defecation by group-housed dairy calves.", *Journal of Dairy Science (JDS)*, 97(7), pp. 4405-4411. doi: 10.3168/jds.2013-7558

Vasseur, E., Rushen, J.P., and de Passillé, A.M.B. (2014). "Short communication: Calf body temperature following chemical disbudding with sedation: Effects of milk allowance and supplemental heat.", *Journal of Dairy Science (JDS)*, 97(8), pp. 5185-5190. doi : 10.3168/jds.2013-7519

Zaffino Heyerhoff, J., LeBlanc, S.J., DeVries, T.J., Nash, C., Gibbons, J., Orsel, K., Barkema, H.W., Solano, L., Rushen, J.P., de Passillé, A.M.B., and Haley, D.B. (2014). "Prevalence of and factors associated with hock, knee, and neck injuries on dairy cows in freestall housing in Canada.", *Journal of Dairy Science (JDS)*, 97(1), pp. 173-184. doi : 10.3168/jds.2012-6367

2013

Vasseur, E., Gibbons, J., Rushen, J.P., and de Passillé, A.M.B. (2013). "Development and implementation of a training program to ensure high repeatability of body condition scoring of dairy cows.", *Journal of Dairy Science (JDS)*. doi : 10.3168/jds.2012-6359

Villettaz Robichaud, M., de Passillé, A.M.B., and Rushen, J.P. (2013). "Does water or blowing air stimulate cows to defecate?", *Applied Animal Behaviour Science*, 144(3-4), pp. 98-101. doi : 10.1016/j.applanim.2013.01.002

2012

Gibbons, J., Vasseur, E., Rushen, J.P., and de Passillé, A.M.B. (2012). "A training programme to ensure high repeatability of injury scoring of dairy cows.", *Animal Welfare*, 21(3), pp. 379-388. doi : 10.7120/09627286.21.3.379

de Passillé, A.M.B. and Rushen, J.P. (2012). "Adjusting the weaning age of calves fed by automated feeders according to individual intakes of solid feed.", *Journal of Dairy Science (JDS)*, 95(9), pp. 5292-5298. doi : 10.3168/jds.2012-5521

Gibbons, J., Medrano-Galarza, C., de Passillé, A.M.B., and Rushen, J.P. (2012). "Lying laterality and the effect of IceTag data loggers on lying behaviour of dairy cows.", *Applied Animal Behaviour Science*, 136(2-4), pp. 104-107. doi : 10.1016/j.applanim.2011.12.005

Rushen, J.P. and de Passillé, A.M.B. (2012). "Automated measurement of acceleration can detect effects of age, dehorning and weaning on locomotor play of calves.", *Applied Animal Behaviour Science*, 139(3-4), pp. 169-174. doi : 10.1016/j.applanim.2012.04.011

Mintline, E.M., Wood, S.L., de Passillé, A.M.B., Rushen, J.P., and Tucker, C.B. (2012). "Assessing calf play behavior in an arena test.", *Applied Animal Behaviour Science*, 141(3-4), pp. 101-107. doi: 10.1016/j.applanim.2012.08.006

Carbonneau, E., de Passillé, A.M.B., Rushen, J.P., Talbot, B.G., and Lacasse, P. (2012). "The effect of incomplete milking or nursing on milk production, blood metabolites, and immune functions of dairy cows.", *Journal of Dairy Science (JDS)*, 95(11), pp. 6503-6512. doi: 10.3168/jds.2012-5643

Vasseur, E., Pellerin, D., de Passillé, A.M.B., Winckler, C., Lensink, B.J., Knierim, U., and Rushen, J.P. (2012). "Assessing the welfare of dairy calves: outcome-based measures of calf health versus input-based measures of the use of risky management practices.", *Animal Welfare*, 21(1), pp. 77-86.

Rushen, J.P., Chapinal, N., and de Passillé, A.M.B. (2012). "Automated monitoring of behavioural-based animal welfare indicators.", *Animal Welfare*, 21(3), pp. 339-350. doi: 10.7120/09627286.21.3.339

Vasseur, E., Rushen, J.P., Haley, D.B., and de Passillé, A.M.B. (2012). "Sampling cows to assess lying time for on-farm animal welfare assessment.", *Journal of Dairy Science (JDS)*, 95(9), pp. 4968-4977. doi: 10.3168/jds.2011-5176

Medrano-Galarza, C., Gibbons, J., Wagner, S.A., de Passillé, A.M.B., and Rushen, J.P. (2012). "Behavioral changes in dairy cows with mastitis.", *Journal of Dairy Science (JDS)*, 95(12), pp. 6994-7002. doi: 10.3168/jds.2011-5247

Cue, R.I., Pietersma, D., Lefebvre, D.M., Lacroix, R., Wade, K.M., Pellerin, D., de Passillé, A.M.B., and Rushen, J.P. (2012). "Growth modeling of dairy heifers in Québec based on random regression.", *Canadian Journal of Animal Science*, 92(1), pp. 33-47. doi: 10.4141/cjas2011-083

2011

Chapinal, N., de Passillé, A.M.B., Pastell, M., Hänninen, L., Munksgaard, L., and Rushen, J.P. (2011). "Measurement of acceleration while walking as an automated method for gait assessment in dairy cattle.", *Journal of Dairy Science (JDS)*, 94(6), pp. 2895-2901. doi: 10.3168/jds.2010-3882

de Passillé, A.M.B., Borderas, T.F., and Rushen, J.P. (2011). "Weaning age of calves fed a high milk allowance by automated feeders: Effects on feed, water, and energy intake, behavioral signs of hunger, and weight gains.", *Journal of Dairy Science (JDS)*, 94(3), pp. 1401-1408. doi: 10.3168/jds.2010-3441

Chapinal, N., de Passillé, A.M.B., Rushen, J.P., and Tucker, C.B. (2011). "Measures of weight distribution and frequency of steps as indicators of restless behavior.", *Journal of Dairy Science (JDS)*, 94(2), pp. 800-803. doi: 10.3168/jds.2010-3531

de Passillé, A.M.B., Borderas, T.F., and Rushen, J.P. (2011). "Cross-sucking by dairy calves may become a habit or reflect characteristics of individual calves more than milk allowance or weaning.", *Applied Animal Behaviour Science*, 133(3-4), pp. 137-143. doi: 10.1016/j.applanim.2011.04.020

Chapinal, N., Weary, D.M., Rushen, J.P., de Passillé, A.M.B., and von Keyserlingk, M.A.G. (2011). "Effects of temporal restriction in availability of the total mixed ration on feeding and competitive behavior in lactating dairy cows.", *Livestock Science*, 137(1-3), pp. 282-286. doi: 10.1016/j.livsci.2010.11.006

Tanida, H., Koba, Y., Rushen, J.P., and de Passillé, A.M.B. (2011). "Use of three-dimensional acceleration sensing to assess dairy cow gait and the effects of hoof trimming.", *Animal Science Journal*, 82(6), pp. 792-800. doi: 10.1111/j.1740-0929.2011.00903.x

Villetaz Robichaud, M., de Passillé, A.M.B., Pellerin, D., and Rushen, J.P. (2011). "When and where do dairy cows defecate and urinate?", *Journal of Dairy Science (JDS)*, 94(10), pp. 4889-4896. doi: 10.3168/jds.2010-4028

Rushen, J.P., Butterworth, A., and Swanson, J.C. (2011). "Farm animal welfare assurance: science and application.", *Journal of Animal Science*, 89(4), pp. 1219-1228. doi: 10.2527/jas.2010-3589

Munksgaard, L., Rushen, J.P., de Passillé, A.M.B., and Krohn, C.C. (2011). "Forced versus free traffic in an automated milking system.", *Livestock Science*, 138(1-3), pp. 244-250. doi: 10.1016/j.livsci.2010.12.023

## Other Science Related Publications:

2012

Widowski, T.M., Rushen, J.P., Tuytens, F.A.M., and Veissier, I. (2012). "Implementing animal welfare assessments at farm and group level. (Introduction and overview)", *Animal Welfare*, 21(3), pp. 305-306.

Bécotte, F., Vasseur, E., Gibbons, J., Lefebvre, D.M., de Passillé, A.M.B., Rushen, J.P., and Pellerin, D. (2012). "Comfort and longevity in Quebec dairy operation.", 30th Western Canadian Dairy Seminar (WCDS), Capri Centre, Red Deer, AB, Canada, March 6-9, 2012, Vol. 24, pp. 391.

Rushen, J.P. and de Passillé, A.M.B. (2012). "Issues in the assessment of dairy cow welfare.", 3rd Meeting of the European Food Safety Authority (EFSA) Scientific Network for Risk Assessment of GMOs, Parma, Italy, May 3-4, 2012.

Solano, L., Barkema, H.W., Pajor, E., Mason, S., de Passillé, A.M.B., Rushen, J.P., Gibbons, J., Vasseur, E., Krom, M., and Orsel, K. (2012). "Lameness in dairy cows: using gait score as a predictor for claw lesions.", 30th Western Canadian Dairy Seminar (WCDS), Capri Centre, Red Deer, AB, Canada, March 6-9, 2012.

Zaffino, J., Nash, C., DeVries, T.J., Kelton, D.F., LeBlanc, S.J., Gibbons, J., Rushen, J.P., de Passillé, A.M.B., Solano, L., Barkema, H.W., Orsel, K., and Haley, D. (2012). "Stall dimensions and prevalence of cow injuries on Canadian free-stall dairy farms.", 30th Western Canadian Dairy Seminar (WCDS), Capri Centre, Red Deer, AB, Canada, March 6-9, 2012.

Gibbons, J., Vasseur, E., Pellerin, D., Haley, D., Kelton, D.F., Orsel, K., Barkema, H.W., Pajor, E., Lefebvre, D.M., Weary, D.M., von Keyserlingk, M.A.G., Rushen, J.P., and de Passillé, A.M.B. (2012). "Improving cow comfort to increase longevity in Canadian dairy herds.", 30th Western Canadian Dairy Seminar (WCDS), Capri Centre, Red Deer, AB, Canada, March 6-9, 2012, Vol. 24, pp. 410.

## 2011

Chapinal, N., Miglior, F., Sewalem, A., de Passillé, A.M.B., Rushen, J.P., von Keyserlingk, M.A.G., and Weary, D.M. (2011). "Estimation of genetic parameters for gait in Canadian Holstein cows.", 2011 Joint Annual Meeting of the ADSA-ASAS, New Orleans, LA, USA, July 10-14, 2011. (Presentation)

Vasseur, E., de Passillé, A.M.B., and Rushen, J.P. (2011). "Automated monitoring of lying time in dairy cows: on-farm sampling of animals based on individual differences.", 5th International Conference on the Assessment of Animal Welfare at Farm and Group Level, University of Guelph, Guelph, ON, Canada, August 8-11, 2011. (Poster)

Chapinal, N., de Passillé, A.M.B., Pastell, M., Hänninen, L., Munksgaard, L., and Rushen, J.P. (2011). "Automated assessment of lameness with accelerometers in dairy cows.", 5th International Conference on the Assessment of Animal Welfare at Farm and Group Level, University of Guelph, Guelph, ON, Canada, August 8-11, 2011. (Poster)

Rushen, J.P., Chapinal, N., and de Passillé, A.M.B. (2011). "Automated monitoring of animal welfare indicators.", 5th International Conference on the Assessment of Animal Welfare at Farm and Group Level, University of Guelph, Guelph, ON, Canada, August 8-11, 2011.

Gibbons, J., Vasseur, E., Pellerin, D., Haley, D., Kelton, D.F., Orsel, K., Barkema, H.W., Pajor, E., Lefebvre, D.M., Weary, D.M., von Keyserlingk, M.A.G., Rushen, J.P., and de Passillé, A.M.B. (2011). "Improving cow comfort to increase longevity in tie stalls and free stalls in Canadian dairy herds.", Dairy Research Cluster: Communications and Consultation Workshop - Shaping a dairy research agenda for 2013 - 2018, Queen Elizabeth Hotel, Montréal, QC, Canada, November 16-17, 2011.

Vasseur, E., de Passillé, A.M.B., Haley, D.B., and Rushen, J.P. (2011). "Sampling cows to assess lying time in tie-stall and free-stall dairy herds.", 29th Western Canadian Dairy Seminar (WCDS), Capri Centre, Red Deer, AB, Canada, March 8-11, 2011.

Gibbons, J., Vasseur, E., Rushen, J.P., and de Passillé, A.M.B. (2011). "A training program: Injury and body condition score of dairy cattle.", 28th Annual Conference of the Dairy Farmers of Canada (DFC), Montréal, QC, Canada, August 3-6, 2011.

Vasseur, E., de Passillé, A.M.B., Haley, D., and Rushen, J.P. (2011). "Sampling cows to assess lying time in tie-stalls and free-stall dairy herds.", 28th Annual Conference of the Dairy Farmers of Canada (DFC), Montréal, QC, Canada, August 3-6, 2011.

Gibbons, J., Vasseur, E., Rushen, J.P., and de Passillé, A.M.B. (2011). "A training program to ensure high repeatability of injury and body condition scores of dairy cows.", 5th International Conference on the Assessment of Animal Welfare at Farm and Group Level, University of Guelph, Guelph, ON, Canada, August 8-11, 2011.

Rushen, J.P. and de Passillé, A.M.B. (2011). "How Can Animal Welfare Research Help? Bringing science into practice.", The Animal Care Assessment Model Workshop: 'What we heard' report, Rozanski Hall, University of Guelph, Guelph, ON, Canada, August 11-12, 2011.

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## Research Publications:

2015

Tang, Z.X., Huang, X.Q., Sabour, P.M., Chambers, J.R., and Wang, Q. (2015). "Preparation and characterization of dry powder bacteriophage K for intestinal delivery through oral administration.", *Food Science and Technology - LWT*, 60(1), pp. 263-270. doi : 10.1016/j.lwt.2014.08.012

2014

Abbasifar, R., Griffiths, M.W., Sabour, P.M., Ackermann, H.-W., Vandersteegen, K., Lavigne, R., Noben, J.-P., Alanis Villa, A., Abbasifar, A., Nash, J.H.E., and Kropinski, A.M. (2014). "Supersize me: Cronobacter sakazakii phage GAP32.", *Virology*, 460-461(1), pp. 138-146. doi: 10.1016/j.virol.2014.05.003

Yang, X.J., Brisbin, J.T., Yu, H., Wang, Q., Yin, F.G., Zhang, Y., Sabour, P.M., Sharif, S., and Gong, J. (2014). "Selected lactic acid-producing bacterial isolates with the capacity to reduce Salmonella translocation and virulence gene expression in chickens.", *PLoS ONE*, 9(4:e93022). doi : 10.1371/journal.pone.0093022

Zhou, M., Yu, H., Yin, X., Sabour, P.M., Chen, W., and Gong, J. (2014). "Lactobacillus zeae protects Caenorhabditis elegans from enterotoxigenic Escherichia coli-caused death by inhibiting enterotoxin gene expression of the pathogen.", *PLoS ONE*, 9(2: Article e89004). doi : 10.1371/journal.pone.0089004

Zhou, M., Zhu, J., Yu, H., Yin, X., Sabour, P.M., Zhao, L., Chen, W., and Gong, J. (2014). "Investigation into in vitro and in vivo models using intestinal epithelial IPEC-J2 cells and Caenorhabditis elegans for selecting probiotic candidates to control porcine enterotoxigenic Escherichia coli.", *Journal of Applied Microbiology*, 117(1), pp. 217-226. doi : 10.1111/jam.12505

2013

Tang, Z.X., Huang, X.Q., Baxi, S., Chambers, J.R., Sabour, P.M., and Wang, Q. (2013). "Whey protein improves survival and release characteristics of bacteriophage Felix O1 encapsulated in alginate microspheres.", *Food Research International*, 52(2), pp. 460-466. doi : 10.1016/j.foodres.2012.12.037

Chibeu, A., Agius, L., Gao, A., Sabour, P.M., Kropinski, A.M., and Balamurugan, S. (2013). "Efficacy of bacteriophage LISTEXTMP100 combined with chemical antimicrobials in reducing Listeria monocytogenes in cooked turkey and roast beef.", *International Journal of Food Microbiology*, 167(2), pp. 208-214. doi : 10.1016/j.ijfoodmicro.2013.08.018

2012

Ma, Y., Pacan, J.C., Wang, Q., Sabour, P.M., Huang, X.Q., and Xu, Y. (2012). "Enhanced alginate microspheres as means of oral delivery of bacteriophage for reducing Staphylococcus aureus intestinal carriage.", *Food Hydrocolloids*, 26(2), pp. 434-440. doi : 10.1016/j.foodhyd.2010.11.017

Abbasifar, R., Kropinski, A.M., Sabour, P.M., Ackermann, H.-W., Lingohr, E.J., and Griffiths, M.W. (2012). "Complete Genome Sequence of Cronobacter sakazakii Bacteriophage vB\_CsaM\_GAP161.", *Journal of Virology*, 86(24), pp. 13806-13807. doi : 10.1128/JVI.02546-12

Gowrinathan, Y., Pacan, J.C., Hawke, A., Zhou, T., and Sabour, P.M. (2012). "Toxicity assay for deoxynivalenol using Caenorhabditis elegans.", *Food Additives and Contaminants: Part A: Chemistry, Analysis, Control, Exposure & Risk Assessment*, 28(9), pp. 1235-1241. doi : 10.1080/19440049.2011.587836

Abbasifar, R., Kropinski, A.M., Sabour, P.M., Ackermann, H.-W., Villa, A.A., Abbasifar, A., and Griffiths, M.W. (2012). "Genome Sequence of Cronobacter sakazakii Myovirus vB\_CsaM\_GAP31.", *Journal of Virology*, 86(24), pp. 13830-13831. doi : 10.1128/JVI.02629-12

2011

Sabour, P.M., Lin, C.Y., and Smith, C. (2011). "Association of genetic variants of bovine growth hormone with milk production traits in Holstein cattle.", *Journal of Animal Breeding and Genetics*, 114(1-6), pp. 435-442. doi : 10.1111/j.1439-0388.1997.tb00529.x

Zhu, J., Yin, X., Yu, H., Zhao, L., Sabour, P.M., and Gong, J. (2011). "Involvement of quorum sensing and heat stable enterotoxin a (STa) in cell damage caused by a porcine enterotoxigenic Escherichia coli strain.", *Infection and Immunity*, 79(4), pp. 1688-1695. doi : 10.1128/IAI.01281-10

Wang, C., Wang, J., Gong, J., Yu, H., Pacan, J.C., Niu, Z., Si, W., and Sabour, P.M. (2011). "Use of *Caenorhabditis elegans* for preselecting *Lactobacillus* isolates to control *Salmonella Typhimurium*.", *Journal of Food Protection*, 74(1), pp. 86-93. doi : 10.4315/0362-028x.jfp-10-155

## Other Science Related Publications:

2014

Zhou, M., Zhu, J., Yu, H.H., Yin, X., Sabour, P.M., Zhao, L.H., Chen, W., and Gong, J. (2014). "Investigation into in vitro and in vivo models using intestinal epithelial IPEC-J2 cells and *Caenorhabditis elegans* for selecting probiotic candidates to control porcine enterotoxigenic *Escherichia coli*.", 9th International Symposium on Lactic acid bacteria and human health, Tianjing, China, May 21-23, 2014.

Zhou, M., Yu, H., Yin, X., Sabour, P.M., Chen, W., and Gong, J. (2014). "Host response of *Caenorhabditis elegans* to enterotoxigenic *Escherichia coli* infection and its regulation by *Lactobacillus*.", 15th International symposium on microbial ecology (ISME 15), Seoul, South Korea, August 24-29, 2014.

2013

Chibeu, A., Agius, L., Sabour, P.M., Kropinski, A.M., and Balamurugan, S. (2013). "Efficacy of bacteriophage Listex™ P100 in presence of chemical antimicrobials reducing *Listeria monocytogenes* on roast beef and cooked turkey.", 11th OMAFRA Food Safety Research Forum, Guelph, ON, Canada.

Chibeu, A., Agius, L., Gao, A., Sabour, P.M., Kropinski, A.M., and Balamurugan, S. (2013). "Effectiveness of bacteriophage Listex™ P100 combined with chemical antimicrobials in reducing *Listeria monocytogenes* on roast beef and cooked turkey.", 20th Biennial Evergreen International Phage Meeting, Olympia, WA, USA.

2012

Wang, Q., Ma, Y., Zhang, Y., Gong, J., Sabour, P.M., Chambers, J.R., and de Lange, C.F.M. (2012). "Application of microencapsulation in the development of alternatives for antibiotics in food animal production.", 20th International Conference on Bioencapsulation, Orillia, ON, Canada, September 21-24, 2012.

Ma, Y., Wang, Q., Sabour, P.M., Chambers, J.R., and Wu, Y. (2012). "Encapsulation of bacteriophage for enhanced delivery to chicken intestine in vitro vs in vivo.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012.

Tang, Z.X., Ma, Y., Wang, Q., Sabour, P.M., and Wu, X. (2012). "Microencapsulation of bacteriophages for oral delivery to chicken intestines.", 11th International Hydrocolloids Conference, Stewart Center, Purdue University, West Lafayette, IN, USA, May 14-18, 2012.

Ma, Y., Wang, Q., Tang, Z.X., Sabour, P.M., Chambers, J.R., and Griffith, M. (2012). "Microencapsulation of Bacteriophage for Enhanced Delivery to Chicken Intestine.", 10th Annual OMAFRA Food Safety Research Forum, Guelph, ON, Canada, May 2, 2012.

Islam, G., Wang, Q., Sabour, P.M., and Warriner, K. (2012). "Microencapsulation of bio-control bacteriophage by spray drying method.", 20th International Conference on Bioencapsulation, Orillia, ON, Canada, September 21-24, 2012.

Bakhshi, F., Griffith, M., Balamurugan, S., and Sabour, P.M. (2012). "2-D PAGE identification of g bovine whey proteins inhibiting *Staphylococcus aureus* and bacteriophage K interaction.", 10th OMAFRA Food Safety Research Forum, Guelph, ON, Canada.

2011

Wang, Q.C., Yin, F.G., Sabour, P.M., and Gong, J. (2011). "In vitro evaluation of probiotic properties of selected lactic acid bacteria for *Salmonella* control in chickens.", Guelph Food Safety Seminar Series (GFSSS) 8th Annual Symposium: Evidence to Decisions: Turning Knowledge into Practice, Guelph, ON, Canada, October 25, 2011. (Presentation)

Ma, Y., Wang, Q., Tang, Z.X., Sabour, P.M., Chambers, J.R., and Pacan, J.C. (2011). "Encapsulation of bacteriophage for enhanced delivery to chicken intestine.", 2011 Federal Food Safety and Nutrition Research (FFSNR) Web-based Seminar Series, Canada, November 29-December 15, 2011.



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## Research Publications:

2015

Adams, M., Lefkowitz, E.J., King, A.M.Q., Bamford, D.H., Breitbart, M., Davison, A.J., Ghabrial, S.A., Gorbalenya, A.E., Knowles, N.J., Krell, P.J., Lavigne, R., Prangishvili, D., Sanfaçon, H., Siddell, S.G., Simmonds, P., and Carstens, E.B. (2015). "Ratification vote on taxonomic proposals to the International Committee on Taxonomy of Viruses (2015).", *Archives of Virology*. doi : 10.1007/s00705-015-2425-z

Wang, A.M., Tian, L.-N., Brown, D.C.W., Svircev, A.M., Stobbs, L.W., and Sanfaçon, H. (2015). "Generation of efficient resistance to Plum pox virus (PPV) in *Nicotiana benthamiana* and *Prunus domestica* expressing triple-intron-spanned double-hairpin RNAs simultaneously targeting 5' and 3' conserved genomic regions of PPV.", *Acta Horticulturae (ISHS)*, 1063, pp. 77-84.

Sanfaçon, H. (2015). "Secoviridae: A family of plant picorna-like viruses with monopartite or bipartite genomes.", - *Encyclopedia of Life Sciences*, John Wiley & Sons, Ltd.

Sanfaçon, H. (2015). "Plant translation factors and virus resistance.", *Viruses*, 7(7), pp. 3392-3419. doi : 10.3390/v7072778

Walker, M.C., Chisholm, J., Wei, T., Ghoshal, B., Saeed, H., Rott, M., and Sanfaçon, H. (2015). "Complete genome sequence of three tomato ringspot virus isolates: evidence for reassortment and recombination.", *Archives of Virology*, 160(2), pp. 543-547. doi : 10.1007/s00705-014-2240-y

Ghoshal, B. and Sanfaçon, H. (2015). "Symptom recovery in virus-infected plants: revisiting the role of RNA silencing mechanisms.", *Virology*. doi: 10.1016/j.virol.2015.01.008

2014

Ghoshal, K., Theilmann, J., Reade, R., Sanfaçon, H., and Rochon, D. (2014). "The Cucumber leaf spot virus p25 auxiliary replicase protein binds and modifies the endoplasmic reticulum via N-terminal transmembrane domains.", *Virology*, 468-470, pp. 36-46. doi : 10.1016/j.virol.2014.07.020

Ghoshal, B. and Sanfaçon, H. (2014). "Temperature-dependent symptom recovery in *Nicotiana benthamiana* plants infected with tomato ringspot virus is associated with reduced translation of viral RNA2 and requires ARGONAUTE 1.", *Virology*, 456-457(1), pp. 188-197. doi : 10.1016/j.virol.2014.03.026

Karran, R. and Sanfaçon, H. (2014). "Tomato ringspot virus coat protein binds to ARGONAUTE 1 and suppresses the translation repression of a reporter gene.", *Molecular Plant-Microbe Interactions*, 27(9), pp. 933-943. doi : 10.1094/MPMI-04-14-0099-R

2013

Sanfaçon, H. (2013). "Investigating the role of viral integral membrane proteins in promoting the assembly of nepovirus and comovirus replication factories.", *Frontiers in Plant Science*, 3(Article 313), pp. 1-7. doi : 10.3389/fpls.2012.00313

Wang, X., Kohalmi, S.E., Svircev, A.M., Wang, A.M., Sanfaçon, H., and Tian, L.-N. (2013). "Silencing of the Host Factor eIF(iso)4E Gene Confers Plum Pox Virus Resistance in Plum.", *PLoS ONE*, 8(1, Article No. e50627). doi : 10.1371/journal.pone.0050627

Wei, T., Zhang, C., Hou, X., Sanfaçon, H., and Wang, A.M. (2013). "The SNARE protein Syp71 is essential for Turnip mosaic virus infection by mediating fusion of virus-induced vesicles with chloroplasts.", *PLoS Pathogens*, 9(5), pp. e1003378. doi : 10.1371/journal.ppat.1003378

Wetzel, T., Chisholm, J., Dupuis-Maguiraga, L., Bassler, A., and Sanfaçon, H. (2013). "In vitro and in vivo evidence for differences in the protease activity of two arabis mosaic nepovirus isolates and their impact on the infectivity of chimeric cDNA clones.", *Virology*, 446(1-2), pp. 102-111. doi : 10.1016/j.virol.2013.07.040

Laliberte, J-F., Moffett, P., Sanfaçon, H., Wang, A.M., Nelson, R.S., and Schoelz, J.E. (2013). "e-Book on plant virus infection-a cell biology perspective.", *Frontiers in Plant Science*, 4(Article 203). doi : 10.3389/fpls.2013.00203

2011

Jovel, J., Walker, M.C., and Sanfaçon, H. (2011). "Salicylic acid-dependent restriction of tomato ringspot virus spread in tobacco is accompanied with a hypersensitive response, local RNA silencing and moderate systemic resistance.", *Molecular Plant-Microbe Interactions*, 24(6), pp. 706-718. doi: 10.1094/MPMI-09-10-0224

## Other Science Related Publications:

2014

Sanfaçon, H. (2014). "Update to the Plant Virus Taxonomy.", International Union of Microbiological Societies Congresses, Montreal, QC, Canada, July 27-August 1, 2014. (Poster)

Wei, T. and Sanfaçon, H. (2014). "Evidence for in vitro and in vivo cleavage of the C-terminal region of the tomato ringspot virus NTP-binding protein by the membrane-associated signal peptidase.", International Union of Microbiological Societies Congress (IUMS 2014), Montréal, QC, Canada, July 27-August 1, 2014. (Poster)

Ghoshal, B. and Sanfaçon, H. (2014). "Temperature-dependent symptom recovery in *Nicotiana benthamiana* plants infected with tomato ringspot virus is associated with reduced translation of viral RNA2 and requires ARGONAUTE 1.", International Union of Microbiological Societies Congress (IUMS 2014), Montréal, QC, Canada, July 27-August 1, 2014. (Poster)

2013

Wetzel, T., Chisholm, J., Dupuis-Maguiraga, L., Bassler, A., and Sanfaçon, H. (2013). "Influence of the protease and polyprotein cleavage efficiency on the infectivity of chimeric *Arabidopsis* mosaic nepovirus cDNA clones.", Keystone symposium on positive-strand RNA viruses, Boston, Massachusetts, USA, April 28-May 3, 2013. (Poster)

Ghoshal, B. and Sanfaçon, H. (2013). "Symptom recovery in *Nicotiana benthamiana* plants infected with tomato ringspot virus is associated with Argonaute 1-dependent translational repression of the viral genome.", Keystone Symposium: RNA Silencing, Whistler Conference Centre, Whistler, BC, Canada, March 19-24, 2013. (Poster)

Karran, R., Walker, M.C., and Sanfaçon, H. (2013). "Tomato ringspot virus coat protein as a potential translational enhancer.", 32nd Annual Meeting of the American Society for Virology, Pennsylvania State University, University Park, Pennsylvania, USA, July 20-24, 2013, (oral presentation).

Wang, A.M., Elhiti, M., Wang, H., Li, Y., Tian, L.-N., Svircev, A.M., Sanfaçon, H., and Brown, D.C.W. (2013). "Development of genetic resistance to Plum pox virus in Canada.", 2nd International Symposium on Plum Pox Virus, Olomouc, Czech Republic, September 3-6, 2013.

Tian, L.-N., Wang, X., Svircev, A.M., Wang, A.M., Sanfaçon, H., Brown, D.C.W., Kohalmi, S.E., and Lu, M. (2013). "Development of Plum pox virus resistance in plum grown in Canada via plant biotechnology.", 2nd International Symposium on Plum Pox Virus, Olomouc, Czech Republic, September 3-6, 2013.

Stobbs, L.W., Hunter, D.M., Samara, R., Lowery, T., and Sanfaçon, H. (2013). "Progress in Epidemiological Research on Plum Pox Virus.", *The Tender Fruit Grape Vine (for Commercial Fruit Growers)*, 17(5), pp. 5-6. (Newsletter)

Wei, T. and Sanfaçon, H. (2013). "Functional characterization of full-length and truncated forms of the tomato ringspot virus RNA-dependent RNA polymerase.", 32nd Annual Meeting of the American Society for Virology, Pennsylvania State University, University Park, Pennsylvania, USA, July 20-24, 2013. (Poster)

2012

Sanfaçon, H., Walker, M.C., Jovel, J., Karran, R., Ghoshal, B., Chisholm, J., and Wei, T. (2012). "In depth study of the interaction of peach viruses with plant defense responses for improved management of PPV.", Joint Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012. (Presentation)

Tian, L.-N., Wang, X., Kohalmi, S.E., Svircev, A.M., Wang, A.M., Sanfaçon, H., Brown, D.C.W., and Schneider, K.E. (2012). "Control of the expression of the host factor eIF(iso)4E gene for Plum Pox Virus resistance.", Joint Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012. (Presentation)

Wei, T., Chisholm, J., and Sanfaçon, H. (2012). "Stability of the tomato ringspot virus RNA-dependent RNA polymerase in plants: exploring possible interactions with components of the proteasome and with caspase-like proteases.", XV International Congress of Virology, Sapporo, Japan, September 11-16, 2011. (Abstract)

2011

Sanfaçon, H. and Fuchs, M. (2011). "Tomato ringspot virus.", in Hadidi, A., Barba, M., Candresse, T., and Jelkmann, W. (eds.) - *Virus and Virus-Like Diseases of Pome and Stone Fruits*, American Phytopathological Society (APS), Chapter 9, Part II. Pome Fruit Viruses and Related Diseases.

Ghoshal, B. and Sanfaçon, H. (2011). "Accumulation of viral products during the symptomatic and recovery phase in *Nicotiana benthamiana* plants infected with tomato ringspot virus isolates differing in their virulence.", XV International Congress of Virology, Sapporo, Japan, September 11-16, 2011. (Presentation)

Wei, T., Chisholm, J., and Sanfaçon, H. (2011). "Sequence analysis of RNA1-encoded replication proteins of tomato ringspot nepovirus isolates.", XV International Congress of Virology, Sapporo, Japan, September 11-16, 2011. (Poster)

Sanfaçon, H., Gorbalenya, A.E., Knowles, N.J., and Chen, Y. (2011). "Order Picornavirales.", in King, A.M.Q., Adams, M.J., Carstens, E.B. and Lefkowitz, E.J. (eds.) - *Virus Taxonomy: Ninth Report of the International Committee on Taxonomy of Viruses*, Elsevier, pp. 835-839.

Sanfaçon, H., Iwanami, T., Karasev, A.V., van der Vlugt, R., Wellink, J., Wetzel, T., and Yoshikawa, N. (2011). "Family Secoviridae.", in King, A.M.Q., Adams, M.J., Carstens, E.B. and Lefkowitz, E.J. (eds.) - *Virus Taxonomy: Ninth Report of the International Committee on Taxonomy of Viruses*, Elsevier, pp. 881-899.

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## Research Publications:

2015

Gagné, M.-J., Barrette, J., Savard, T., and Brassard, J. (2015). "Evaluation of survival of murine norovirus-1 during sauerkraut fermentations and storage under standard and sodium reduction conditions.", *Food Microbiology*, 52, pp. 119-123. doi : 10.1016/j.fm.2015.07.009

Zareifard, M.R., Savard, T., Marcotte, M., Lecompte, J.-Y., and Grabowski, S. (2015). "Combined effects of mild acidification and thermal treatment on color and texture of green beans.", *International Journal of Food Properties*, 18(8), pp. 1847-1862. doi : 10.1080/10942912.2014.941476

## Other Science Related Publications:

2014

Gagné, M.-J., Brassard, J., Barrette, J., and Savard, T. (2014). "Risk Mitigation in Vegetables Fermentation with Sodium Reduction; A Viral Perspective.", *Food Micro 2014*, Nantes, France, September 1-4, 2014, Presentation. (Poster)

Deschênes, L., Savard, T., Lapointe, C., Chabot, D., Zareifard, M.R., St-Germain, F., and Barrette, J. (2014). "Challenges in investigating nanoparticles as antimicrobial in Food Packaging. ZnO case study.", *Eco-sustainable Food Packaging Based on Polymer Nanomaterials International Conference*, Roma, Italy, February 26-28, 2014.

Savard, T., Lapointe, C., Barrette, J., Deschênes, L., Chabot, D., and St-Germain, F. (2014). "A competitive advantage in microbial consortia and biofilm; lactic acid bacteria resistant to nanoparticles.", *Foodmicro 2014*, Nantes, France, Sept 1-4, 2014. (Abstract)

2013

Savard, T., Barrette, J., Brassard, J., and Gagné, M.-J. (2013). "Lactic Starter Ensure Safety in Low Sodium Fermented Vegetables.", *Microbial Diversity 2013: Microbial Interactions in Complex Ecosystems*, Turin, Italy, October 23-25, 2013, Oral Presentation, pp. 124-127.

# Savitch, Leonid V., Ph.D.

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## Research Publications:

2014

Hüner, N.P.A., Dahal, K., Kurepin, L.V., Savitch, L.V., Singh, J., Ivanov, A.G., Kane, K., and Sarhan, F. (2014). "Potential for Increased Photosynthetic Performance and Crop Productivity in Response to Climate Change: role of CBFs and Gibberellic Acid.", *Frontiers in Chemistry*, 2(Article 18). doi : 10.3389/fchem.2014.00018

Dahal, K., Kane, K., Sarhan, F., Savitch, L.V., Singh, J., Grodzinski, B., and Hüner, N.P.A. (2014). "C-repeat transcription factors as targets for maintenance of crop growth under sub-optimal conditions.", in Passaraki, M. (ed.) - *Handbook of Plant and Crop Physiology*, 3rd Edition, CRC Press, pp. 313-332.

Dahal, K., Kane, K., Sarhan, F., Savitch, L.V., Singh, J., Grodzinski, B., and Hüner, N.P.A. (2014). "CBF transcription factors as targets for maintenance of crop growth under sub-optimal conditions.", .

Dahal, K., Weraduwege, S., Kane, K., Rauf, S., Leonardos, E.D., Gadapati, W., Savitch, L.V., Singh, J., Marillia, E.-F., Taylor, D.C., Micallef, M., Knowles, V., Plaxton, W., Barron, J., Sarhan, F., Hüner, N.P.A., Grodzinski, B., and Micallef, B.J. (2014). "Enhancing biomass production and yield by maintaining enhanced capacity for CO<sub>2</sub> uptake in response to elevated CO<sub>2</sub>.", *Canadian Journal of Plant Science*, 94(6), pp. 1075-1083. doi: 10.4141/cjps2013-151

2013

Kurepin, L.V., Dahal, K., Savitch, L.V., Singh, J., Bode, R., Ivanov, A.G., Hurry, V.M., and Hüner, N.P.A. (2013). "Role of CBFs as Integrators of Chloroplast Redox, Phytochrome and Plant Hormonal Signaling during Cold Acclimation.", *International Journal of Molecular Sciences*, 14(6), pp. 12729-12763. doi: 10.3390/ijms140612729

2012

Ivanov, A.G., Rosso, D., Savitch, L.V., Stachula, P., Rosembert, M., Öquist, G., Hurry, V.M., and Hüner, N.P.A. (2012). "Implications of alternative electron sinks in increased resistance of PSII and PSI photochemistry to high light stress in cold-acclimated *Arabidopsis thaliana*.", *Photosynthesis Research*, 113(1-3), pp. 191-206. doi: 10.1007/s11120-012-9769-y

Dahal, K., Gadapati, W., Savitch, L.V., Singh, J., and Hüner, N.P.A. (2012). "Cold acclimation and BnCBF17-over-expression enhance photosynthetic performance and energy conversion efficiency during long-term growth of *Brassica napus* under elevated CO<sub>2</sub> conditions.", *Planta*, 236(5), pp. 1639-1652. doi: 10.1007/s00425-012-1710-2

Dahal, K., Kane, K., Gadapati, W., Webb, E., Savitch, L.V., Singh, J., Sharma, P., Sarhan, F., Longstaffe, F.J., Grodzinski, B., and Hüner, N.P.A. (2012). "The effects of phenotypic plasticity on photosynthetic performance in winter rye, winter wheat and *Brassica napus*.", *Physiologia Plantarum*, 144(2), pp. 169-188. doi: 10.1111/j.1399-3054.2011.01513.x

2011

Savitch, L.V., Ivanov, A.G., Gudynaite-Savitch, L., Hüner, N.P.A., and Simmonds, J.A. (2011). "Cold Stress Effects on PSI Photochemistry in *Zea mays*: Differential Increase of FQR-Dependent Cyclic Electron Flow and Functional Implications.", *Plant and Cell Physiology*, 52(6), pp. 1042-1054. doi: 10.1093/pcp/pcr056

## Other Science Related Publications:

2014

Ivanov, A.G., Sprott, D.P., Sedeek, M., Rosembert, M., Kurepin, L.V., Singh, J., Hüner, N.P.A., and Savitch, L.V. (2014). "Role of CBF-mediated alternative electron pathways in balancing chloroplast redox signaling and cold acclimation of photosynthesis.", *Photosynthesis Research for Sustainability 2014*, Pushchino, Russia, June 2-7, 2014, Poster S7.26. (Abstract)

2012

Rosembert, M., Sprott, D.P., Singh, J., and Savitch, L.V. (2012). "Pre-mRNA splicing-related proteins play an essential role in the photosynthetic adjustment and acquisition of freezing tolerance of *Arabidopsis thaliana* undergoing cold acclimation.", 9th Annual Ottawa-Carleton Institute of Biology Symposium, Ottawa, ON, Canada. (Poster)

2011

Savitch, L.V., Ivanov, A.G., Król, M., Sprott, D.P., Öquist, G., and Hüner, N.P.A. (2011). "Partitioning and Alternative Electron Transport Pathways Regulation during Cold Acclimation of Lodgepole pine.", International Workshop on "Mechanisms of Non-photochemical Quenching" organized by the EU Marie Curie Network "HARVEST", Passau, Germany, April 6-10, 2011. (Abstract)

Król, M., Ivanov, A.G., Savitch, L.V., Szyszka, B., Selstam, E., Hurry, V.M., Gardiner, R.B., Öquist, G., and Hüner, N.P.A. (2011). "Effect of cold acclimation and the *pgp1* mutation on the expression of GLK1 and GLK2 and chloroplast development in *Arabidopsis thaliana*.", 16th International Symposium on Carotenoids, Krakow, Poland, July 17-22, 2011, Poster. (Abstract)

Dahal, K., Gadapati, W., Savitch, L.V., Singh, J., Sharma, P., Grodzinski, B., and Hüner, N.P.A. (2011). "The Effects of Phenotypic Plasticity on Photosynthetic Performance and Water Use Efficiency of *Brassica napus* at elevated CO<sub>2</sub>: The role of CBF Transcription Factors.", Green Crop Network 5th Annual Meeting, Montreal, Canada, May 3-6, 2011. (Poster)

Rosembert, M., Sprott, D.P., Ponomareva, E., Singh, J., and Savitch, L.V. (2011). "The role of pre-mRNA splicing-related proteins in the photosynthetic adjustment and acquisition of freezing tolerance of *Arabidopsis thaliana* undergoing cold acclimation.", Canadian Society of Plant Physiologists Eastern Regional Meeting & Plant Development Workshop / Congrès de la Société Canadienne de Physiologie Végétale & Congrès de Développement Végétale (Congrès Régional de l'Est), Carleton University, Ottawa, ON, Canada, December 2-3, 2011, P25, pp. 42. (Poster)

Sprott, D.P., Allard, G.C., Singh, J., and Savitch, L.V. (2011). "Perturbation of circadian rhythmicity in *Arabidopsis* by altered GLK loci affects multiple output pathways.", Canadian Society of Plant Physiologists Eastern Regional Meeting & Plant Development Workshop / Congrès de la Société Canadienne de Physiologie Végétale & Congrès de Développement Végétale (Congrès Régional de l'Est), Carleton University, Ottawa, ON, Canada, December 2-3, 2011, P12, pp. 35. (Poster)

Ponomareva, E., Sprott, D.P., Singh, J., and Savitch, L.V. (2011). "Effects of different signalling pathways on regulation of GLK GARP transcription factors in *Arabidopsis thaliana*.", Canadian Society of Plant Physiologists Eastern Regional Meeting & Plant Development Workshop / Congrès de la Société Canadienne de Physiologie Végétale & Congrès de Développement Végétale (Congrès Régional de l'Est), Carleton University, Ottawa, ON, Canada, December 2-3, 2011, P10, pp. 34. (Poster)

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## Research Publications:

2015

Fournel, S., Palacios, J.H., Morissette, R., Villeneuve, J., Godbout, S., Heitz, M., and Savoie, P. (2015). "Influence of bio mass properties on technical and environmental performance of a multi-fuel boiler during on-farm combustion of energy crops", *Applied Energy*, 141, pp. 247-259. doi: 10.1016/j.apenergy.2014.12.022

Fournel, S., Palacios, J.H., Morissette, R., Villeneuve, J., Godbout, S., Heitz, M., and Savoie, P. (2015). "Particulate concentrations during on-farm combustion of energy crops of different shapes and harvest seasons.", *Atmospheric Environment*, 104, pp. 50-58. doi: 10.1016/j.atmosenv.2015.01.006

Lizotte, P.-L., Savoie, P., and De Champlain, A. (2015). "Ash content and calorific energy of corn stover components in eastern Canada.", *Energies*, 8(6), pp. 4827-4838. doi: 10.3390/en8064827

2014

Savoie, P., Hébert, P.-L., and Robert, F.-S. (2014). "Novel willow header adapted to a pull-type forage harvester: Development and field experiments.", *Applied Engineering in Agriculture*, 30(5), pp. 741-750. doi: 10.13031/aea.30.10697

Savoie, P., Audy-Dubé, M.A., and Morissette, R. (2014). "Length distribution and other dimensional parameters of chopped forage by image analysis.", *Transactions of the ASABE*, 57(6), pp. 1549-1555. doi: 10.13031/trans.57.10665

2012

Villeneuve, J., Palacios, J.H., Savoie, P., and Godbout, S. (2012). "A critical review of emission standards and regulations regarding biomass combustion in small scale units (<3 MW).", *Bioresource Technology*, 111, pp. 1-11. doi: 10.1016/j.biortech.2012.02.061

Bélanger, G., Savoie, P., Parent, G., Claessens, A., Bertrand, A., Tremblay, G.F., Massé, D.I., Gilbert, Y., and Babineau, D. (2012). "Switchgrass silage for methane production as affected by date of harvest.", *Canadian Journal of Plant Science*, 92(6), pp. 1187-1197. doi: 10.4141/CJPS2011-202

Savoie, P., Current, D., Robert, F.-S., and Hébert, P.-L. (2012). "Harvest of natural shrubs with a biobaler in various environments in Québec, Ontario and Minnesota.", *Applied Engineering in Agriculture*, 28(6), pp. 795-801.

2011

Savoie, P., Cormier, É., and Morissette, R. (2011). "Continuous monitoring of moisture content in compacted hay during drying.", *Applied Engineering in Agriculture*, 27(1), pp. 127-132.

do Canto, J.L., Klepac, J., Rummer, R., Savoie, P., and Seixas, F. (2011). "Evaluation of two round baling systems for harvesting understory biomass.", *Biomass and Bioenergy*, 35(5), pp. 2163-2170. doi: 10.1016/j.biombioe.2011.02.006

Morissette, R., Savoie, P., and Villeneuve, J. (2011). "Combustion of corn stover bales in a small 146-kW boiler.", *Energies*, 4(7), pp. 1102-1111. doi: 10.3390/en4071102

Massé, D.I., Gilbert, Y., Savoie, P., Bélanger, G., Parent, G., and Babineau, D. (2011). "Methane yield from switchgrass and reed canarygrass grown in Eastern Canada.", *Bioresource Technology*, 102(22), pp. 10286-10292. doi: 10.1016/j.biortech.2011.08.087

Lizotte, P.-L. and Savoie, P. (2011). "Spring harvest of corn stover.", *Applied Engineering in Agriculture*, 27(5), pp. 697-703.

Scott, S.L., Mbifo, R.S., Chiquette, J., Savoie, P., and Turcotte, G. (2011). "Rumen disappearance kinetics and chemical characterization of by-products from cellulosic ethanol production.", *Animal Feed Science and Technology*, 165(3-4), pp. 151-160. doi: 10.1016/j.anifeedsci.2010.11.020

## Other Science Related Publications:

## 2014

- Savoie, P., Audy-Dubé, M.A., Thiebaut, F., and Morissette, R. (2014). "Mechanical sieving and image analysis to determine length and shape of processed woody particles.", American Society of Agricultural and Biological Engineers Annual International Meeting 2014, Montreal, Canada, July 13-16, 2014, pp. 2270-2276.
- Savoie, P., Hébert, P.-L., and Robert, F.-S. (2014). "Novel willow header adapted to a pull-type forage harvester: Development and field experiments.", American Society of Agricultural and Biological Engineers Annual International Meeting 2014, Montreal, Canada, July 13-16, 2014, pp. 11-24.
- Jégo, G., Morissette, R., Thibodeau, F., Claessens, A., and Savoie, P. (2014). "Simulation of yield potential of short rotation willow in Eastern Canada.", Advancing Woody Biomass - Options & Opportunities in Nova Scotia, Sydney, NS, Canada, October 21-23, 2014.
- Savoie, P., Gagné, P., Hébert, P.-L., Robert, F.-S., and Morissette, R. (2014). "Yield and harvest of short-rotation hybrid poplar in eastern Canada.", American Society of Agricultural and Biological Engineers Annual International Meeting 2014, Montreal, Canada, July 13-16, 2014, pp. 1258-1270.
- Lizotte, P.-L., Savoie, P., and Khelifi, M. (2014). "Cost analysis of corn stover harvested in the spring.", American Society of Agricultural and Biological Engineers Annual International Meeting 2014, Montreal, Canada, July 13-16, 2014, pp. 1271-1280.
- Robert, F.-S., Savoie, P., Pepin, S., and Hébert, P.-L. (2014). "Site characteristics and harvestable Biomass with a biobaler on abandoned farmland.", American Society of Agricultural and Biological Engineers Annual International Meeting 2014, Montreal, Canada, July 13-16, 2014, pp. 4837-4850.
- Fournel, S., Palacios, J.H., Morissette, R., Villeneuve, J., Godbout, S., Heitz, M., and Savoie, P. (2014). "Particulate emissions from on-farm combustion of dedicated energy crops: Influence of biomass properties.", American Society of Agricultural and Biological Engineers Annual International Meeting 2014, Montreal, Canada, July 13-16, 2014, pp. 1211-1224.
- Fournel, S., Palacios, J.H., Morissette, R., Villeneuve, J., Godbout, S., Heitz, M., and Savoie, P. (2014). "Gaseous emissions from on-farm combustion of dedicated energy crops: Influence of biomass properties.", American Society of Agricultural and Biological Engineers Annual International Meeting 2014, Montreal, Canada, July 13-16, 2014, pp. 3761-3775.
- Audy, M.A., Savoie, P., Thibodeau, F., and Morissette, R. (2014). "Size and shape of forage particles by image analysis and normalized multiscale bending energy method.", American Society of Agricultural and Biological Engineers Annual International Meeting 2014, Montreal, Canada, July 13-16, 2014, pp. 820-830.

## 2013

- Jégo, G., Savoie, P., and Claessens, A. (2013). "Modeling growth of short rotation willow.", Atelier de chercheurs fédéraux sur la biomasse-bioénergie, Montréal, QC, Canada, 20-21 mars 2013.
- Savoie, P. and Schroeder, W.R. (2013). "Harvest Storage and Energy Conversion at the Farm and Community Level of Woody Crops and Corn Stover.", published in Final Report – NRCan PERD Project I11.014, Office of Energy Research and Development (OERD), Natural Resources Canada.
- Claessens, A., Bélanger, G., Savoie, P., Parent, G., Bertrand, A., Tremblay, G.F., Massé, D.I., Gilbert, Y., and Babineau, D. (2013). "Effect of harvest date and nitrogen fertilization on reed canarygrass and switchgrass yield, composition and specific methane production in eastern Canada.", SWITCHGRASS II conference, Madison, Wisconsin, USA, September 10-12, 2013, [www.dfrc.wisc.edu/switchgrass/](http://www.dfrc.wisc.edu/switchgrass/).
- Claessens, A., Bélanger, G., Savoie, P., Parent, G., Bertrand, A., Tremblay, G.F., Massé, D.I., Gilbert, Y., and Babineau, D. (2013). "Species, harvest date, and nitrogen fertilization affect characteristics of biomass grown for methane production in eastern Canada.", SWITCHGRASS II conference, Madison, Wisconsin, USA, September 9-13, 2013, Invited for an oral presentation.

## 2012

- Savoie, P., Tremblay, G.F., and Morissette, R. (2012). "Méthodes pour réduire les pertes durant la récolte et la conservation des fourrages.", 36e Symposium sur les bovins laitiers: Agir pour l'avenir, Drummondville, QC, Canada, November 1, 2012, pp. 116-129.
- Savoie, P., Caron, E., and Tremblay, G.F. (2012). "Méthodes de fenaison pour réduire les pertes.", Demi-journée d'information scientifique sur les fourrages 2012, Victoriaville, QC, Canada, February 12, 2014, pp. 38-47.

## 2011

- Savoie, P. and Schroeder, W.R. (2011). "Agriculture's contribution to bio-based energy.", published in Final Report - Project I11.011. ecoETI Program, Office of Energy Research and Development (OERD), Natural Resources Canada, 30p.



Lizotte, P.-L. and Savoie, P. (2011). "Harvesting residual corn stover with a self-loading wagon for animal bedding.", 2011 ASABE Annual International Meeting, Louisville, KY, USA, August 7-11, 2011, Supplement, pp. 27-37.

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## Research Publications:

2016

Mischkolz, J.M., Schellenberg, M.P., and Lamb, E.G. (2016). "Assembling productive communities of native grass and legume species: Finding the right mix.", *Applied Vegetation Science*, 19(1), pp. 111-121. doi: 10.1111/avsc.12200

2015

Jin, L., Wang, Y., Iwaasa, A.D., Li, Y., Xu, Z.J., Schellenberg, M.P., Liu, X.-L., McAllister, T.A., and Stanford, K.I.M. (2015). "Purple prairie clover (*Dalea purpurea* Vent) reduces fecal shedding of *Escherichia coli* in pastured cattle.", *Journal of Food Protection*, 78(8), pp. 1434-1441. doi: 10.4315/0362-028X.JFP-14-426

Schellenberg, M.P. and Biliget, B. (2015). "The effects of temperature and scarification on seed germination of three *Dalea* species.", *Canadian Journal of Plant Science*, 95(6), pp. 1117-1120. doi: 10.4141/cjps-2015-153

2014

Klabi, R., Bell, T.H., Hamel, C., Iwaasa, A.D., Schellenberg, M.P., Raies, A., and St. Arnaud, M. (2014). "Plant assemblage composition and soil P concentration differentially affect communities of AM and total fungi in a semi-arid grassland.", *FEMS Microbiology Ecology*, 91(1: Article number fiu015). doi: 10.1093/femsec/fiu015

Hou, X.-Y., Wang, Z., Schellenberg, M.P., Ji, L., and Yun, X. (2014). "The response of grassland productivity, soil carbon content and soil respiration rates to different grazing regimes in desert steppe in Northern China.", *Rangeland Journal*, 36(6), pp. 573-582.

Biliget, B., Jefferson, P.G., Muri, R., and Schellenberg, M.P. (2014). "Late summer forage yield, nutritive value, compatibility of warm- and cool-season grasses seeded with legumes in western Canada.", *Canadian Journal of Plant Science*, 94(7), pp. 1139-1148.

Wang, Z., Yun, X., Wei, Z.-J., Schellenberg, M.P., Wang, Y., Yang, X., and Hou, X.-Y. (2014). "Responses of plant community and soil properties to inter-annual precipitation variability and grazing durations in a desert steppe in Inner Mongolia.", *Journal of Integrative Agriculture*, 13(6), pp. 1171-1182. doi: 10.1016/S2095-3119(13)60660-7

Han, W.-J., Hou, X.-Y., Olokhnuud, C.-L., and Schellenberg, M.P. (2014). "The characteristics of plant communities along east Eurasian steppe transect.", *Journal of Integrative Agriculture*, 13(6), pp. 1157-1164. doi: 10.1016/S2095-3119(13)60659-0

Klabi, R., Hamel, C., Schellenberg, M.P., Iwaasa, A.D., Raies, A., and St-Arnaud, M. (2014). "Interaction between legume and arbuscular mycorrhizal fungi identity alters the competitive ability of warm-season grass species in a grassland community.", *Soil Biology & Biochemistry*, 70, pp. 176-182. doi: 10.1016/j.soilbio.2013.12.019

Wang, Z., Hou, X.-Y., Schellenberg, M.P., Qin, Y.-X., Yun, X., Wei, Z., Jiang, C., and Wang, Y. (2014). "Different responses of plant to grazing durations in a desert steppe of Inner Mongolia, China.", *Rangeland Journal*, 36(6), pp. 583-592.

2013

Biliget, B., Schellenberg, M.P., and Fu, Y.B. (2013). "Genetic diversity of side-oats grama [*Bouteloua curtipendula* (Michx.) Torr.] populations as revealed by AFLP markers.", *Canadian Journal of Plant Science*, 93, pp. 1105-1114.

Tadevosyan, A.H., Schellenberg, M.P., Mayrapetyan, S.K., and Ghalachyan, L.M. (2013). "Opportunity of remediation of radionuclide-contaminated soils and growing ecologically pure plant material via water-retaining polymer.", *NATO Science for Peace and Security Series A: Chemistry and Biology*, pp. 261-269.

Jin, L., Wang, Y., Iwaasa, A.D., Xu, Z., Schellenberg, M.P., Zhang, Y.G., and McAllister, T.A. (2013). "Effect of condensed tannin on in vitro ruminal fermentation of purple prairie clover (*Dalea purpurea* Vent)-cool season grass mixture.", *Canadian Journal of Animal Science*, 93(1), pp. 155-158. doi: 10.4141/CJAS2012-109

Schellenberg, M.P., Biliget, B., and Wei, Y. (2013). "Predicting seed germination of slender wheatgrass [*Elymus trachycaulus* (Link) Gould subsp. *Trachycaulus*] using thermal and hydro time models.", *Canadian Journal of Plant Science*, 93(5), pp. 793-798. doi: 10.4141/CJPS2013-028

Schellenberg, M.P., Biligetu, B., Lamb, E.G., and Mischkolz, J.M. (2013). "World interest in diverse native plants", 22nd International Grasslands Congress 2013, Sydney, New South Wales, Australia, September 15-19, 2013, pp. 355-358.

Schellenberg, M.P., Biligetu, B., and Picasso, V. (2013). "Mixed species seeding: A means to increase production in temperate pastures", 22nd International Grasslands Congress 2013, Sydney, New South Wales, Australia, September 15-19, 2013, pp. 483-484.

Schellenberg, M.P. and Biligetu, B. (2013). "What should be in a recommended reseeding mixture?", The future of Rangeland Fire in a Changing World, SRM-AGM, Oklahoma City, Oklahoma, USA, February 2-8, 2013, Abstract and Poster B5.

Biligetu, B. and Schellenberg, M.P. (2013). "Forage quality variation among accessions of warm-season grasses of North America during summer of semiarid Western Canada.", The future of Rangeland Fire in a Changing World, SRM-AGM, Oklahoma City, Oklahoma, USA, February 2-8, 2013.

Mischkolz, J.M., Schellenberg, M.P., and Lamb, E.G. (2013). "Early productivity and crude protein content of establishing forage swards composed of combinations of native grass and legume species in mixed-grassland ecoregions.", Canadian Journal of Plant Science, 93(3), pp. 445-454. doi: 10.4141/CJPS2012-261

## 2012

Wang, Z., Schellenberg, M.P., Biligetu, B., Zhao, M.G., and Han, G.D. (2012). "Forage mixture responses to water stress in semi-arid prairie grassland: A pot experiment.", Canadian Journal of Plant Science, 92(7), pp. 1259-1261. doi: 10.4141/cjps2011-283

Schellenberg, M.P., Biligetu, B., and Iwaasa, A.D. (2012). "Species dynamic, forage yield, and nutritive value of seeded native plant mixtures following grazing.", Canadian Journal of Plant Science, 92(4), pp. 699-706. doi: 10.4141/CJPS2011-273

Jin, L., Wang, Y., Iwaasa, A.D., Xu, Z.J., Schellenberg, M.P., Zhang, Y.G., Liu, X.-L., and McAllister, T.A. (2012). "Effect of condensed tannins on ruminal degradability of purple prairie clover (*Dalea purpurea* Vent.) harvested at two growth stages.", Animal Feed Science and Technology, 176(1-4), pp. 17-25. doi: 10.1016/j.anifeedsci.2012.07.003

Iwaasa, A.D., Schellenberg, M.P., and McConkey, B.G. (2012). "Re-establishment of Native Mixed Grassland Species into Annual Cropping Land.", Prairie Soils and Crops, 5, pp. 85-95.

Wang, Z. and Schellenberg, M.P. (2012). "Drought and N addition in a greenhouse experiment: blue grama and western wheatgrass.", Journal of Agricultural Science and Technology B, 2(1B), pp. 29-37.

Schellenberg, M.P., Biligetu, B., McLeod, G.J., and Wang, Z. (2012). "Phenotypic variation of side-oats grama grass (*Bouteloua curtipendula* (Michx.) Torr.) collections from the Canadian prairie.", Canadian Journal of Plant Science, 92(6), pp. 1043-1048. doi: 10.4141/cjps2011-142

## 2011

Biligetu, B., Schellenberg, M.P., and McLeod, G.J. (2011). "The effect of temperature and water potential on seed germination of poly-cross side-oats grama (*Bouteloua curtipendula* (Michx.) Torr.) population of Canadian prairie.", Seed Science and Technology, 39(1), pp. 74-81.

Tadevosyan, A.H., Mayrapetyan, S.K., Schellenberg, M.P., Ghalachyan, L.M., Hovsepyan, A.H., and Mayrapetyan, K.S. (2011). "Migration and Accumulation of Artificial Radionuclides in the System Water-Soil-Plants Depending on Polymers Applying.", World Academy of Science, Engineering and Technology, 78(54), pp. 79-82.

## Other Science Related Publications:

### 2015

Kalinowski, T. and Schellenberg, M.P. (2015). Winterfat; What is it? Phone interview. December 21, 2015/January 6, 2016 Ag-Matters Issue.

Schellenberg, M.P. (2015). "Purple Prairie Clover (*Dalea purpurea* Vent.) Northern Great Plains population differences.", 2015 Society for Range Management Annual General Meeting, Sacramento, CA, USA, January 31-February 7, 2015.

Fleury, D. and Schellenberg, M.P. (2015). "Adding diversity and productivity to forages.", Top Crop Manager (Western edition), 41(9), pp. 10-12.

Furber, D. and Schellenberg, M.P. (2015). Winterfat, a protein-rich forage for cattle. Canadian Cattlemen. 30 April 2015.

Schellenberg, M.P. (2015). "Beef Cattle Research Council – Stand Mixtures. 23 Feb 2015".

Schellenberg, M.P. (2015). "PCAP highlighting Winterfat factsheet. January 2015 PCAP Newsletter." (Factsheet)

Schellenberg, M.P. (2015). STB-MRS Interim report J-000578 SASK ADF 20120054 Thermal gradient germination response of grass and legumes.

Schellenberg, M.P. (2015). STB-MRS Final report J-000512 Winterfat propagation project with Saskatchewan Water Security Agency.

Schellenberg, M.P. (2015). Discussion paper for development of a native plant strategy for Canada.

Khanal, N., Schellenberg, M.P., and Coulman, B.E. (2015). "Comparative yield and forage quality of *Astragalus* species in semi-arid condition in western Canada.", Botany 2015, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015, pp. 154.

Schellenberg, M.P. (2015). "Purple prairie clover (*Dalea purpurea* Vent.) Northern Great Plains population differences.", 2015 Society for Range Management Annual General Meeting, Sacramento, CA, USA, January 31-February 7, 2015.

Schellenberg, M.P. (2015). STB-MRS Interim report J-000914 AGR-09564 (RSA)-Diverse annual forage species research support agreement with southwest forage association.

Serajchi, M., Lamb, E.G., and Schellenberg, M.P. (2015). "Weed Communities and densities in native prairie seeded mixtures in Saskatchewan.", CIEE AGM, Saskatoon, Canada.

Schellenberg, M.P. and Kehler, M. (2015). "Grass cultivar germination response to increasing temperatures.", Botany 2015, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015, pp. 142.

Schellenberg, M.P. (2015). STB-MRS Interim report J-000579 SASK ADF 20120052 Development of rough fescue grass germplasm.

Schellenberg, M.P. (2015). STB-MRS Final report J-000615 AGR-08233 (CRADA) Genetic improvement of white prairie clover as a forage legume for the semiarid region. Saskatchewan ADF and co-funded by ALMA.

Khanal, N., Schellenberg, M.P., and Coulman, B. (2015). "Vegetative propagation of standing milkvetch (*Astragalus adsurgens*) as a tool for population improvement.", Soils and Crops Workshop 2015, University of Saskatchewan, Saskatoon, SK, Canada, March 16-17, 2015.

Schellenberg, M.P. (2015). STB-MRS Interim report J-000638 CL01-Beef-Activity 9-Feed Production and Utilization & Environmental Sustainability FRG.08.13 Development of plant material (grasses, legumes) and mixtures for forage production in the Prairie region.

Kehler, M. and Schellenberg, M.P. (2015). "Comparative germination of 4 Western Wheat Grass (*Agropyron smithii*) cultivars under constant and alternating temperature.", Soil and Crops Workshop, Saskatoon, SK, Canada, March 23-24, 2015.

Thompson, D.J., Elsinger, M., and Schellenberg, M.P. (2015). "Effects of warming and season of defoliation on the species composition of Manitoba Prairie.", 2015 Society for Range Management Annual General Meeting, Sacramento, CA, USA, January 31-February 7, 2015.

Serajchi, M., Lamb, E.G., and Schellenberg, M.P. (2015). "Forage Production and Crude Protein of Seven Native Species in a 4-Year Stand.", Soil and Crops Workshop, Saskatoon, SK, Canada, March 23-24, 2015.

Schellenberg, M.P. (2015). STB-MRS Interim report J-000624 SASK ADF 20120060 Diverse annual species based on their contribution to forage yield and soil improvement.

## 2014

Schellenberg, M.P. (2014). Development of rough fescue grass germplasm with consistent seed production and higher biomass (Annual Report Project #20120052). (Report)

Iwaasa, A.D., Wang, Y., Muri, R., and Schellenberg, M.P. (2014). "AAFC-SPARC Forage, grazing, ecology evaluations of purple prairie clover (*Dalea purpurea* Vent.) and white prairie clover (*D. candida* Michx. Ex Willd.).", 2014 Native Prairie Restoration and Reclamation Workshop, Regina, SK, Canada, January 28-30, 2014.

Iwaasa, A.D. and Schellenberg, M.P. (2014). "Native and tame forage research opportunities at the Semiarid Prairie Research Centre (SPARC).", 2014 Native Prairie Restoration and Reclamation Workshop, Regina, SK, Canada, January 28-30, 2014.

Bainard, J.D., Mischkolz, J.M., Schellenberg, M.P., and Lamb, E.G. (2014). "Positive effects of functional diversity on forage mixture productivity.", 2014 Native Prairie Restoration and Reclamation Workshop, Regina, SK, Canada, January 28-30, 2014.

Schellenberg, M.P. (2014). Genetic improvement of white prairie clover (*Dalea candida*) as a forage legume for the semi-arid region (ALMA Final report Project #2012C016R). (Report)

Piche, I. and Schellenberg, M.P. (2014). "Soil Nutrient Trends of Polyculture in Long Term Rotation.", Soil and Crops Workshop, Saskatoon, SK, Canada, March 23-24, 2015.

- Iwaasa, A.D., Baron, V.S., Lemke, R.L., Wang, H., Kröbel, R., Schellenberg, M.P., and McConkey, B.G. (2014). "AGGP Cropping System-Grassland Research and Extension: Semiarid Ecoregion.", AGGP cropping system – grassland research and extension: Semiarid Ecoregion, AAFC-Saskatoon, Saskatoon, Canada, March 20, 2014.
- Bainard, J.D. and Schellenberg, M.P. (2014). "Dryland Agriculture Tour for Chinese Ministry of Agriculture Dryland Management Division Delegation (August 26, 2014)." (Technology transfer)
- Bainard, J.D. and Schellenberg, M.P. (2014). "Agronomic and cover crop trials tour for the Saskatchewan Institute of Agrologists (July 30, 2014)." (Technology transfer)
- Bainard, J.D. and Schellenberg, M.P. (2014). "Low Input Agriculture Field Day (August 7, 2014)". (Technology transfer)
- Schellenberg, M.P. (2014). Development of plant material (grasses, legumes) and mixtures for forage production in the Prairie Region (BCRC Annual Report FRG.08.13). (Report)
- Schellenberg, M.P. (2014). Germination response of selected grass and legume species under current and predicted temperature increases (ADF 2013 Annual Report Project #20120054). (Report)
- Schellenberg, M.P. (2014). Development of rough fescue grass germplasm with consistent seed production and higher biomass (ADF 2013 Annual Report Project #20120052). (Report)
- Schellenberg, M.P. (2014). Determination of appropriate species for diverse annual plantings based on their contribution to forage yield and soil improvement (ADF 2013 Annual Report Project #20120060). (Report)
- Schellenberg, M.P. (2014). Saskatchewan Water Security Agency Project 2013-FUND-0010 Annual Report. (Report)
- Schellenberg, M.P. (2014). Genetic improvement of white prairie clover (*Dalea Candida*) as a forage legume for the semi-arid region (ADF Final Report for Project # 20110069). (Report)
- Schellenberg, M.P., Gao, F., and Kehler, M. (2014). "Impact of varying temperature and osmotic pressure on germination of two dryland legumes: Cicer milkvetch and Purple prairie clover.", Society for Range Management 67th Annual International Meeting "From dusty trails to waning wetlands", Orlando, Florida, USA, February 8-13, 2014.
- Schellenberg, M.P. (2014). Winterfat – Packed with protein for fall and winter grazing., Agriculture and Agri-Food Canada. (Book)
- Schellenberg, M.P., Gao, F., and Kehler, M. (2014). "Utilizing germination parameters to determine adaptation to predicted future climate scenarios.", Canadian Society for Ecology and Evolution Annual General Meeting, Montreal, Quebec, Canada, May 26-30, 2014.
- Bainard, J.D., Schellenberg, M.P., and Lamb, E.G. (2014). "Diverse annual plantings and their contribution to forage yield and soil improvement.", Soil and Crops Workshop, Saskatoon, SK, Canada, March 11-12, 2014.
- Piche, I. and Schellenberg, M.P. (2014). "Initial soil nutrient trends of polyculture in long term rotation.", Soil and Crops Workshop, Saskatoon, SK, Canada, March 11-12, 2014.
- Schellenberg, M.P. (2014). Saskatchewan Water Security Agency Project 2013-FUND-0010 Final Report. (Report)
- Kehler, M. and Schellenberg, M.P. (2014). "Comparative germination of alfalfa, purple prairie clover and green needle grass under constant and alternating temperatures.", Soil and Crops Workshop, Saskatoon, SK, Canada, March 11-12, 2014.
- Schellenberg, M.P. (2014). Development of plant material (grasses, legumes) and mixtures for forage production in the Prairie Region BCRC Annual Report FRG.08.13). (Report)
- Schellenberg, M.P. (2014). "FORAGES (YouTube video)".
- Schellenberg, M.P. (2014). Genetic improvement of white prairie clover (*Dalea candida*) as a forage legume for the semi-arid region (ALMA Annual report Project #2012C016R). (Report)
- Schellenberg, M.P. (2014). Genetic improvement of white prairie clover (*Dalea Candida*) as a forage legume for the semi-arid region (ADF Annual Report for Project # 20110069). (Report)
- Schellenberg, M.P. (2014). Determination of appropriate species for diverse annual plantings based on their contribution to forage yield and soil improvement (ADF 2013 Annual Report Project #20120060). (Report)
- Schellenberg, M.P. (2014). Germination response of selected grass and legume species under current and predicted temperature increases (Annual Report Project #20120054). (Report)

## 2013

- Schellenberg, M.P. (2013). Final Report Beef Cluster proposal FRG.07.13 2009-2013. (Report)
- Schellenberg, M.P. and Piche, I. (2013). "First year results of 12 annual species polyculture.", Soil and Crops Workshop, Saskatoon, SK, Canada, March 4-5, 2013. (Presentation)

Gao, F., Schellenberg, M.P., and Kehler, M. (2013). "Comparative germination of Cicer Milkvetch and Purple Prairie Clover under varying temperature and osmotic pressure.", Soil and Crops Workshop, Saskatoon, SK, Canada, March 4-5, 2013. (Presentation)

Schellenberg, M.P., Biligetu, B., and Picasso, V. (2013). "Mixed species seeding: A means to increase production in temperate pastures.", 22nd International Grasslands Congress 2013, Sydney, New South Wales, Australia, September 15-19, 2013.

Schellenberg, M.P. (2013). Potential of Polycultures (Radio interview with CJWW).

Thompson, D.J., Wheatley, B., Schellenberg, M.P., and Leborgne, M. (2013). "Microclimate modification effects on the species composition of BC grassland communities.", 66th annual meeting of the Society for Range Management, Oklahoma City, OK, USA. (Abstract)

Schellenberg, M.P. and Biligetu, B. (2013). "Progress in selection of white prairie clover (*Dalea candida*) for forage under semiarid conditions.", Canadian Society of Agronomy Annual General Meeting, Lethbridge, AB, Canada, July 2014.

Wilson, G. and Schellenberg, M.P. (2013). "Foraging into the Future.", Canadian Cattlemen.

Schellenberg, M.P. (2013). Beef Science Cluster project Foraging into Future (GX90 Yorkton Radio Interview with Rod MacDonald).

Cote, J. and Schellenberg, M.P. (2013). Foraging into the Future (Media Pitch).

Schellenberg, M.P. (2013). "Polyculture research highlight.", Saskatchewan Hay and Pasture Report, 14(3).

Fleury, D. and Schellenberg, M.P. (2013). "Polycultures for the Canadian Prairies.", Top Crop Manager (Western edition), 2013 (September), pp. 10.

Schellenberg, M.P. (2013). "Greenhouse tour of native plant material.", Horticultural Society, Swift Current, Canada, April 25, 2013. (Presentation)

Schellenberg, M.P. (2013). "Plant ecology Program.", Oral Communication with Visiting Tibetan Researcher, Swift Current., Canada, April 25, 2013. (Presentation)

Schellenberg, M.P. (2013). "Health food for cattle: Prairie clovers packed with health benefits.", Farming for Tomorrow (Saskatchewan Edition), 2013 (April/May), pp. 18.

Schellenberg, M.P. (2013). "The benefit of partnerships.", CFGA Annual General Meeting and Conference, Olds, AB, Canada, December 8-11, 2013.

Schellenberg, M.P. (2013). "Diversification of forage stands: Improving yields by adding two legumes.", Prairie Post - Bull Breeders, 2013 (February), pp. A8.

Schellenberg, M.P. (2013). Final Report FRG.07.13 Beef Science Cluster. (Report)

Schellenberg, M.P. (2013). Annual Report ADF 201 10069 Genetic improvement of white prairie clover. (Report)

Cote, J. and Schellenberg, M.P. (2013). Polycultures – a Cocktail Mix for the Semiarid Prairies (Media Pitch).

Schellenberg, M.P. and Biligetu, B. (2013). "What should be in a recommended reseed ing mixture?", The future of Rangeland Fire in a Changing World, SRM-AGM, Oklahoma City, Oklahoma, USA, February 2-8, 2013, Abstract and Poster B5. (Abstract)

Biligetu, B. and Schellenberg, M.P. (2013). "Forage quality variation among accessions of warm-season grasses of North America during summer of semiarid Western Canada.", The future of Rangeland Fire in a Changing World, SRM-AGM, Oklahoma City, Oklahoma, USA, February 2-8, 2013. (Abstract)

Biligetu, B. and Schellenberg, M.P. (2013). "Dormant seeding of perennial forages.", Agri-Mart Express.Com, September 23-October 4, 2013, pp. C3.

## 2012

Jin, L., Xu, Z., Iwaasa, A.D., Zhang, Y.G., Schellenberg, M.P., and Wang, Y. (2012). "Mixing purple prairie clover with alfalfa reduced alfalfa N transforming to ammonia-N.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, W118. (Abstract)

Jin, L., Xu, Z.J., Iwaasa, A.D., Zhang, Y.G., Schellenberg, M.P., McAllister, T.A., and Wang, Y. (2012). "Mixing purple prairie clover with alfalfa reduced alfalfa N transforming to ammonia-N.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

Schellenberg, M.P., Biliget, B., Piche, I., Kehler, M., and Ruest, I. (2012). "Realizing the benefits for an ever changing environment.", Foraging Into the Future 7: Times are good....let's make it count!, Sky Centre, Living Sky Casino, Swift Current, SK, Canada, December 12-13, 2012. (Abstract)

Iwaasa, A.D. and Schellenberg, M.P. (2012). "AAFC-SPARC long term grazing and forage production on re-established native grasslands in Southern Saskatchewan.", 2012 Native Prairie Restoration/Reclamation Workshop, TCU Place, Saskatoon, SK, Canada, February 8-9, 2012.

Iwaasa, A.D., McLeod, G.J., Schellenberg, M.P., Muri, R., and Biliget, B. (2012). "Opportunities await for native and tame forage research at the Semi-arid Prairie Agricultural Research Centre (SPARC) - Agriculture and Agri-Food Canada (AAFC).", 2012 Native Prairie Restoration/Reclamation Workshop, TCU Place, Saskatoon, SK, Canada, February 8-9, 2012. (Poster)

Iwaasa, A.D., Li, Y., Muri, R., Jin, Y., Schellenberg, M.P., and Biliget, B. (2012). "Evaluation of the forage and seed characteristics of purple prairie clover (*Dalea purpurea* Vent.) and white prairie clover (*Dalea candida* Michx. Ex. Willd.).", 2012 Native Prairie Restoration/Reclamation Workshop, TCU Place, Saskatoon, SK, Canada, February 8-9, 2012. (Poster)

Schellenberg, M.P. and Biliget, B. (2012). "Multiple species grass-legume mixture in semi-arid Saskatchewan.", Plant Canada 2012 (joint meeting of the Canadian Society of Agronomy (CSA), Canadian Society for Horticultural Science (CSHS), Certified Crop Advisors (CCA), North American Fruit Explorers (NAFEX)): Adapting Crops to Change, University of Saskatchewan, Saskatoon, SK, Canada, July 16-19, 2012. (Poster)

Biliget, B., Schellenberg, M.P., and Fu, Y.B. (2012). "AFLP variation in native populations of side-oats grama (*Bouteloua curtipendula* (Michx.) Torr.) and its corresponding selected and multiple-site composite populations", Plant Canada 2012 (joint meeting of the Canadian Society of Agronomy (CSA), Canadian Society for Horticultural Science (CSHS), Certified Crop Advisors (CCA), North American Fruit Explorers (NAFEX)): Adapting Crops to Change, University of Saskatchewan, Saskatoon, SK, Canada, July 16-19, 2012. (Poster)

## 2011

Tadevosyan, A.H., Mayrapetyan, S.K., Schellenberg, M.P., Ghalachyan, L.M., Hovsepian, A.H., and Mayrapetyan, K.S. (2011). "Migration and Accumulation of Artificial Radionuclides.", ICABBBE 2011: International Conference on Agricultural, Biosystems, Biotechnology and Biological Engineering: The System Water-Soil-Plants Depending on Polymers Applying, Amsterdam, The Netherlands, July 13-15, 2011.

Jin, L., Xu, Z.J., Iwaasa, A.D., Zhang, Y.G., Schellenberg, M.P., McAllister, T.A., and Wang, Y. (2011). "Effect of tannin on in vitro ruminal degradability of purple prairie clover (*Petalostemon purpureum*) harvested at two growth stages in the Daisy II Fermentation System.", ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 11-14, 2011, T356. (Poster)

Biliget, B., Schellenberg, M.P., and McLeod, G.J. (2011). "Relationship of Morphological traits and seed yield of plain rough fescue grass (*Festuca hallii* (Vasey) Piper) with different origins.", Soils and Crops Workshop 2011, Prairieland Park, Saskatoon, SK, Canada, March 15-16, 2011. (Workshop)

Wang, Z., Schellenberg, M.P., Zhao, M., and Guodong, H. (2011). "Investigation of responses of plant mixture to different water stress regimes in a pot experiment.", Soils and Crops Workshop 2011, Prairieland Park, Saskatoon, SK, Canada, March 15-16, 2011. (Workshop)

Biliget, B. and Schellenberg, M.P. (2011). "Germination of two native wheatgrass (*Agropyron*) species under different temperature and water potential regimes.", Soils and Crops Workshop 2011, Prairieland Park, Saskatoon, SK, Canada, March 15-16, 2011. (Workshop)

Schellenberg, M.P., Biliget, B., and Iwaasa, A.D. (2011). "Botanical composition of seeded simple and complex native forage mixtures following grazing.", IX International Rangeland Congress - IRC2011: Diverse Rangelands for a Sustainable Society, Rosario, Argentina, April 2-8, 2011, pp. 393.

Schellenberg, M.P., Biliget, B., and Iwaasa, A.D. (2011). "Effects of grazing disturbance on re-established native forage stands for a semi-arid climate.", IX International Rangeland Congress - IRC2011: Diverse Rangelands for a Sustainable Society, Rosario, Argentina, April 2-8, 2011, pp. 179.

Schellenberg, M.P., Biliget, B., and McLeod, G.J. (2011). "Phenotypic variation of side-oats grama grass collections from Canadian prairie.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011, pp. 272.

Schellenberg, M.P. (2011). "The Diversification of Crested Wheatgrass.", 64th Annual Meeting of the Society For Range Management and Workshop of the Rangeland Technology and Equipment Council (RTEC): Crested Wheatgrass Diversification, Billings, MT, USA, February 6, 2011, published in Rangeland technology and equipment workshop: diversification of crested wheatgrass stands, SRM-AGM, Transcending Borders: Landscapes and Legends. (Presentation)

Tadevosyan, A.H., Mayrapetyan, S.K., Schellenberg, M.P., Ghalachyan, L.M., Tavakalyan, N.B., Hovsepian, A.H., and Mayrapetyan, K.S. (2011). "Influence of polymers applying on migration and accumulation of artificial radionuclides in sweet basil.", 14th International Congress of Radiation Research, Warsaw, Poland, August 28-September 1, 2011, pp. 170.

Jin, L., Zhang, Y.G., Iwaasa, A.D., Schellenberg, M.P., Xu, Z.J., McAllister, T.A., and Wang, Y. (2011). "Fecal shedding of *Escherichia coli* of cattle grazing pastures with and without purple prairie clover (*Petalostemon purpureum*).", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011, TDC-2. (Poster)

Jin, L., Zhang, Y.G., Iwaasa, A.D., Schellenberg, M.P., Xu, Z.J., McAllister, T.A., and Wang, Y. (2011). "Fecal shedding of *Escherichia coli* of cattle grazing pastures with and without purple prairie clover (*Petalostemon purpureum*).", *Canadian Journal of Animal Science*, 91(3), pp. 503. (Abstract)

Jin, L., Zhang, Y.G., Iwaasa, A.D., Schellenberg, M.P., Xu, Z.J., McAllister, T.A., and Wang, Y. (2011). "Effect of incorporation of purple prairie clover (*Petalostemon purpureum*) into cool season grasses mixture on in vitro ruminal fermentation.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011, FPE-3. (Poster)

Jin, L., Zhang, Y.G., Iwaasa, A.D., Schellenberg, M.P., Xu, Z.J., McAllister, T.A., and Wang, Y. (2011). "Effect of incorporation of purple prairie clover (*Petalostemon purpureum*) into cool season grasses mixture on in vitro ruminal fermentation.", *Canadian Journal of Animal Science*, 91(3), pp. 476. (Abstract)

Jin, L., Xu, Z.J., Iwaasa, A.D., Zhang, Y.G., Schellenberg, M.P., McAllister, T.A., and Wang, Y. (2011). "Nutrient and tannin contents of purple prairie clover (*Petalostemon purpureum*) harvested at different growth stages.", ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 11-14, 2011, M#127. (Poster)

Iwaasa, A.D., Steppuhn, H., Schellenberg, M.P., Acharya, S.N., and Wang, Y. (2011). "A forage and grazing research update.", SWFA Annual General Meeting, Swift Current, SK, Canada, March 1, 2011.

Jin, L., Xu, Z.J., Iwaasa, A.D., Zhang, Y.G., Schellenberg, M.P., McAllister, T.A., and Wang, Y. (2011). "Effect of tannin on in vitro ruminal degradability of purple prairie clover (*Petalostemon purpureum*) harvested at two growth stages in the Daisy II Fermentation System.", *Journal of Animal Science*, 89(E-Suppl. 1), pp. 387. (Abstract)

Schellenberg, M.P. (2011). "Using plant biodiversity to help decrease production risk during drought.", 2 pages. (Factsheet)

Schellenberg, M.P., Biligetu, B., and Wang, Z. (2011). "What is new on the SPARC Range: Plant ecology research program update.", SPARC Seminar series, February 17, 2011. (Presentation)

Jin, L., Xu, Z.J., Iwaasa, A.D., Schellenberg, M.P., Zhang, Y.G., McAllister, T.A., and Wang, Y. (2011). "Nutrient and tannin contents of purple prairie clover (*Petalostemon purpureum*) harvested at different growth stages.", *Journal of Animal Science*, 89(E-Suppl. 1), pp. 48. (Abstract)



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## Research Publications:

2014

Zhang, Y., Schernthaler, J.P., Labbé, N.M., Hefford, M.A., Zhao, J., and Simmonds, D.H. (2014). "Improved Protein Quality in Transgenic Soybean Expressing a De Novo Synthetic Protein, MB-16.", *Transgenic Research*, 23(3), pp. 455-467. doi : 10.1007/s11248-013-9777-5

2012

Zifkin, M., Beaudoin, F., Ozga, J.A., Zaharia, L.I., Schernthaler, J.P., Gesell, A., Abrams, S.R., Kennedy, J.A., and Constabel, C.P. (2012). "Gene Expression and Metabolite Profiling of Developing Highbush Blueberry Fruit Indicates Transcriptional Regulation of Flavonoid Metabolism and Activation of Abscisic Acid Metabolism.", *Plant Physiology*, 158(1), pp.200-224. doi : 10.1104/pp.111.180950

## Other Science Related Publications:

2012

Schernthaler, J.P., Singh, J., Labbé, N.M., Liao, D., and Marsolais, F. (2012). "The unfolded protein response in plant seeds.", in Hendriks, B.P. (ed.) - *Agricultural Research Updates*. Vol. 2, Nova Science Publishers Inc, pp. 429-454.

2011

Amer, S., Labbé, N.M., Rowland, O., and Schernthaler, J.P. (2011). "Expression of Brassica napus LEA genes in developing seeds of Arabidopsis thaliana.", *Canadian Society of Plant Physiologists Eastern Regional Meeting & Plant Development Workshop / Congrès de la Société Canadienne de Physiologie Végétale & Congrès de Développement Végétale (Congrès Régional de l'Est)*, Carleton University, Ottawa, ON, Canada, December 2-3, 2011, P44, pp. 51. (Poster)

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## Research Publications:

2015

Moya, D., Silasi, R., McAllister, T. A., Genswein, B.M.A., Crowe, T. G., Marti, S., and Schwartzkopf-Genswein, K.S.G. (2015). "Use of pattern recognition techniques for early detection of morbidity in receiving feedlot cattle.", *Journal of Animal Science*, 93(7), pp. 3623-3638. doi: 10.2527/jas.2015-8907

Stanford, K., Gibb, D.J., Schwartzkopf-Genswein, K.S.G., Van Herk, F.H., and McAllister, T.A. (2015). "Feeding subtherapeutic antimicrobials to low-risk cattle does not confer consistent performance benefits.", *Canadian Journal of Animal Science*, 95(4), pp. 589-597. doi: 10.4141/CJAS-2015-008

Tucker, C.B., Coetzee, J.F., Stookey, J.M., Thomson, D.U., Grandin, T., and Schwartzkopf-Genswein, K.S.G. (2015). "Beef cattle welfare in the USA: identification of priorities for future research.", *Animal Health Research Reviews*. doi : 10.1017/S1466252315000171

Montanholi, Y.R., Lim, M.-H., Macdonald, A., Smith, B.A., Goldhawk, C., Schwartzkopf-Genswein, K.S.G., and Miller, S.P. (2015). "Technological, environmental and biological factors: Referent variance values for infrared imaging of the bovine.", *Journal of Animal Science and Biotechnology*, 6(1: Article number 27). doi : 10.1186/s40104-015-0027-y

Moya, D., He, M.L., Jin, L., Wang, Y., Penner, G.B., Schwartzkopf-Genswein, K.S.G., and McAllister, T.A. (2015). "Effect of grain type and processing index on growth performance, carcass quality, feeding behavior, and stress response of feedlot steers.", *Journal of Animal Science*, 93(6), pp. 3091-3100. doi : 10.2527/jas.2014-8680

Wolfger, B., Schwartzkopf-Genswein, K.S.G., Barkema, H.W., Pajor, E.A., Levy, M., and Orsel, K. (2015). "Feeding behavior as an early predictor of bovine respiratory disease in North American feedlot systems.", *Journal of Animal Science*, 93(1), pp. 377-385. doi : 10.2527/jas.2013-8030

Wolfger, B., Manns, B., Barkema, H.W., Schwartzkopf-Genswein, K.S.G., Dorin, C., and Orsel, K. (2015). "Evaluating the cost implications of radio frequency identification feeding system for early detection of bovine respiratory disease in feedlot cattle.", *Preventive Veterinary Medicine*, 118(4), pp. 285-292. doi : 10.1016/j.prevetmed.2014.12.001

2014

Goldhawk, C.A., Crowe, T.G., González, L.A., Janzen, E., Kastelic, J.P., Pajor, E., and Schwartzkopf-Genswein, K.S.G. (2014). "Comparison of eight logger layouts for monitoring animal-level temperature and humidity during commercial feeder cattle transport.", *Journal of Animal Science*, 92(9), pp. 4161-4171. doi : 10.2527/jas.2013-7432

Moya, D., Holtshausen, L., Marti, S., Gibb, D.J., McAllister, T.A., Beauchemin, K.A., and Schwartzkopf-Genswein, K.S.G. (2014). "Feeding behavior and ruminal pH of corn silage, barley grain, and corn dried distillers' grain offered in a total mixed ration or in a free-choice diet to beef cattle.", *Journal of Animal Science*, 92(8), pp. 3526-3536. doi : 10.2527/jas.2013-7224

Moote, P.E., Church, J.S., Schwartzkopf-Genswein, K.S.G., and Van Hamme, J.D. (2014). "Effect of Fermented Winery By-Product Supplemented Rations on the Temperament and Meat Quality of Angus-Hereford X Steers During Feeding in a British Columbia Feedlot.", *Journal of Food Research*, 3(6), pp. 124-135. doi : 10.5539/jfr.v3n6p124

Goldhawk, C.A., Crowe, T.G., Janzen, E., Gonzalez, L., Kastelic, J.P., Pajor, E., and Schwartzkopf-Genswein, K.S.G. (2014). "Trailer microclimate during commercial transportation of feeder cattle and relationship to indicators of cattle welfare.", *Journal of Animal Science*, 92(11), pp. 5155-5165. doi : 10.2527/jas.2014-7964

Flint, H.E., Schwartzkopf-Genswein, K.S.G., Bateman, K.G., and Haley, D.B. (2014). "Characteristics of loads of cattle stopping for feed, water and rest during long-distance transport in Canada.", *Animals*, 4(1), pp. 62-81. doi : 10.3390/ani4010062

Schwartzkopf-Genswein, K.S.G. and Grandin, T. (2014). "Cattle Transport by Road.", in Grandin, T. (ed.) - *Livestock Handling and Transport* 4th edition, pp. 143-173.

Goldhawk, C.A., Janzen, E., González, L.A., Crowe, T.G., Kastelic, J.P., Pajor, E., and Schwartzkopf-Genswein, K.S.G. (2014). "Trailer microclimate and calf welfare during fall-run transportation of beef calves in Alberta.", *Journal of Animal Science*, 92(11), pp. 5142-5154. doi : 10.2527/jas.2014-7960

Moya, D., González, L.A., Caulkett, N.A., Fireheller, E., and Schwartzkopf-Genswein, K.S.G. (2014). "Effects of castration method and frequency of intramuscular injections of ketoprofen on behavioural and physiological indicators of pain in beef cattle.", *Journal of Animal Science*, 92(4), pp. 1686-1697. doi : 10.2527/jas.2013-7298

## 2013

Goldhawk, C.A., Schwartzkopf-Genswein, K.S.G., and Beauchemin, K.A. (2013). "Validation of rumination collars for beef cattle. Technical Note.", *Journal of Animal Science*, 91(6), pp. 2858-2862. doi : 10.2527/jas.2012-5908

Lardner, H.A., Braul, L., Schwartzkopf-Genswein, K.S.G., Schwean-Lardner, K., Damiran, D., Darambazar, E., and others (2013). "Consumption and drinking behavior of beef cattle offered a choice of several water types.", *Livestock Science*, 157(2-3), pp. 577-585. doi : 10.1016/j.livsci.2013.08.016

Holtshausen, L., Schwartzkopf-Genswein, K.S.G., and Beauchemin, K.A. (2013). "Short Communication: Ruminal pH profile and feeding behaviour of feedlot cattle transitioning from a high-forage to a high-concentrate diet.", *Canadian Journal of Animal Science*, 93, pp. 529-533. doi : 10.4141/CJAS2013-073

Church, J.S., Hegadoren, P.R., Paetkau, M.J., Miller, C.C., Regev-Shoshani, G., Schaefer, A.L., and Schwartzkopf-Genswein, K.S.G. (2013). "Influence of environmental factors on infrared eye temperature measurements in cattle.", *Research in Veterinary Science*, 96(1), pp. 220-226. doi : 10.1016/j.rvsc.2013.11.006

Moya, D., Schwartzkopf-Genswein, K.S.G., and Veira, D.M. (2013). "Standardization of a non-invasive methodology to measure cortisol in hair of beef cattle.", *Livestock Science*, 158(1-3), pp. 138-144. doi : 10.1016/j.livsci.2013.10.007

## 2012

González, L.A., Schwartzkopf-Genswein, K.S.G., Bryan, M., Silasi, R., and Brown, F.A. (2012). "Relationships between transport conditions and welfare outcomes during commercial long haul transport of cattle in North America.", *Journal of Animal Science*, 90(10), pp. 3640-3651. doi : 10.2527/jas.2011-4796

González, L.A., Manteca, X., Calsamiglia, S., Schwartzkopf-Genswein, K.S.G., and Ferret, A. (2012). "Ruminal acidosis in feedlot cattle: Interplay between feed ingredients, rumen function and feeding behavior (a review).", *Animal Feed Science and Technology*, 172(1-2), pp. 66-79. doi : 10.1016/j.anifeedsci.2011.12.009

Mir, P.S., He, M.L., Schwartzkopf-Genswein, K.S.G., Sharma, R., Brown, F.A., Travis, G.R., Entz, T., Lemieux, R.O., Dugan, M.E.R., Okine, E.K., and Dodson, M.V. (2012). "Effect of supplementation of beef steer diets with oil containing n6 and n3 fatty acids and 48 h feed withdrawal treatments on plasma hormone profiles and adipose tissue cellularity.", *Livestock Science*, 146(2-3), pp. 140-148. doi : 10.1016/j.livsci.2012.03.001

Schwartzkopf-Genswein, K.S.G., Faucitano, L., Dadgar, S., Shand, P.J., González, L.A., and Crowe, T.G. (2012). "Road transport of cattle, swine and poultry in North America and its impact on animal welfare, carcass and meat quality: A review.", *Meat Science*, 92(3), pp. 227-243. doi : 10.1016/j.meatsci.2012.04.010

Schwartzkopf-Genswein, K.S.G., Shah, M.A., Church, J.S., Haley, D.B., Janzen, K., Truong, G., Atkins, R.P., and Crowe, T.G. (2012). "A comparison of commonly used and novel electronic techniques for evaluating cattle temperament.", *Canadian Journal of Animal Science*, 92(1), pp. 21-31. doi : 10.4141/CJAS2011-040

González, L.A., Schwartzkopf-Genswein, K.S.G., Bryan, M., Silasi, R., and Brown, F.A. (2012). "Factors affecting body weight loss during commercial long haul transport of cattle in North America.", *Journal of Animal Science*, 90(10), pp. 3630-3639. doi : 10.2527/jas.2011-4786

González, L.A., Schwartzkopf-Genswein, K.S.G., Bryan, M., Silasi, R., and Brown, F.A. (2012). "Benchmarking study of industry practices during commercial long haul transport of cattle in Alberta, Canada.", *Journal of Animal Science*, 90(10), pp. 3606-3617. doi : 10.2527/jas.2011-4770

González, L.A., Schwartzkopf-Genswein, K.S.G., Bryan, M., Silasi, R., and Brown, F. (2012). "Space allowance during commercial long distance transport of cattle in North America.", *Journal of Animal Science*, 90(10), pp. 3618-3629. doi : 10.2527/jas.2011-4771

Schwartzkopf-Genswein, K.S.G., Fireheller, E., Caulkett, N.A., Janzen, E., Pajor, E.A., González, L., and Moya, D. (2012). "Achieving pain control for routine management procedures in North American beef cattle - An Invited Review.", *Animal Frontiers*, 2(3), pp. 52-58. doi : 10.2527/af.2012-0049

## 2011

Stanford, K.I.M., Bryan, M., Peters, J., González, L.A., Stephens, T.P., and Schwartzkopf-Genswein, K.S.G. (2011). "Effects of long- or short-haul transportation of slaughter heifers and cattle liner microclimate on hide contamination with *Escherichia coli* O157.", *Journal of Food Protection*, 74(10), pp. 1605-1610. doi : 10.4315/0362-028X.JFP-11-154

Zobel, G., Schwartzkopf-Genswein, K.S.G., Genswein, B.M.A., and von Keyserlingk, M.A.G. (2011). "Impact of agonistic interactions on feeding behaviours when beef heifers are fed in a competitive feeding environment.", *Livestock Science*, 137(1-3), pp. 1-9. doi : 10.1016/j.livsci.2010.09.022

Moya, D., Mazzenga, A., Holtshausen, L., Cozzi, G., González, L.A., Calsamiglia, S., Gibb, D.J., McAllister, T.A., Beauchemin, K.A., and Schwartzkopf-Genswein, K.S.G. (2011). "Feeding behavior and ruminal acidosis in beef cattle offered a total mixed ration or dietary components separately.", *Journal of Animal Science*, 89(2), pp. 520-530. doi : 10.2527/jas.2010-3045

Su, R., Munns, K., Beauchemin, K.A., Schwartzkopf-Genswein, K.S.G., Jin-Quan, L., Topp, E., and Sharma, R. (2011). "Effect of backgrounding and transition diets on fecal concentration and strain types of commensal *Escherichia coli* in beef cattle.", *Canadian Journal of Animal Science*, 91(3), pp. 449-458. doi : 10.4141/cjas2010-034

Holtshausen, L., Beauchemin, K.A., Schwartzkopf-Genswein, K.S.G., González, L.A., McAllister, T.A., and Gibb, D.J. (2011). "Performance, feeding behaviour and rumen pH profile of beef cattle fed corn silage in combination with barley grain, corn or wheat distillers' grain or wheat middlings.", *Canadian Journal of Animal Science*, 91(4), pp. 703-710. doi : 10.4141/CJAS2011-037

Schwartzkopf-Genswein, K.S.G., Hickman, D.D., Shah, M.A., Krehbiel, C.R., Genswein, B.M.A., Silasi, R., Gibb, D.J., Crews, Jr., D.H., and McAllister, T.A. (2011). "Relationship between feeding behavior and performance of feedlot steers fed barley-based diets.", *Journal of Animal Science*, 89(4), pp. 1180-1192. doi: 10.2527/jas.2010-3007

He, M.L., Mir, P.S., Sharma, R., Schwartzkopf-Genswein, K.S.G., Entz, T., Travis, G.R., Dugan, M.E.R., Rolland, D.C., Okine, E.K., and Dodson, M.V. (2011). "Effect of supplementation of beef steer diets with oil containing n6 and n3 fatty acids and 48 h feed withdrawal treatments on animal productivity, carcass characteristics and fatty acid composition.", *Livestock Science*, 142(1-3), pp. 253-263. doi : 10.1016/j.livsci.2011.08.002

## Other Science Related Publications :

2014

Schwartzkopf-Genswein, K.S.G. (2014). "Animal welfare and ethical implications of livestock Genomics.", Calgary, Alberta, Canada, April 23, 2014. (Presentation)

Moya, D., He, M.L., Wang, Y., McAllister, T.A., and Schwartzkopf-Genswein, K.S.G. (2014). "Evaluation of hair cortisol as a biomarker of chronic stress in beef cattle.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.

Schwartzkopf-Genswein, K.S.G., Janzen, E., Jelinski, M., Dorin, C., Orsel, K., Pajor, E., Shearer, J., and Millman, S. (2014). Occurrence, characterization and risk factors associated with lameness within Alberta feedlots Interim Report (4 pg) to ALMA Project # 2013R008R ANH.10.11 (December 31, 2014). (Report)

Schwartzkopf-Genswein, K.S.G. (2014). "Welfare Issues in beef cattle.", Guest Lecture, University of Calgary, Calgary, Alberta, Canada, November 18, 2014. (Presentation)

Schwartzkopf-Genswein, K.S.G. (2014). "What is welfare and how do we measure it in beef cattle?", National Cattlemen's Beef Association (NCBA), Cattlemen's College, Nashville, TN, USA, February 4, 2014. (Presentation)

Schwartzkopf-Genswein, K.S.G. (2014). "Welfare practices to increase beef production and sustainability.", Alberta Agricultural Economics Association, Red Deer, Alberta, Canada, May 1, 2014. (Presentation)

Demmans, L., Marti, S., Schwartzkopf-Genswein, K.S.G., and Janzen, E. (2014). "Lameness in Southern Alberta Feedlots.", 4th annual Beef cattle Conference, University of Calgary, Calgary, Alberta, Canada, June 19-20, 2014. (Abstract)

Marti, S., Devant, M., Amatayakul-Chantler, S., Jackson, J.A., Lopez, E., Janzen, E., and Schwartzkopf-Genswein, K.S.G. (2014). "Effect of anti-GnRF vaccine and band-castration on indicators of welfare in beef cattle.", 4th annual Beef cattle Conference, University of Calgary, Calgary, Alberta, Canada, June 19-20, 2014. (Abstract)

Wolfger, B., Schwartzkopf-Genswein, K.S.G., Levy, M., Barkema, H.W., and Pajor, E.A. (2014). "Using feeding behaviour to predict respiratory disease in feedlots.", Society for Veterinary Epidemiology and Preventive Medicine, Dublin, Ireland. (Abstract)

Schwartzkopf-Genswein, K.S.G., Janzen, E., Jelinski, M., Dorin, C., Orsel, K., Pajor, E., Shearer, J., Millman, S., Coetzee, H., Thomson, D., Demmans, L., Moya, D., and Marti, S. (2014). "Occurrence, characterization and risk factors associated with lameness within Alberta feedlots: Preliminary results.", 4th International Symposium on Beef Cattle Welfare, <http://www.extension.iastate.edu/registration/events/conferences/beefwelfare/speakers.htm>. (Abstract)

Soares, D.R., Cyrillo, J.N.S., Sant'anna, C.A., Valente, T.S., Schwartzkopf-Genswein, K.S.G., and Paranhos da Costa, M.J.R. (2014). "Flight speed as predictor of cattle ability to adapt to feedlots.", *Journal of Animal Science*, 92(E-Suppl.2), pp. 410. (Abstract)

Marti, S., Jelinski, M., Dorin, C., Janzen, E., Olson, M.E., Ralston, B.J., and Schwartzkopf-Genswein, K.S.G. (2014). "Effect of oral meloxicam on indicators of pain following band castration in beef calves.", *Journal of Animal Science*, 92(E-Suppl.2), pp. 405. (Abstract)

Kehler, C., Ominski, K.H., Connor, L., Crowe, T.G., and Schwartzkopf-Genswein, K.S.G. (2014). "The relationship between trailer motion and carcass bruising in market cows during transport.", *Journal of Animal Science*, 92(E-Suppl.2), pp. 110. (Abstract)

Marti, S. and Schwartzkopf-Genswein, K.S.G. (2014). "Effect of rest-stop duration during long distance transport on indicators of animal welfare in weaned beef calves.", *Journal of Animal Science*, 92(E-Suppl. 2), pp. 21. (Abstract)

Soares, D.R., Cyrillo, J.N.S., Schwartzkopf-Genswein, K.S.G., and Paranhos da Costa, M.J.R. (2014). "Feedlot cattle with good temperament have better carcass composition.", *Brazilian Animal production Society*, Sao Paulo, Brazil. (Abstract)

Schwartzkopf-Genswein, K.S.G. (2014). "What is welfare and how do we measure it in beef cattle?", Olds College, Olds, AB, Canada, November 4, 2014. (Presentation)

Moya, D., He, M.L., Wang, Y., McAllister, T.A., and Schwartzkopf-Genswein, K.S.G. (2014). "Evaluation of hair cortisol as a biomarker of chronic stress in beef cattle.", *Journal of Animal Science*, 92(E-Suppl. 2), pp. 20. (Abstract)

## 2013

Schwartzkopf-Genswein, K.S.G. (2013). "Welfare of beef cattle in intensive production systems.", *International Workshop on Farm Animal Welfare*, Soa Pedro, Brazil, June 11-13, 2013. (Abstract)

Goldhawk, C.A., Schwartzkopf-Genswein, K.S.G., and Beauchemin, K.A. (2013). "Validation of rumination collars for beef cattle.", *Joint meeting of the Canadian Society of Animal Science and Canadian Meat Science Association*, Banff, AB, Canada, June 17-20, 2013.

Schwartzkopf-Genswein, K.S.G. (2013). "Welfare management practices to increase production.", *Joint meeting of the Canadian Society of Animal Science and Canadian Meat Science Association*, Banff, AB, Canada, June 17-20, 2013.

Schwartzkopf-Genswein, K.S.G. (2013). "What is welfare and how do we measure it in beef cattle?", *National Cattlemen's Beef Association (NCBA) Beef Technologies Forum II: Beta-agonists: Perceptions vs. Reality*, Denver, Colorado, USA, August 7, 2013. (Presentation)

Wiese, B.I., Hendrick, S., Stookey, J.M., Schwartzkopf-Genswein, K.S.G., and Penner, G.B. (2013). "The effect of weaning method and timing of weaning on the activity, ruminal fermentation, and performance of beef calves.", *22nd Annual conference of the Western Canadian Bovine Practitioners*, Saskatoon, SK, Canada, January 17-19, 2013, Oral presentation.

Flint, H.E., Schwartzkopf-Genswein, K.S.G., Bateman, K.G., and Haley, D.B. (2013). "Characterizing loads of cattle that stop for feed, water and rest during long-distance transportation in Canada.", *Journal of Animal Science*, 91(E-Suppl.), pp. 380. (Abstract)

Flint, H.E., Schwartzkopf-Genswein, K.S.G., Bateman, K.G., and Haley, D.B. (2013). "The behavior of cattle unloaded for feed, water and rest during long-distance transportation in Canada.", *Journal of Animal Science*, 91(E-Suppl.), pp. 380. (Abstract)

Goldhawk, C.A., Janzen, E., González, L.A., Crowe, T.G., Kastelic, J.P., Pajor, E., and Schwartzkopf-Genswein, K.S.G. (2013). "Cattle Transportation: Understanding what's going on in a moving trailer.", *3rd Annual University of Calgary Beef cattle Conference*, Calgary, AB, Canada, June 18-20, 2013, Oral presentation.

Marti, S., Devant, M., Amatayakul-Chantler, S., Jackson, J.A., Janzen, E., and Schwartzkopf-Genswein, K.S.G. (2013). "Effects of anti-GnRF vaccine Bopriva and band castration on carcass quality in beef cattle under North American management practices.", *Journal of Animal Science*, 91(E-Suppl.), pp. 328. (Abstract)

Schwartzkopf-Genswein, K.S.G. (2013). "What is welfare and how do we measure it in beef cattle? (Keynote Address & White Paper).", *National Cattlemen's Beef Association (NCBA) Beef Technologies Forum II: Beta-agonists: Perceptions vs. Reality*, Denver, CO, USA, August 7, 2013. (Presentation)

Schwartzkopf-Genswein, K.S.G. (2013). "Welfare management practices to increase production.", *Joint Canadian Society of Animal Science and Canadian Meat Science Association. Beef Symposium.*, Banff, AB, Canada, June 17-20, 2013. (Abstract)

Kehler, C., Ominski, K.H., Schwartzkopf-Genswein, K.S.G., and Crowe, T.G. (2013). "Use of accelerometers in commercial cattle transport trailers: methodology development.", *Graduate Seminar Day*, University of Manitoba, Winnipeg, Manitoba, Canada, October 1, 2013. (Poster)

Beauchemin, K.A., Schwartzkopf-Genswein, K.S.G., and Goldhawk, C.A. (2013). "Validation of Rumination Collars for Beef Cattle.", *CSAS-CMSA Joint Annual Meeting*, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O12-GS, pp. 7.

Schwartzkopf-Genswein, K.S.G. (2013). "What is welfare and how do we measure it in beef cattle?", *Husker Nutrition Conference*, Lincoln, Nebraska, USA, November 15, 2013.

Duckworth, B. and Schwartzkopf-Genswein, K.S.G. (2013). "Ag Canada researcher recognized for animal welfare work.", *Western Producer*, 2013 (March 25). (Newsletter)

Taylor, A.A., Airey, M., Schwartzkopf-Genswein, K.S.G., Stookey, J.M., Acton, R., Hextall, K., Juneau, A., Lee, R., McKillop, I., Schooten, J., Urton, G., Bernard, G.M., Campbell, J., Siemens, M., German, M., and Scott, R. (2013). *Code of Practice for the Care and Handling of Beef Cattle*. NFAACC. (Report)

Marti, S. and Schwartzkopf-Genswein, K.S.G. (2013). "Improving cattle welfare by using an immune-castration vaccine.", *Prairie Post - Bull Breeders*, 2013(February), pp. A3. (Newsletter)

Schwartzkopf-Genswein, K.S.G. (2013). "Facility Design and Transport Procedures to minimize carcass bruising", Web presentation. Internet Power Point Presentation for BCRC. (Presentation)

Schwartzkopf-Genswein, K.S.G. (2013). "AFAC Alberta Animal Farm Care Media release March, 25 2013. AFAC Award of Distinction at the Livestock Care Conference in Calgary. [www.afac.ab.ca/lcc](http://www.afac.ab.ca/lcc)".

Schwartzkopf-Genswein, K.S.G. (2013). "University of Manitoba research in line with research priorities identified by Manitoba Beef Producers.", *Cattle Country*, 2013(February Issue).

Schwartzkopf-Genswein, K.S.G. (2013). "BCRC Research: Lameness in feedlot cattle. <http://www.beefresearch.ca/research-topic.cfm/lameness-64>". (Factsheet)

Kehler, C. and Schwartzkopf-Genswein, K.S.G. (2013). "Cattle on the Mooove.", *Cattle Country*, 2013(September 25).

Schwartzkopf-Genswein, K.S.G., Janzen, E., Pajor, E., Crowe, T.G., Aalhus, J.L., Kastelic, J.P., and Ominski, K.H. (2013). Effect of transport conditions on indicators of animal welfare for fat cattle and market cows in Canada - Interim Report to BCRC Project # ANH.10.11 (September 30, 2013). (Report)

Schwartzkopf-Genswein, K.S.G., Janzen, E., Pajor, E., Crowe, T.G., and González, L. (2013). Effect of ventilation management strategies and stocking density during transport on trailer microclimate and calf welfare - Final Report to BCRC ANH.12.10 and ALMA (December 31, 2013). (Report)

Duckworth, B. and Schwartzkopf-Genswein, K.S.G. (2013). "Researcher's animal welfare work honoured.", *Western Producer*, 2013(April 5). (Newsletter)

Glen, B. and Schwartzkopf-Genswein, K.S.G. (2013). "Course teaches truckers on livestock transport.", *Western Producer*, 2013(October 25). (Newsletter)

Duckworth, B. and Schwartzkopf-Genswein, K.S.G. (2013). "Improving welfare reduces stress, risk of BRD in herd.", *Western Producer*, 2013(July 15). (Newsletter)

Schwartzkopf-Genswein, K.S.G. (2013). "Effects of cattle trucking examined.", *Western Producer*, 2013(July 12). (Newsletter)

Jelinski, M., Fierheller, E., Olson, M., and Schwartzkopf-Genswein, K.S.G. (2013). Use of oral meloxicam for castration pain mitigation in beef cattle. - Final Report to ALMA Project #2011R043R (September 30, 2013). (Report)

Fenwick, N., Taylor, A.A., Schwartzkopf-Genswein, K.S.G., Stookey, J.M., Berg, J.E., Haley, D., Pajor, E., and McKillop, I. (2013). Code of Practice for the care and handling of beef cattle: review of scientific research of priority issues. NFACC. (Report)

Schwartzkopf-Genswein, K.S.G. (2013). "Welfare management practices to increase beef production and sustainability.", *Canadian Society of Animal Science Beef Symposium*, June 18, 2013, pp. 41-46.

Schwartzkopf-Genswein, K.S.G., Faucitano, L., and Crowe, T.G. (2013). "Scoping document on long-distance transport of farm animals.", *National Farm Animal Health and Welfare Council*. (Presentation)

## 2012

Moya, D. and Schwartzkopf-Genswein, K.S.G. (2012). "Can we feed cattle free-choice diets?", *Prairie Post - Bull Breeders*, 2012(February), pp. A8-A9. (Newsletter)

Williams, L. and Schwartzkopf-Genswein, K.S.G. (2012). "Researchers review animal welfare - in June 13th Web Chat. <http://takingstock.asas.org/?p=3845>. June 13, 2012."

Schwartzkopf-Genswein, K.S.G. (2012). "BCRC Research Facts: Calf Transportation. <http://www.beefresearch.ca/fact-sheets/calf-transportation.pdf>". (Factsheet)

Schwartzkopf-Genswein, K.S.G. (2012). "BCRC Research Facts: Transport Market Cows Safely in Winter. <http://www.beefresearch.ca/fact-sheets/transporting-market-cows-safely-in-winter.pdf>". (Factsheet)

Schwartzkopf-Genswein, K.S.G. (2012). "Conclusions from a North American beef cattle benchmark study.", 38th Annual Meeting of the Animal Transportation Association (ATA), Vancouver, BC, Canada, March 18-21, 2012.

Schwartzkopf-Genswein, K.S.G., González, L., and Crowe, T.G. (2012). "Cattle transport in North America - current welfare research and future directions.", 3rd International Symposium on Beef Cattle Welfare, Saskatoon, SK, Canada, June 5-7, 2012. (Abstract)

Schwartzkopf-Genswein, K.S.G., González, L., and Crowe, T.G. (2012). "North American Beef Cattle Transport - Current Welfare Research and Future Directions.", Cross Border Livestock Health Conference, Saskatoon, SK, Canada, July 17-18, 2012.

Moya, D., Schwartzkopf-Genswein, K.S.G., and Veira, D.M. (2012). "Development of a novel method for measuring stress in beef cattle." ADSA-AMPA-ASAS-CSAS-WSASAS Joint Annual Meeting, Phoenix, AZ, USA, July 15-19, 2012, published in Journal of Animal Science, 90(Suppl. 3), pp. 253, #T2. (Presentation)

Schwartzkopf-Genswein, K.S.G., González, L.A., and Crowe, T.G. (2012). Effect of season, transport distance, cattle age and loading density on trailer microclimate, cattle welfare and pathogen shedding during transport. Final Report to ALMA Project #2009F37R and BCRC (June 25, 2012). (Report)

Schwartzkopf-Genswein, K.S.G. (2012). "Consideration for Cash - Trucking and Shrink" <http://www.omafra.gov.on.ca/english/livestock/beef/news/vbn0712a2.htm>.

Hegadoren, P.R., Church, J.S., Paetkau, M.J., and Schwartzkopf-Genswein, K.S.G. (2012). "Physical factors affecting infrared thermography as an indicator of body temperature in beef cattle." 3rd International Symposium on Beef Cattle Welfare, Saskatoon, SK, Canada, June 5-7, 2012.

Goldhawk, C.A., Janzen, E., González, L., Crowe, T.G., Kastelic, J.P., Pajor, E., and Schwartzkopf-Genswein, K.S.G. (2012). "Location of sensors for sensing microclimate during cattle transport and the ability to estimate animal-level conditions." 38th Annual Meeting of the Animal Transportation Association (ATA), Vancouver, BC, Canada, March 18-21, 2012.

Wolfger, B., Barkema, H.W., Plastow, G., Silasi, R., Schwartzkopf-Genswein, K.S.G., Pajor, E., Levy, M., Huisma, C., Sunstrum, A., and Orsel, K. (2012). "Pattern recognition of feeding and drinking behavior as a tool in early identification of diseased feedlot animals." 13th Symposium of the International Society for Veterinary Epidemiology and Economics (ISVEE), Maastricht, Belgium, August 20-24, 2012, pp. 90. (Poster)

Moote, P.E., Church, J.S., Schwartzkopf-Genswein, K.S.G., and Van Hamme, J.D. (2012). "Impacts of a winery waste supplemented finishing ration on the sensory and chemical characteristics of beef." 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012.

Schwartzkopf-Genswein, K.S.G. (2012). "Research Advances Detection, Treatment and Prevention of Lameness in Feedlot Cattle." <http://alma.alberta.ca/cs/groups/alma/documents/document/mdaw/mta0/~edisp/agucmint-104535.pdf>. Research covered in December 2012 ALMA news release.

Schwartzkopf-Genswein, K.S.G., González, L.A., Caulkett, N.A., Fireheller, E., Janzen, E., and Moya, D. (2012). Development of novel and practical pain mitigation strategies for castration of beef using Anafen®. Final Report (41 pg) to Merial Canada Ltd. (June 11, 2012). (Report)

Lay, D. and Schwartzkopf-Genswein, K.S.G. (2012). "The Science of Animal Welfare: A Sticky Issue." Webinar presentation for the launch of a special Issue of Animal Frontiers. <http://www.asas.org/2012webchat.asp>. (Presentation)

Marti, S., Devant, M., Amatayakul-Chantler, S., Jackson, J.A., Janzen, E., and Schwartzkopf-Genswein, K.S.G. (2012). "Effects of anti-GnRF vaccine Bopriva® and band castration on acute indicators of pain in feedlot beef cattle under North American management practices." Journal of Animal Science, 90(E-Suppl.), pp. 725. (Abstract)

Schwartzkopf-Genswein, K.S.G., Faucitano, L., Dadgar, S., Shand, P.J., González, L., and Crowe, T.G. (2012). "Road transport of cattle, swine and poultry in North America and its impact on animal welfare, carcass and meat quality: A review." 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012. (Abstract)

Moote, P.E., Church, J.S., Van Hamme, J.D., and Schwartzkopf-Genswein, K.S.G. (2012). "Evaluating the impacts of wine supplemented feed on beef cattle temperament, feed intake and growth performance." 11th North American Regional Meeting of the ISAE Ethology, Banff, Canada, May 11-12, 2012, Oral presentation.

Schwartzkopf-Genswein, K.S.G. (2012). "BCRC Research: Transport." <http://www.beefresearch.ca/research-topic.cfm?topicId=1>. (Factsheet)

2011

Moya, D., Schwartzkopf-Genswein, K.S.G., González, L., Caulkett, N.A., Fireheller, E., and Janzen, C.E. (2011). "Effect of a single intramuscular injection of ketoprofen on physiological and behavioural indicators of pain in beef calves following surgical or band castration." CSAS, Halifax, NS, Canada, May 4-5, 2011, pp. 77. (Poster)

Mir, P.S. and Schwartzkopf-Genswein, K.S.G. (2011). Strategies to increase delivery of beneficial bio-active lipids from food to abate the progression of metabolic syndrome in humans through studies in animal models. Final Report for AAFC A-Base funds Project. (Report)

Schwartzkopf-Genswein, K.S.G. (2011). Nutritional strategies to improve health, well-being and production efficiency of beef cattle. Final Report for AAFC A-Base funds Project. (Report)

Schwartzkopf-Genswein, K.S.G. (2011). Improving welfare, health and performance of beef cattle. Final Report for AAFC A-Base funds Project # 1137. (Report)

Schwartzkopf-Genswein, K.S.G., González, L.A., Caulkett, N.A., Fireheller, E., Janzen, E., and Moya, D. (2011). Development of novel and practical pain mitigation strategies for castration of beef using Anafen® - Interim Report to Merial Canada Ltd. (Report)

Soares, D.R., Schwartzkopf-Genswein, K.S.G., Sant'anna, C.A., da Silva Valente, T., Rueda, P., dos Santos Gonçalves Cyrilo, J.M., and da Costa, M.J.R.P. (2011). "Lack of the expressive associations between temperament, aggression and weight gain in finishing weight feedlot cattle.", *Journal of Animal Science*, 89(E-Suppl.1), pp. 8. (Abstract)

Soares, D.R., Schwartzkopf-Genswein, K.S.G., Sant'anna, C.A., da S. Valente, T., Rueda, P., Cyrillo, J.N.S., and Paranhos da Costa, M.J.R. (2011). "Evaluation of the relationship between temperament, time spent at the feed trough and weight gain in finishing weight cattle.", 45th Congress of the ISAE, Indianapolis, IN, USA, July 31- August 3, 2011, pp. 131. (Poster)

Tessitore, E., Schwartzkopf-Genswein, K.S.G., Cozzi, G., Pajor, E., Goldhawk, C.A., Brown, F., Janzen, E., Klassen, P., and Dueck, C. (2011). "Prevalence of lameness in 3 commercial feedlots in Southern Alberta during summer months.", CSAS, Halifax, NS, Canada, May 4-5, 2011, pp. 75. (Poster)

Goldhawk, C.A. and Schwartzkopf-Genswein, K.S.G. (2011). "Cattle Transport: What's in your trailer?", *Prairie Post*, 2011 (February), pp. A14. (Newsletter)

Goldhawk, C.A., Janzen, E., González, L., Crowe, T.G., Kastelic, J.P., Pajor, E., and Schwartzkopf-Genswein, K.S.G. (2011). "Predicting internal trailer THI based on loading density and ambient THI during transport of fall-weaned beef calves.", CSAS, Halifax, NS, Canada, May 4-5, 2011, pp. 69. (Poster)

Schwartzkopf-Genswein, K.S.G. (2011). "Transportation survey sets benchmark for cattle welfare.", *Canadian Farm Business Management Council Magazine*, 2011 (Summer).

Moya, D., Schwartzkopf-Genswein, K.S.G., González, L., Caulkett, N.A., Fireheller, E., and Janzen, E. (2011). "Effect of multiple intramuscular injections of ketoprofen on physiological and behavioural indicators of pain in beef calves following surgical or band castration.", CSAS, Halifax, NS, Canada, May 4-5, 2011, pp. 78. (Poster)

Schwartzkopf-Genswein, K.S.G. (2011). "The science of measuring pain.", *Canadian Cattlemen*, 2011 (October), pp. 14-15.

Goldhawk, C.A. and Schwartzkopf-Genswein, K.S.G. (2011). "Putting our foot down on lameness.", *Canadian Cattlemen*, 2011 (September), pp. 14-15.

Viera, D. and Schwartzkopf-Genswein, K.S.G. (2011). Development of a novel method for measuring chronic stress in beef cattle. Interim report for AAFC A-Base funds Project 1776. (Report)

Schwartzkopf-Genswein, K.S.G. and Goldhawk, C.A. (2011). "Putting our foot down on lameness.", *AAFC Agriculture Magazine*, 2011 (Summer Issue).

Schwartzkopf-Genswein, K.S.G. (2011). "Behavioral approaches to pain assessment in beef cattle.", *Journal of Animal Science*, 89(E-Suppl. 2), pp. 1. (Abstract)

Hart, L. and Schwartzkopf-Genswein, K.S.G. (2011). "Trucking impact on cattle under study - Web article. <http://www.agcanada.com/grainews/2011/05/02/trucking-impact-on-cattle-under-study/> May 2, 2011.", *Grain News*. (Newsletter)

Greer, T., Schwartzkopf-Genswein, K.S.G., Crowe, T.G., and González, L. (2011). "The effect of transport distance on cattle liner microclimate, live weight loss and carcass quality of finished heifers during summer transport.", CSAS, Halifax, NS, Canada, May 4-5, 2011, pp. 80. (Poster)



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## Research Publications:

2015

Scott, I.M., Tolman, J.H., and MacArthur, D.C. (2015). "Insecticide resistance and cross-resistance development in Colorado potato beetle *Leptinotarsa decemlineata* Say (Coleoptera: Chrysomelidae) populations in Canada 2008-2011.", *Pest Management Science*, 71(5), pp. 712-721. doi : 10.1002/ps.3833

Cáceres, L.A., McGarvey, B.D., Briens, C., Berruti, F., Yeung, K.K.-C., and Scott, I.M. (2015). "Insecticidal properties of pyrolysis bio-oil from greenhouse tomato residue biomass.", *Journal of Analytical and Applied Pyrolysis*, 112, pp. 333-340. doi : 10.1016/j.jaap.2015.01.003

Hossain, M.M., Scott, I.M., Berruti, F., and Briens, C. (2015). "Optimizing pyrolysis reactor operating conditions to increase nicotine recovery from tobacco leaves.", *Journal of Analytical and Applied Pyrolysis*, 112, pp. 80-87. doi : 10.1016/j.jaap.2015.02.018

Wang, Z., Zhao, Z., Cheng, X., Liu, S., Wei, Q., and Scott, I.M. (2015). "Conifer flavonoid compounds inhibit detoxification enzymes and synergize insecticides.", *Pesticide Biochemistry and Physiology*. doi : 10.1016/j.pestbp.2015.09.003

Cáceres, L.A., McDowell, T.W., Scott, I.M., Hannoufa, A., McGarvey, B.D., Tian, L.-N., Yeung, K.K.-C., and Sumarah, M.W. (2015). "In vivo extraction of volatile organic compounds (VOCs) from Micro-Tom tomato flowers with multiple solid phase microextraction (SPME) fibers.", *Canadian Journal of Chemistry*, 93(2), pp. 143-150. doi : 10.1139/cjc-2014-0269

2014

Hossain, M.M., Scott, I.M., McGarvey, B.D., Conn, K.L., Ferrante, L., Berruti, F., and Briens, C. (2014). "Insecticidal and antimicrobial activity of bio-oil derived from fast pyrolysis of lignin, cellulose, and hemicellulose.", *Journal of Pest Science*, 88(1), pp. 171-179. doi : 10.1007/s10340-014-0568-4

Liu, S.Q., Scott, I.M., Pelletier, Y., Kramp, K., Durst, T., Sims, S.R., and Amason, J.T. (2014). "Dillapiol: A Pyrethrum Synergist for Control of the Colorado Potato Beetle.", *Journal of Economic Entomology*, 107(2), pp. 797-805. doi : 10.1603/EC13440

Liu, S., Cáceres, L.A., Schieck, K., Booker, C.J., McGarvey, B.D., Yeung, K.K.-C., Pariente, S., Briens, C., Berruti, F., and Scott, I.M. (2014). "Insecticidal activity of bio-oil from the pyrolysis of straw from brassica spp.", *Journal of Agricultural and Food Chemistry*, 62(16), pp. 3610-3618. doi : 10.1021/jf500048t

Grigg-McGuffin, K., Scott, I.M., Bellerose, S., Chouinard, G., Cormier, D., and Scott-Dupree, C.D. (2014). "Susceptibility in field populations of codling moth, *Cydia pomonella* (L.) (Lepidoptera: Tortricidae), in Ontario and Quebec apple orchards to a selection of insecticides.", *Pest Management Science*, 71(2), pp. 234-242. doi : 10.1002/ps.3787

Wang, Z., Zhao, Z., Abou-Zaid, M., Amason, J.T., Liu, R., Walshe-Roussel, B., Wayne, A., Liu, S., Saleem, A., Cáceres, L.A., Wei, Q., and Scott, I.M. (2014). "Inhibition of insect glutathione S-transferase (GST) by conifer extracts.", *Archives of Insect Biochemistry and Physiology*. doi : 10.1002/arch.21192

2012

Hossain, M.M., Scott, I.M., McGarvey, B.D., Conn, K.L., Ferrante, L., Berruti, F., and Briens, C. (2012). "Toxicity of lignin, cellulose and hemicellulose-pyrolyzed bio-oil combinations: Estimating pesticide resources.", *Journal of Analytical and Applied Pyrolysis*, 99(January 2013), pp. 211-216. doi : 10.1016/j.jaap.2012.07.008

Konopka, J.K., Scott, I.M., and McNeil, J.N. (2012). "Costs of Insecticide Resistance in *Cydia pomonella* (Lepidoptera: Tortricidae).", *Journal of Economic Entomology*, 105(3), pp. 872-877. doi : 10.1603/EC11342

2011

Bedmutha, R., Booker, C.J., Ferrante, L., Briens, C., Berruti, F., Yeung, K.K.-C., Scott, I.M., and Conn, K.L. (2011). "Insecticidal and bactericidal characteristics of the bio-oil from the fast pyrolysis of coffee grounds.", *Journal of Analytical and Applied Pyrolysis*, 90(2), pp. 224-231. doi : 10.1016/j.jaap.2010.12.011

Mayer, T., Rochfort, Q., Marsalek, J., Parrott, J., Servos, M., Baker, M., McInnis, R., Jurkovic, A., and Scott, I.M. (2011). "Environmental characterization of surface runoff from three highway sites in Southern Ontario, Canada: 2. Toxicology.", *Water Quality Research Journal of Canada*, 46(2), pp. 121-136. doi: 10.2166/wqrjc.2011.036

Mayer, T., Rochfort, Q., Marsalek, J., Parrott, J., Servos, M., Baker, M., McInnis, R., Jurkovic, A., and Scott, I.M. (2011). "Environmental characterization of surface runoff from three highway sites in Southern Ontario, Canada: 1. Chemistry.", *Water Quality Research Journal of Canada*, 46(2), pp. 110-120. doi: 10.2166/wqrjc.2011.035

## **Other Science Related Publications:**

2014

Challa, S., Scott, I.M., Cáceres, L.A., Sumarah, M.W., Tian, L.-N., and Hannoufa, A. (2014). "Natural Plant Volatiles: A Sustainable Pest Control Strategy.", Eastern Regional Meeting of the Canadian Society of Plant Biologists, Guelph, ON, Canada, November 28-29, 2014, Oral presentation.

Scott, I.M., Cáceres, L.A., Challa, S., Hannoufa, A., Sumarah, M.W., Tian, L.-N., Shipp, L., and Shipp, J.L. (2014). "Detering tomato pests by manipulating the flower volatiles.", Joint Annual Meeting of the Entomological Societies of Canada and Saskatchewan. Symposium: Arthropod "omics" – Impact on Management, Saskatoon, Canada, September 26-October 1, 2014, Platform presentation.

Cáceres, L.A., McGarvey, B.D., Yeung, K.K.-C., Hannoufa, A., Sumarah, M.W., Benitez, X., and Scott, I.M. (2014). "Insect repellent and attractant activities of Brassicaceae apocarotenoid volatiles  $\alpha$ - $\beta$ - and dihydro- $\beta$ -ionone.", Annual Meeting of the Entomological Society of Ontario, Toronto, ON, Canada, October 3-5, 2014, Platform presentation.

2013

Scott, I.M., Menassa, R., and Kolotilin, I. (2013). "Environment risk assessment of transgenic *Nicotiana tabacum*: Assessing non-target effects of bioreactor crops.", Entomological Society of America – Entomology 2013. (Poster)

2012

Cáceres, L.A., McGarvey, B.D., Scott, I.M., Sumarah, M.W., and Hannoufa, A. (2012). "Apocarotenoid emission study in wild type and transgenic *Arabidopsis* plants over-expressing CCD-1 and their feeding effects against cabbage loopers.", 51st Phytochemical Society of North America (PSNA) Annual Meeting, University of Western Ontario, London, ON, Canada, August 11-15, 2012.

Abou-Zaid, M. and Scott, I.M. (2012). "Pyrolysis Bio-Oils from Temperate Forests: Fuels, Phytochemicals and Bioproducts.", in Bergeron, C., Carrier, D.J., and Ramaswamy, S. (eds.) - *Biorefinery Co-Products: Phytochemicals, Primary Metabolites and Value-Added Biomass Processing*, John Wiley & Sons, Ltd, Chapter 14, pp. 311-325.

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## Research Publications:

2016

Réblová, M., Seifert, K.A., Fournier, J., and Štěpánek, V. (2016). "Newly recognised lineages of perithecial ascomycetes: the new orders Conioscyphales and Pleurotheciales.", *Persoonia*, 37, pp. 57-81. doi : 10.3767/003158516X689819

2015

Tanney, J.B., Nguyen, H.D.T., Pinzari, F., and Seifert, K.A. (2015). "A century later: rediscovery, culturing and phylogenetic analysis of *Diploëspora rosea*, a rare onygenean hyphomycete.", *Antonie Van Leeuwenhoek International Journal of General and Molecular Microbiology*, 108(5), pp. 1023-1035. doi : 10.1007/s10482-015-0555-7

Masiulionis, V.E., Cabello, M.N., Seifert, K.A., Rodrigues, A., and Pagnocca, F.C. (2015). "Escovopsis trichodermoides sp. nov., isolated from a nest of the lower attine ant *Mycocarpus goeldii*.", *Antonie Van Leeuwenhoek International Journal of General and Molecular Microbiology*, 107(3), pp. 731-740. doi : 10.1007/s10482-014-0367-1

Nguyen, H.D.T., Jančič, S., Meijer, M., Tanney, J.B., Zalar, P., Gunde-Cimerman, N., and Seifert, K.A. (2015). "Application of the phylogenetic species concept to *wallemia sebi* from house dust and indoor air revealed by multi-locus genealogical concordance.", *PLoS ONE*, 10(3): Article number e0120894. doi : 10.1371/journal.pone.0120894

Visagie, C.M., Yilmaz, N., Frisvad, J.C., Houbraken, J.A.M.P., Seifert, K.A., Samson, R.A., and Jacobs, K. (2015). "Five new *Talaromyces* species with ampulliform-like phialides and globose rough walled conidia resembling *T. verruculosus*.", *Mycoscience*, 56(5: Article number 197), pp. 486-502. doi : 10.1016/j.myc.2015.02.005

Nguyen, H.D.T., Chabot, D., Hirooka, Y., Roberson, R.W., and Seifert, K.A. (2015). "Basidioascus undulatus: Genome, origins, and sexuality.", *IMA Fungus*, 6(1), pp. 215-231. doi : 10.5598/imafungus.2015.06.01.14

Al-Hatmi, A.M.S., Van Den Ende, A.H.G.G., Stielow, J.B., Van Diepeningen, A.D., Seifert, K.A., McCormick, W.A., Assabgui, R., Gräfenhan, T., de Hoog, G.S., and Lévesque, C.A. (2015). "Evaluation of two novel barcodes for species recognition of opportunistic pathogens in *Fusarium*.", *Fungal Biology*. doi : 10.1016/j.funbio.2015.08.006

Renaud, J.B., Kelman, M.J., Qi, T., Seifert, K.A., and Sumarah, M.W. (2015). "Production filtering with rapid polarity switching for the detection of all fumonisins and AAL-toxins.", *Rapid Communications in Mass Spectrometry (RCM)*, 29(22), pp. 2131-2139. doi : 10.1002/rcm.7374

Stielow, J.B., Lévesque, C.A., Seifert, K.A., Meyer, W., Irinyi, L., Smits, D., Renfurm, R., Verkley, G.J.M., Groenewald, M., Chaduli, D., Welti, S., Lesage-Meessen, L., Favel, A., Al-Hatmi, A.M.S., Damm, U., Yilmaz, N., Houbraken, J.A.M.P., Lombard, L., Quaedvlieg, W., Binder, M., Vaas, L.A.I., Vu, K.D., Yurkov, A., Begerow, D., Roehl, O., Guerreiro, M., Fonseca, A., Samerpitak, K., Van Diepeningen, A.D., Dolatabadi, S., Moreno, L.F., Casaregola, S., Jacques, N., Roscini, L., Egidì, E., Bizet, C., Garcia-Hermoso, D., Martin, M., Deng, S., Groenewald, J.Z., Boekhout, T., De Beer, Z.W., Barnes, D.I., Duong, T.A., Wingfield, M.J., de Hoog, G.S., Crous, P.W., Lewis, C.T., Hambleton, S., Moussa, T.A.A., Al-Zahrani, H.S., Almaghrabi, O.A., Louis-Seize, G.W., Assabgui, R., McCormick, W.A., Omer, G., Dukik, K., Cardinali, G., Eberhardt, U., Mallet, S., de Vries, M., and Robert, V.A. (2015). "One fungus, which genes? Development and assessment of universal primers for potential secondary fungal DNA barcodes.", *Persoonia*, 35, pp. 242-263. doi : 10.3767/003158515X689135

Wingfield, B.D., Barnes, I., De Beer, Z.W., De Vos, L., Duong, T.A., Kanzi, A.M., Naidoo, K., Nguyen, H.D.T., Santana, Q.C., Sayari, M., Seifert, K.A., Steenkamp, E.T., Trollip, C., van der Merwe, N.A., van der Nest, M.A., Wilken, P.M., and Wingfield, M.J. (2015). "Draft genome sequences of *Ceratocystis eucalypticola*, *Chrysosporthe cubensis*, *C. deuterocubensis*, *Davidsoniella virescens*, *Fusarium temperatum*, *Graphilbum fragrans*, *Penicillium nordicum*, and *Thielaviopsis musarum*.", *IMA Fungus*, 6(2), pp. 493-506. doi : 10.5598/imafungus.2015.06.02.13

Sumarah, M.W., Walker, A.K., Seifert, K.A., Todorov, A., and Miller, J.D. (2015). "Screening of Fungal Endophytes Isolated from Eastern White Pine Needles.", in Jetter, R. (ed.) - *The Formation, Structure and Activity of Phytochemicals: Volume 45 of the series Recent Advances in Phytochemistry*, Springer, Chapter 8, pp. 195-206.

Rossmann, A.Y., Crous, P.W., Hyde, K.D., Hawksworth, D.L., Aptroot, A., Bezerra, J.L., Bhat, D.J., Boehm, E., Braun, U., Boonmee, S., Camporesi, E., Chomnunti, P., Dai, D.Q., D'Souza, M.J., Dissanayake, A.J., Jones, E.B., Groenewald, J.Z., Hernández-Restrepo, M., Hongsanan, S., Jaklitsch, W., Jayawardena, R., Jing, L.W., Kirk, P.M., Lawrey, J.D., Mapook, A., McKenzie, E.H.C., Monkai, J., Phillips, A.J.L., Phookamsak, R., Raja, H.A., Seifert, K.A., Senanayake, I., Slippers, B., Suetrong, S., Tanaka, K., Taylor, J.E., Thambugala, K.M., Tian, Q., Tibpromma, S., Wanasinghe, D.N., Wijayawardene, N.N., Wikee, S., Woudenberg, J.H.C., Wu, H., Yan, J., Yang, T., and Zhang, Y. (2015). "Recommended names for pleomorphic genera in Dothideomycetes.", *IMA Fungus*, 6(2), pp. 507-523. doi : 10.5598/ima fungus.2015.06.02.14

Jančić, S., Nguyen, H.D.T., Frisvad, J.C., Zalar, P., Schroers, H.-J., Seifert, K.A., and Gunde-Cimerman, N. (2015). "A Taxonomic Revision of the *Walleimia sebi* Species Complex.", *PLoS ONE*, pp. 1-25. doi : 10.1371/journal.pone.0125933

Kelman, M.J., Renaud, J.B., Seifert, K.A., Mack, J., Sivagnanam, K., Yeung, K.K.-C., and Sumarah, M.W. (2015). "Identification of six new *Alternaria* sulfoconjugated metabolites by high-resolution neutral loss filtering.", *Rapid Communications in Mass Spectrometry (RCM)*, 29(19), pp. 1805-1810. doi : 10.1002/rcm.7286

## 2014

Visagie, C.M., Houbraken, J.A.M.P., Frisvad, J.C., Hong, S.-B., Klaassen, C.H.W., Perrone, G., Seifert, K.A., Varga, J., Yaguchi, T., and Samson, R.A. (2014). "Identification and nomenclature of the genus *Penicillium*.", *Studies in Mycology*, 78(1), pp. 343-371. doi : 10.1016/j.simyco.2014.09.001

Redhead, S.A., Demoulin, V., Hawksworth, D.L., Seifert, K.A., and Turland, N.J. (2014). "Fungal Nomenclature at IMC10: Report of the Nomenclature Sessions.", *IMA Fungus*, 5(2), pp. 449-462. doi : 10.5598/ima fungus.2014.05.02.09

Nguyen, H.D.T., Tanney, J.B., Chabot, D., Nickerson, N.L., and Seifert, K.A. (2014). "Paratritirachium curvibasidium, a new heat-resistant basidiomycete from flare pit soils in Alberta, Canada.", *Mycological Progress*, 13(3), pp. 575-587. doi : 10.1007/s11557-013-0941-3

Visagie, C.M., Seifert, K.A., Houbraken, J.A.M.P., Samson, R.A., and Jacobs, K. (2014). "Diversity of *Penicillium* section *Citrina* within the fynbos biome of South Africa, including a new species from a *Protea repens* infructescence.", *Mycologia*, 106(3), pp. 537-552. doi : 10.3852/13-256

Visagie, C.M., Varga, J., Houbraken, J.A.M.P., Meijer, M., Kocsubé, S., Yilmaz, N., Fotedar, R., Seifert, K.A., Frisvad, J.C., and Samson, R.A. (2014). "Ochratoxin production and taxonomy of the yellow aspergilli (*Aspergillus* section *Circumdati*).", *Studies in Mycology*, 78(1), pp. 1-61. doi : 10.1016/j.simyco.2014.07.001

Samson, R.A., Visagie, C.M., Houbraken, J.A.M.P., Hong, S.-B., Hubka, V., Klaassen, C.H.W., Perrone, G., Seifert, K.A., Susca, A.F., Tanney, J.B., Varga, J., Kocsubé, S., Sziget, G., Yaguchi, T., and Frisvad, J.C. (2014). "Phylogeny, identification and nomenclature of the genus *Aspergillus*.", *Studies in Mycology*, 78(1), pp. 141-173. doi : 10.1016/j.simyco.2014.07.004

Visagie, C.M., Hirooka, Y., Tanney, J.B., Whitfield, E., Mwange, K.N., Meijer, M., Amend, A.S., Seifert, K.A., and Samson, R.A. (2014). "*Aspergillus*, *Penicillium* and *Talaromyces* isolated from house dust samples collected around the world.", *Studies in Mycology*, 78(1), pp. 63-139. doi : 10.1016/j.simyco.2014.07.002

Johnston, P.R., Seifert, K.A., Stone, J.K., Rossmann, A.Y., and Marvanová, L. (2014). "Recommendations on generic names competing for use in *Leotiomyces* (Ascomycota).", *IMA Fungus*, 5(1), pp. 91-120. doi : 10.5598/ima fungus.2014.05.01.11

Seifert, K.A., Hambleton, S., and others (2014). "Finding needles in haystacks: linking scientific names, reference specimens and molecular data for Fungi.", *Database: The Journal of Biological Databases and Curation*, 2014(bau061), pp. 1-21. doi : 10.1093/database/bau061

Pratibha, J., Nguyen, H.D.T., Mel'nik, V.A., Bhat, D.J., White, G.P., and Seifert, K.A. (2014). "Lectotypification, epitypification, and molecular phylogeny of the synnematosous hyphomycete *Pseudogliophragma indicum*, the second genus in the *Wiesneriomycetaceae*.", *Mycoscience*, 56(4), pp. 387-395. doi : 10.1016/j.myc.2014.12.002

Moine, L.M., Labbé, C., Louis-Seize, G.W., Seifert, K.A., and Bélanger, R.R. (2014). "Identification and detection of *Fusarium striatum* as a new record of pathogen to greenhouse tomato in Northeastern America.", *Plant Disease*, 98(3), pp. 292-298. doi : 10.1094/PDIS-08-13-0844-RE

Houbraken, J.A.M.P., Visagie, C.M., Meijer, M., Frisvad, J.C., Busby, P.E., Pitt, J.I., Seifert, K.A., Louis-Seize, G.W., Demirel, R., Yilmaz, N., Jacobs, K., Christensen, M., and Samson, R.A. (2014). "A taxonomic and phylogenetic revision of *Penicillium* section *Aspergilloides*.", *Studies in Mycology*, 78(1), pp. 373-451. doi : 10.1016/j.simyco.2014.09.002

## 2013

De Beer, Z.W., Seifert, K.A., and Wingfield, M.J. (2013). "The ophiostomatoid fungi: their dual position in the Sordariomycetes.", in Seifert, K.A., De Beer, Z.W. and Wingfield, M.J. (eds.) - *Ophiostomatoid Fungi: Expanding Frontiers*. Seifert KA, De Beer ZW, Wingfield MJ (eds). CBS Biodiversity Series 12, CBS Fungal Diversity Centre, Utrecht, The Netherlands, pp. 1-19.

Visagie, C.M., Llimona, X., Vila, J., Louis-Seize, G.W., and Seifert, K.A. (2013). "Phylogenetic relationships and the newly discovered sexual state of *Talaromyces flavovirens*, comb. Nov.", *Mycotaxon*, 122, pp. 399-411. doi : 10.5248/122.399

Visagie, C.M., Houbraken, J.A.M.P., Rodrigues, C., Silva Pereira, C., Dijksterhuis, J., Seifert, K.A., Jacobs, K., and Samson, R.A. (2013). "Five new *Penicillium* species in section *Sclerotiora*: a tribute to the Dutch Royal family.", *Persoonia*, 31, pp. 42-62. doi : 10.3767/003158513X667410

Rossmann, A.Y., Seifert, K.A., Samuels, G.J., Minnis, A.M., Schroers, H.-J., Lombard, L., Crous, P.W., Pöldmaa, K., Cannon, P.F., Summerbell, R.C., Geiser, D.M., Zhuang, W.-Y., Hirooka, Y., Herrera, C., Salgado-Salazar, C., and Chaverri, P. (2013). "Genera in Bionectriaceae, Hypocreaceae, and Nectriaceae (Hypocreales) proposed for acceptance or rejection.", *IMA Fungus*, 4(1), pp. 41-51. doi : 10.5598/ima fungus.2013.04.01.05

Nguyen, H.D.T., Nickerson, N.L., and Seifert, K.A. (2013). "Basidioascus and Geminibasidium: a new lineage of heat resistant and xerotolerant basidiomycetes", *Mycologia*, 105(5), pp. 1231-1250. doi : 10.3852/12-351

Kirk, P.M., Stalpers, J.A., Braun, U., Crous, P.W., Hansen, K., Hawksworth, D.L., Hyde, K.D., Lücking, R., Lumbsch, H.T., Rossman, A.Y., Seifert, K.A., and Stadler, M. (2013). "A without-prejudice list of generic names of fungi for protection under the International Code of Nomenclature for algae, fungi, and plants.", *IMA Fungus*, 4(2), pp. 381-443. doi : 10.5598/ima fungus.2013.04.02.17

Seifert, K.A. (2013). "Pionnotes, a synonym of *Dacrymyces* rather than *Fusarium*.", *Mycotaxon*, 123, pp. 205-211. doi : 10.5248/123.205

Seifert, K.A., De Beer, Z.W., and Wingfield, M.J. (2013). *Ophiostomatoid Fungi: Expanding Frontiers*. CBS Biodiversity Series 12, The Netherlands: CBS Fungal Diversity Centre, Utrecht, The Netherlands. (Book)

Zhang, N., Rossman, A.Y., Seifert, K.A., Bennett, J.W., Cui, G., Hillman, B., Hyde, K.D., and others (2013). "Impacts of the International Code of Nomenclature for Algae, Fungi, and Plants (Melbourne Code) on the Scientific Names of Plant Pathogenic Fungi.", .

Tanney, J.B. and Seifert, K.A. (2013). "*Rasamsonia pulvericola* sp. Nov., isolated from house dust.", *IMA Fungus*, 4(2), pp. 205-212. doi : 10.5598/ima fungus.2013.04.02.06

De Beer, Z.W., Seifert, K.A., and Wingfield, M.J. (2013). "A nomenclator for ophiostomatoid genera and species in the Ophiostomatales and Microascales", in Seifert, K.A., De Beer, Z.W. and Wingfield, M.J. (eds) - *Ophiostomatoid Fungi: Expanding Frontiers*. Seifert KA, De Beer ZW, Wingfield MJ (eds). CBS Biodiversity Series 12, CBS Fungal Diversity Centre, Utrecht, The Netherlands, pp. 245-322.

## 2012

Réblová, M. and Seifert, K.A. (2012). "*Cirrosporium novae-zelandiae*, an enigmatic coelomycete with meristem arthroconidia, with ancestors in the Eurotiomycetes.", *Mycology*, 104(6), pp. 1315-1324. doi : 10.3852/12-040

Houbraken, J.A.M.P., Frisvad, J.C., Seifert, K.A., Overy, D.P., Tuthill, D.M., Valdez, J.G., and Samson, R.A. (2012). "New penicillin-producing *Penicillium* species and an overview of section *Chrysogena*.", *Persoonia*, 29, pp. 78-100. doi : 10.3767/003158512X660571

Hughes, S.J., Atkinson, T.J., and Seifert, K.A. (2012). "New Zealand fungi 37: two new species of the sooty mould genus *Metacapnodium* with dictyoseptate ascospores.", *New Zealand Journal of Botany*, 50(4), pp. 381-387. doi : 10.1080/0028825X.2012.698626

Hughes, S.J. and Seifert, K.A. (2012). "Taxonomic and nomenclatural notes on sooty mould names based on species mixtures: *Hormiscium handelii* and *Torula lechleriana*.", *Mycoscience*, 53(1), pp. 17-24. doi : 10.1007/s10267-011-0133-4

Schoch, C.L., Seifert, K.A., Huhndorf, S.M., Robert, V.A., Spouge, J.L., Lévesque, C.A., Chen, W., and Fungal Barcoding Consortium, (2012). "Nuclear ribosomal internal transcribed spacer (ITS) region as a universal DNA barcode marker for Fungi.", *Proceedings of the National Academy of Sciences of the USA (PNAS)*, 109(16), pp. 6241-6246. doi : 10.1073/pnas.1117018109

Seifert, K.A. and Gräfenhan, T. (2012). "Lectotypification and characterization of the natural phenotype of *Fusarium bactrioides*.", *Mycotaxon*, 120, pp. 415-422. doi : 10.5248/120.415

Seifert, K.A., Frisvad, J.C., Houbraken, J.A.M.P., Llimona, X., Peterson, S.W., Samson, R.A., and Visagie, C.M. (2012). "(2051) Proposal to conserve the name *Talaromyces* over *Lasioderma* (Ascomycota)", *Taxon*, 61(2), pp. 461-462.

Crous, P.W., Shivas, R.G., Wingfield, M.J., Summerell, B.A., Rossman, A.Y., Alves, J.L., Adams, G.C., Barreto, R.W., Bell, A., Coutinho, M.L., Flory, S.L., Gates, G., Grice, K.R., Hardy, G.E. St.J., Kleczewski, N.M., Lombard, L., Longa, C.M.O., Macedo, F., Louis-Seize, G.W., Mahoney, D.P., Maresi, G., Martin-Sanchez, P.M., Marvanová, L., Minnis, A.M., Morgado, L.N., Noordeloos, M.E., Phillips, A.J.L., Quaedvlieg, W., Ryan, P.G., Saiz-Jimenez, C., Seifert, K.A., Swart, W.J., Tan, Y.P., Tanney, J.B., Thu, P.Q., Videira, S.I.R., Walker, D.M., and Groenewald, J.Z. (2012). "Fungal Planet description sheets: 128-153.", *Persoonia*, 29, pp. 146-201. doi : 10.3767/003158512X661589

Rivera, K.G., Díaz, J., Chavarría-Díaz, F., García, M., Urb, M., Thorn, R.G., Louis-Seize, G.W., Janzen, D.H., and Seifert, K.A. (2012). "Penicillium mallochii and P. guanacastense, two new species isolated from Costa Rican caterpillars.", *Mycotaxon*, 119, pp. 315-328. doi: 10.5248/119.315

Réblová, M., Seifert, K.A., Fournier, J., and Štěpánek, V. (2012). "Phylogenetic classification of Pleurothecium and Pleurotheciella gen. nov. and its dactylaria-like anamorph (Sordariomycetes) based on nuclear ribosomal and protein-coding genes.", *Mycology*, 104(6), pp. 1299-1314. doi: 10.3852/12-035

2011

Lewis, C.T., Bilku, S., Robert, V.A., Eberhardt, U., Szöke, S., Seifert, K.A., and Lévesque, C.A. (2011). "Identification of Fungal DNA Barcode Targets and PCR Primers Based on Pfam Protein Families and Taxonomic Hierarchy.", *Open Applied Informatics Journal*, 5(Suppl. 1-M5), pp. 30-44. doi: 10.2174/1874136301105010030

Seifert, K.A. and Gams, W. (2011). "The genera of Hyphomycetes – 2011 update.", *Persoonia*, 27, pp. 119-129. doi: 10.3767/003158511X617435

Hawksworth, D.L., Crous, P.W., Redhead, S.A., Reynolds, D.R., Samson, R.A., Seifert, K.A., Taylor, J.W., Wingfield, M.J., Abaci, Ö., Aime, C., Asan, A., Bai, F.-Y., De Beer, Z.W., Begerow, D., Berikten, D., Boekhout, T., Buchanan, P.K., Burgess, T.I., Buzina, W., Cai, L., Cannon, P.F., Crane, J.L., Damm, U., Daniel, H.-M., van Diepeningen, A.D., Druzhinina, I.S., Dyer, P.S., Eberhardt, U., Fell, J.W., Frisvad, J.C., Geiser, D.M., Geml, J., Glienke, C., Gräfenhan, T., Groenewald, J.Z., Groenewald, M., de Gruyter, J.Z., Guého-Kellermann, E., Hibbett, D.S., Hong, S.-B., de Hoog, G.S., Houbaken, J.A.M.P., Huhndorf, S.M., Hyde, K.D., Ismail, A., Johnston, P.R., Kadam, D.G., Kirk, P.M., Kõljalg, U., Kurtzman, C.P., Lagneau, P.-E., Lévesque, C.A., and others (2011). "The Amsterdam Declaration on Fungal Nomenclature.", *IMA Fungus*, 2(1), pp. 105-112. doi: 10.5598/ima fungus.2011.02.01.14

Seifert, K.A., Morgan-Jones, G.A., Gams, W., and Kendrick, B. (Eds.) (2011). *The Genera of Hyphomycetes*. CBS Biodiversity Series 9., CBS Fungal Diversity Centre, Utrecht, The Netherlands. (Book)

Crous, P.W., Groenewald, J.Z., Shivas, R.G., Edwards, J., Seifert, K.A., Alfenas, A.C., Alfenas, R.F., Burgess, T.I., Carnegie, A.J., Hardy, G.E.St.J., Hiscock, N., Hüberli, D., Jung, T., Louis-Seize, G.W., Okada, G., Pereira, O.L., Stukely, M.J.C., Wang, W., White, G.P., Young, A.J., McTaggart, A.R., Pascoe, I.G., Porter, I.J., and Quaedvlieg, W. (2011). "Fungal Planet description sheets: 69-91.", *Persoonia*, 26, pp. 108-156. doi: 10.3767/003158511X581723

Robert, V.A., Szöke, S., Eberhardt, U., Cardinali, G., Meyer, W., Seifert, K.A., Lévesque, C.A., and Lewis, C.T. (2011). "The Quest for a General and Reliable Fungal DNA Barcode.", *Open Applied Informatics Journal*, 5(Suppl. 1-M6), pp. 45-61.

Réblová, M., Gams, W., and Seifert, K.A. (2011). "Monilochaetes and allied genera of the Glomerellales, and a reconsideration of families in the Microascales.", *Studies in Mycology*, 68(1), pp. 163-191. doi: 10.3114/sim.2011.68.07

Réblová, M. and Seifert, K.A. (2011). "Discovery of the teleomorph of the hyphomycete, *Sterigmatobotrys macrocarpa*, and epitypification of the genus to holomorphic status.", *Studies in Mycology*, 68(1), pp. 193-202. doi: 10.3114/sim.2011.68.08

Samson, R.A., Yilmaz, N., Houbaken, J.A.M.P., Spierenburg, H., Seifert, K.A., Peterson, S.W., Varga, J., and Frisvad, J.C. (2011). "Phylogeny and nomenclature of the genus *Talaromyces* and taxa accommodated in *Penicillium* subgenus *Biverticillium*.", *Studies in Mycology*, 70(1), pp. 159-183. doi: 10.3114/sim.2011.70.04

Hawksworth, D.L., Crous, P.W., Redhead, S.A., Samson, R.A., Seifert, K.A., Taylor, J.W., and Wingfield, M. J. (2011). "The Amsterdam Declaration on Fungal Nomenclature.", *Mycotaxon*, 116, pp. 491-500.

Rivera, K.G. and Seifert, K.A. (2011). "A taxonomic and phylogenetic revision of the *Penicillium sclerotiorum* complex.", *Studies in Mycology*, 70(1), pp. 139-158. doi: 10.3114/sim.2011.70.03

Schroers, H.-J., Gräfenhan, T., Nirenberg, H.I., and Seifert, K.A. (2011). "A revision of *Cyanonectria* and *Geejayessia* gen. nov. and related species with fusarium-like anamorphs.", *Studies in Mycology*, 68(1), pp. 115-138. doi: 10.3114/sim.2011.68.05

Gräfenhan, T., Schroers, H.-J., Nirenberg, H.I., and Seifert, K.A. (2011). "An overview of the taxonomy, phylogeny, and typification of nectriaceous fungi in *Cosmospora*, *Acremonium*, *Fusarium*, *Stilbella*, and *Volutella*.", *Studies in Mycology*, 68(1), pp. 79-113. doi: 10.3114/sim.2011.68.04

## Other Science Related Publications:

2015

Lévesque, C.A., Chen, W., Hambleton, S., Seifert, K.A., Adam, Z., Bilodeau, G.J., Cullis, J., Demeke, T., Dumonceaux, T.J., Gagnon, M., Graefenhan, T., Kawchuk, L.M., Khan, I.U.H., Lewis, C.T., Li, X., Links, M.G., Mimee, B., Rott, M., Tambong, J.T., Topp, E., Yu, Q., and Yuan, K. (2015). Project CRTI 09-462RD - Next generation sequencing, direct detection and genotyping of fungi, bacteria and nematodes in the agri-food system. DRDC-RDDC-2015-C148. Final Close-Out Report. (Report)

2014

Sumarah, M.W., Qi, T., Miller, J.D., and Seifert, K.A. (2014). "Study of black Aspergilli from Canadian vineyards and the associated risk of ochratoxin A and fumonisin contamination of wine.", 8th Conference of the World Mycotoxin Forum, Vienna, Austria, November 2014. (Poster)

2013

Spotts, R.A., Lévesque, A., Lévesque, C.A., and Seifert, K.A. (2013). "Neofabraea kienholzii (Seifert, Spotts & Lévesque) Spotts, Lévesque & Seifert.", *Index Fungorum*, 28(1).

Seifert, K.A. (2013). "Walking in the footsteps of van Leeuwenhoek (part 1).", published in the *microbe.net* site (guest posts). <http://microbe.net/2013/05/01/guest-post-from-keith-seifert-walking-in-the-footsteps-of-van-leeuwenhoek-part-1/>.

Seifert, K.A. (2013). "Walking in the footsteps of van Leeuwenhoek (part 2).", published in the *microbe.net* site (guest posts). <http://microbe.net/2013/06/18/guest-post-from-keith-seifert-walking-in-the-footsteps-of-van-leeuwenhoek-part-2/>.

Minnis, A.M., Seifert, K.A., Redhead, S.A., and Halling, R.E. (2013). "Nomenclatural Procedures FAQ (ICN Melbourne Code): Help and Checklist for authors. Mycological Society of America, <http://www.mycologia.org/site/misc/FAQvers2.xhtml>".

Seifert, K.A. (2013). "Searching for the cure in Saranac Lake.", published in the *microbe.net* site (blog posts). <http://microbe.net/2013/10/07/searching-for-the-cure-in-saranac-lake/>.

2012

De Beer, Z.W., Seifert, K.A., and Wingfield, M.J. (2012). "The impacts of 1F:1N on the Ophiostomatales (Sordariomycetes, Ascomycota).", *Inoculum*, 63(3), pp. 15.

Lévesque, C.A., Bilkhu, S., Chapados, J.T., Chen, W., Hambleton, S., Lewis, C.T., Oliver, K., and Seifert, K.A. (2012). "Aero Net: A Canadian spore trapping network monitoring fungi and bacteria with DNA barcodes and next generation sequencing.", *The Role of Genomics & Bioinformatics in Protecting Canadians from Microbial Food Safety Risks Workshop*, Southway Hotel and Conference Centre, Ottawa, ON, Canada, February 21-22, 2012, Invited oral presentation.

Seifert, K.A. and Miller, A.N. (2012). "Subcommissions, working groups, and protected lists.", *Inoculum*, 36(3), pp. 44.

Schoch, C.L. and Seifert, K.A. (2012). "Reply to Kiss: Internal transcribed spacer (ITS) remains the best candidate as a universal DNA barcode marker for Fungi despite imperfections.", *Proceedings of the National Academy of Sciences of the USA (PNAS)*, 109(27), pp. E1812.

Barasubiye, T., Seifert, K.A., and Lévesque, C.A. (2012). "The National fungal identification service at ECORC: challenges and opportunities.", *Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting*, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: *Canadian Journal of Plant Pathology / Revue canadienne de phytopathologie*, 35(1), pp. 102.

Seifert, K.A., Graefenhan, T., Chen, W., Lewis, C.T., Bilkhu, S., Chapados, J.T., Hambleton, S., and Lévesque, C.A. (2012). "Prospects for using quantitative PCR and metagenomics to detect mycotoxigenic fungi without culturing.", *MycoRed International Conference*, Carleton University, Ottawa, ON, Canada, June 2012.

Chen, W., Lewis, C.T., Chapados, J.T., Hambleton, S., Seifert, K.A., Temple, K., Biernacka-Larocque, A., Robleh Djama, Z., and Lévesque, C.A. (2012). "Canada-wide spore-trapping network provides effective monitoring of microbial phytopathogens in air and rain samples.", *Annual meeting of the American Phytopathological Society*, Providence, RI, USA, August 4-8, 2012, In: *Phytopathology* 102: S4.22.

Tesfaendrias, M.T., McDonald, M.R., Macdonald, M.M., Peters, R.D., Barasubiye, T., and Seifert, K.A. (2012). "Fusarium root rot and crown rot of carrots in Ontario and Prince Edward Island.", *Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting*, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Published in: *Canadian Journal of Plant Pathology / Revue canadienne de phytopathologie*, 35(1), pp. 127.

Nguyen, H.D.T., Nickerson, N.L., and Seifert, K.A. (2012). "Basidioascus: a new lineage of heat resistant and xerotolerant basidiomycete.", *Inoculum*, 63(3), pp. 35.

2011

Seifert, K.A. and Miller, A.N. (2011). "International Commission on the Taxonomy of Fungi: Roadmap to 2014.", *IMA Fungus*, 2(1), pp. 26.

Schoch, C.L., Seifert, K.A., and Crous, P.W. (2011). "Progress on DNA Barcoding of Fungi.", *IMA Fungus*, 2(1), pp. 5-6.

- Seifert, K.A. (2011). "The mould in your closet.", Toronto Mycological Association, Toronto, ON, Canada, March 2011. (Presentation)
- Seifert, K.A. (2011). "The IMA Gavel.", *IMA Fungus*, 2(1), pp. 29.
- Seifert, K.A., Gräfenhan, T., Hodge, K.T., Summerell, B.A., Degawa, Y., and McFadden-Smith, W. (2011). "The International Tree Slime Project.", 4th International Barcode of Life Conference, Adelaide, South Australia, Australia, November 28-December 3, 2011. (Poster)
- Seifert, K.A. (2011). "Do we need a Canadian Mycological Association?", Great Lakes - St. Lawrence Spring Workshop in Mycology, Peterborough, ON, Canada, May 7-8, 2011.
- Rossmann, A.Y. and Seifert, K.A. (2011). "Phylogenetic revision of taxonomic concepts in the Hypocreales and other Ascomycota - A tribute to Gary J. Samuels (Preface).", *Studies in Mycology*, 68(1), pp. 6-10.
- Seifert, K.A., Gräfenhan, T., Schroers, H.-J., and Nirenberg, H.I. (2011). "Fusarium divided: New generic concepts and experiments with single name nomenclature.", Fungal Biodiversity Centre (CBS) and International Commission on the Taxonomy of Fungi (ICTF) Symposium: One Fungus = One Name, Amsterdam, The Netherlands, April 19-20, 2011.
- Seifert, K.A. (2011). "In Memoriam: John William ("Bill") Carmichael (1927-2011).", *IMA Fungus*, 2(1), pp. 12.
- Seifert, K.A., Mwange, K.N., Whiteside, D.P., Visagie, C.M., Samson, R.A., Meijer, M., Amend, A.S., and Bruns, T.D. (2011). "iM BOL: The Indoor Mycota Barcode of Life.", 4th International Barcode of Life Conference, Adelaide, South Australia, Australia, November 28-December 3, 2011.
- Rossmann, A.Y. and Seifert, K.A. (Eds.) (2011). *Studies in Mycology 68 (1): Phylogenetic revision of taxonomic concepts in the Hypocreales and other Ascomycota - A tribute to Gary J. Samuels*, CBS Publisher, Royal Netherlands Academy of Arts and Sciences (KNAW), The Netherlands.
- Schoch, C.L., Seifert, K.A., Spouge, J.L., Robert, V.A., Bolchacova, E., and Crous, P.W. (2011). "An official barcode for fungi.", 4th International Barcode of Life Conference, Adelaide, South Australia, Australia, November 28-December 3, 2011.
- Rossmann, A.Y. and Seifert, K.A. (Eds.) (2011). *Phylogenetic revision of taxonomic concepts in the Hypocreales and other Ascomycota - A tribute to Gary J. Samuels*. *Studies in Mycology 68.*, CBS Publisher, Royal Netherlands Academy of Arts and Sciences (KNAW), The Netherlands. (Book)
- Redhead, S.A., Norvell, L.L., Seifert, K.A., and Miller, A.N. (2011). "International meetings planned to discuss fungal nomenclature.", *IMA Fungus*, 2(2), pp. 44-45.
- Minnis, A.M., Redhead, S.A., Seifert, K.A., and Halling, R.E. (2011). "2012 Nomenclatural Procedures FAQ: Help and Checklist for Authors.", published in *Mycologia* (Web Page), Mycological Society of America, Washington, DC, USA.
- Chen, W., Lewis, C.T., Chapados, J.T., Bilku, S., Hambleton, S., Seifert, K.A., and Lévesque, C.A. (2011). "Aerobiota diversity in Canada's air: Mining the metagenomic data.", Great Lakes - St. Lawrence Spring Workshop in Mycology, Peterborough, ON, Canada, May 7-8, 2011. (Presentation)
- Lévesque, C.A., Bilku, S., Chapados, J.T., Chen, W., Hambleton, S., Lewis, C.T., Oliver, K., and Seifert, K.A. (2011). "AeroNet: A Canadian spore trapping network monitoring fungi and bacteria with DNA barcodes and next generation sequencing.", iBOL - Canada: The future of DNA Barcoding in Canada, Beaty Biodiversity Museum, UBC, Vancouver, BC, Canada, April 29-May 1, 2011. (Presentation)
- Gräfenhan, T., Seifert, K.A., and Clear, R.M. (2011). "Genetic diversity of *Fusarium* on grains: Changing species concepts and their impact on molecular diagnostics.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 58.
- Seifert, K.A. (2011). "Real moulds and virtual moulds: On the farm, in the forest, and in the home.", Carleton University, Department of Biology, Ottawa, ON, Canada, October 2011. (Presentation)



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## Research Publications:

2013

Loker, S.F., Bastin, C., Miglior, F., Sewalem, A., Schaeffer, L.R., Jamrozik, J., and Osborne, V.R. (2013). "Development of a genetic evaluation for body condition score for Canadian Holsteins.", *Journal of Dairy Science (JDS)*, 96(6), pp. 3994-4004. doi : 10.3168/jds.2012-6148

McCorquodale, C.E., Sewalem, A., Miglior, F., Kelton, D.F., Robinson, A., Koeck, A., and Leslie, K.E. (2013). "Analysis of health and survival in a population of Ontario Holstein heifer calves.", *Journal of Dairy Science (JDS)*, 96(3), pp. 1880-1885. doi : 10.3168/jds.2012-5735

Chapinal, N., Koeck, A., Sewalem, A., Kelton, D.F., Mason, S., Cramer, G., and Miglior, F. (2013). "Genetic parameters for hoof lesions and their relationship with feet and leg traits in Canadian Holstein cows.", *Journal of Dairy Science (JDS)*, 96(4), pp. 2596-2604. doi : 10.3168/jds.2012-6071

2012

Chapinal, N., Sewalem, A., and Miglior, F. (2012). "Estimation of genetic parameters for gait in Canadian Holstein cows.", *Journal of Dairy Science (JDS)*, 95(12), pp. 7372-7376. doi : 10.3168/jds.2012-5846

Pernal, S.F., Sewalem, A., and Melathopoulos, A.P. (2012). "Breeding for hygienic behaviour in honeybees (*Apis mellifera*) using free-mated nucleus colonies.", *Apidologie*, 43(4), pp. 403-416. doi : 10.1007/s13592-011-0105-x

Thompson-Crispi, K.A., Sewalem, A., Miglior, F., and Mallard, B.A. (2012). "Genetic parameters of adaptive immune response traits in Canadian Holsteins.", *Journal of Dairy Science (JDS)*, 95(1), pp. 401-409. doi : 10.3168/jds.2011-4452

Loker, S.F., Bastin, C., Miglior, F., Sewalem, A., Schaeffer, L.R., Jamrozik, J., Ali, A., and Osborne, V.R. (2012). "Genetic and environmental relationships between body condition score and milk production traits in Canadian Holsteins.", *Journal of Dairy Science (JDS)*, 95(1), pp. 410-419. doi : 10.3168/jds.2011-4497

2011

Henderson, L., Miglior, F., Sewalem, A., Wormuth, J., Kelton, D.F., Robinson, A., and Leslie, K.E. (2011). "Genetic parameters for measures of calf health in a population of Holstein calves in New York State.", *Journal of Dairy Science (JDS)*, 94(12), pp. 6181-6187. doi : 10.3168/jds.2011-4347

Loker, S.F., Bastin, C., Miglior, F., Sewalem, A., Schaeffer, L.R., Jamrozik, J., and Osborne, V.R. (2011). "Estimates of genetic parameters of body condition score in the first 3 lactations using a random regression animal model.", *Journal of Dairy Science (JDS)*, 94(7), pp. 3693-3699. doi : 10.3168/jds.2010-4122

Henderson, L., Miglior, F., Sewalem, A., Kelton, D.F., Robinson, A., and Leslie, K.E. (2011). "Estimation of genetic parameters for measures of calf survival in a population of Holstein heifer calves from a heifer-raising facility in New York State.", *Journal of Dairy Science (JDS)*, 94(1), pp. 461-470. doi : 10.3168/jds.2010-3243

Sewalem, A., Miglior, F., and Kistemaker, G.J. (2011). "Genetic parameters of milking temperament and milking speed in Canadian Holsteins.", *Journal of Dairy Science (JDS)*, 94(1), pp. 512-516. doi : 10.3168/jds.2010-3479

## Other Science Related Publications:

2012

Chapinal, N., Koeck, A., Sewalem, A., Kelton, D.F., Mason, S., Cramer, G., and Miglior, F. (2012). "Genetic parameters for hoof lesions in Canadian Holstein cows estimated from hoof trimming records.", *Dairy Cattle Breeding and Genetics Committee (DCBGC) 2012*, Guelph, ON, Canada, September 18, 2012.

2011

Chapinal, N., Miglior, F., Sewalem, A., de Passillé, A.M.B., Rushen, J.P., von Keyserlingk, M.A.G., and Weary, D.M. (2011). "Estimation of genetic parameters for gait in Canadian Holstein cows.", 2011 Joint Annual Meeting of the ADSA-ASAS, New Orleans, LA, USA, July 10-14, 2011. (Presentation)

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## Research Publications:

2015

Qiao, C., Wang, J., Shang, J., and Daneshfar, B. (2015). "Spatial relationship-assisted classification from high-resolution remote sensing imagery.", *International Journal of Digital Earth*, 8(9), pp. 710-726. doi: 10.1080/17538947.2014.925517

Huang, X., Wang, J., and Shang, J. (2015). "Simplified adaptive volume scattering model and scattering analysis of crops over agricultural fields using the RADARSAT-2 polarimetric synthetic aperture radar imagery.", *Journal of Applied Remote Sensing*, 9(1: 096026). doi: 10.1117/1.JRS.9.096026

Shang, J., Liu, J., Ma, B.-L., Zhao, T., Jiao, X., Geng, X.Y., Huffman, E.C., Kovacs, J.M., and Walters, D. (2015). "Mapping spatial variability of crop growth conditions using RapidEye data in Northern Ontario, Canada.", *Remote Sensing of Environment*, 168, pp. 113-125. doi: 10.1016/j.rse.2015.06.024

Dong, T., Meng, J., Shang, J., Liu, J., Wu, B., and Huffman, E.C. (2015). "Modified vegetation indices for estimating crop fraction of absorbed photosynthetically active radiation.", *International Journal of Remote Sensing*, 36(12), pp. 3097-3113. doi: 10.1080/01431161.2015.1042122

Dong, T., Meng, J., Shang, J., Liu, J., and Wu, B. (2015). "Evaluation of Chlorophyll-Related Vegetation Indices Using Simulated Sentinel-2 Data for Estimation of Crop Fraction of Absorbed Photosynthetically Active Radiation.", *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 8(8: Article number 7050317), pp. 4049-4059. doi: 10.1109/JSTARS.2015.2400134

McNaim, H., Jackson, T.J., Wiseman, G., Bélair, S., Berg, A.A., Bullock, P.R., Colliander, A., Cosh, M.H., Kim, S.-B., Magagi, R., Moghaddam, M., Njoku, E., Adams, J.R., Homayouni, S., Ojo, E., Rowlandson, T., Shang, J., Goïta, K., and Hosseini, M. (2015). "The Soil Moisture Active Passive Validation Experiment 2012 (SMAPVEX12): Pre-launch Calibration and Validation of the SMAP Soil Moisture Algorithms.", *IEEE Transactions on Geoscience and Remote Sensing*, 53(5: Article number 6955796), pp. 2784-2801. doi: 10.1109/TGRS.2014.2364913

Jing, Q., Shang, J., Qian, B., Hoogenboom, G., Huffman, E.C., Liu, J., Ma, B.-L., Geng, X.Y., Jiao, X., Kovacs, J.M., and Walters, D. (2015). "Evaluation of the CSM-CROPGRO-Canola Model for Simulating Canola Growth and Yield at West Nipissing in Eastern Canada.", *Agronomy Journal*. doi: 10.2134/agronj2015.0401

2014

McNaim, H., Kross, A., Lapen, D.R., Caves, R., and Shang, J. (2014). "Early Season Monitoring of Corn and Soybeans with TerraSAR-X and RADARSAT-2.", *International Journal of Applied Earth Observation and Geoinformation*, 28(1), pp. 252-259. doi: 10.1016/j.jag.2013.12.015

Champagne, C., McNaim, H., Daneshfar, B., and Shang, J. (2014). "A bootstrap method for assessing classification accuracy and confidence for agricultural land use mapping in Canada.", *International Journal of Applied Earth Observation and Geoinformation*, 29(1), pp. 44-52. doi: 10.1016/j.jag.2013.12.016

Cable, J.W., Kovacs, J.M., Shang, J., and Jiao, X. (2014). "Multi-Temporal Polarimetric RADARSAT-2 for Land Cover Monitoring in Northeastern Ontario, Canada.", *Remote Sensing*, 6(3), pp. 2372-2392. doi: 10.3390/rs6032372

Cable, J.W., Kovacs, J.M., Jiao, X., and Shang, J. (2014). "Agricultural Monitoring in Northeastern Ontario, Canada, Using Multi-Temporal Polarimetric RADARSAT-2 Data.", *Remote Sensing*, 6(3), pp. 2343-2371. doi: 10.3390/rs6032343

Jiao, X., Kovacs, J.M., Shang, J., McNaim, H., Walters, D., Ma, B.-L., and Geng, X.Y. (2014). "Object-oriented crop mapping and monitoring using multi-temporal polarimetric RADARSAT-2 data.", *ISPRS Journal of Photogrammetry and Remote Sensing*, 96, pp. 38-46. doi: 10.1016/j.isprsjprs.2014.06.014

Ma, B.-L., Wu, T.-Y., and Shang, J. (2014). "On-farm comparison of variable rates of nitrogen with uniform application to maize on canopy reflectance, soil nitrate and grain yield.", *Journal of Plant Nutrition*, 177(2), pp. 216-226. doi: 10.1002/jpln.201200338

Shang, J., Liu, J., Huffman, E.C., Qian, B., Pattey, E., Wang, J., Geng, X.Y., Kroetsch, D.J., Dong, T., and Lantz, N. (2014). "Estimating plant area index for monitoring crop growth dynamics using Landsat-8 and RapidEye images.", *Journal of Applied Remote Sensing*, 8(1: Article number 14482SS). doi: 10.1117/1.JRS.8.085196

Wiseman, G., McNaim, H., Homaayouni, S., and Shang, J. (2014). "RADARSAT-2 Polarimetric SAR Response to Crop Biomass for Agricultural Production Monitoring", IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 7(11), pp. 4461-4471. doi: 10.1109/JSTARS.2014.2322311

2013

Guo, L., Pei, Z., Ma, S., Sun, J., and Shang, J. (2013). "Study of rice identification during early season using multi-polarization terraSAR-X data.", 7th IFIP WG 5.14 International Conference on Computer and Computing Technologies in Agriculture (CCTA 2013), Beijing, China, September 18-20, 2013, Published in IFIP Advances in Information and Communication Technology. Volume 419, 2014, Pages 337-347.

Magagi, R., Berg, A.A., Goïta, K., Bélair, S., Jackson, T.J., Toth, B.M., Walker, A.S., McNaim, H., O'Neill, P.E., Moghaddam, M., Gherboudj, I., Colliander, A., Cosh, M.H., Burgin, M., Fisher, J.B., Kim, S.-B., Mladenova, I., Djamaï, N., Rousseau, L.-P.B., Bélanger, J., Shang, J., and Merzouki, A. (2013). "Canadian experiment for soil moisture in 2010 (CanEx-SM10): Overview and preliminary results.", IEEE Geoscience and Remote Sensing Letters, 51(1), pp. 347-363. doi : 10.1109/tgrs.2012.2198920

Liu, Chen, Shang, J., Vachon, P.W., and McNaim, H. (2013). "Multiyear crop monitoring using polarimetric RADARSAT -2 data.", IEEE Transactions on Geoscience and Remote Sensing, 51(4), pp. 2227-2240. doi : 10.1109/TGRS.2012.2208649

2012

Chen, Z., Zhang, Y., Guindon, B., Esch, T., Roth, A., and Shang, J. (2012). "Urban land use mapping using high resolution SAR data based on density analysis and contextual information.", Canadian Journal of Remote Sensing, 38(6), pp. 738-749. doi : 10.5589/m13-002

Deschamps, B., McNaim, H., Shang, J., and Jiao, X. (2012). "Towards operational radar-only crop type classification: comparison of a traditional decision tree with a random forest classifier.", Canadian Journal of Remote Sensing, 38(1), pp. 60-68. doi : 10.5589/m12-012

2011

Jiao, X., McNaim, H., Shang, J., Pattey, E., Liu, J., and Champagne, C. (2011). "The sensitivity of RADARSAT-2 polarimetric SAR data to corn and soybean Leaf Area Index.", Canadian Journal of Remote Sensing, 37(1), pp. 69-81. doi : 10.5589/m11-023

Shang, J., McNaim, H., Deschamps, J., and Jiao, X. (2011). "In-season crop inventory using multi-angle and multi-pass RADARSAT-2 SAR data over the Canadian prairies.", Proceedings of SPIE - The International Society for Optical Engineering, 8156(Article No. 815604). doi: 10.1117/12.894211

Pei, Z., Zhang, S., Guo, L., McNaim, H., Shang, J., and Jiao, X. (2011). "Rice identification and change detection using TerraSAR-X data.", Canadian Journal of Remote Sensing, 37(1), pp. 151-156. doi : 10.5589/m11-025

## Other Science Related Publications:

2014

McNaim, H., Powers, J., Shang, J., Merzouki, A., Pacheco, A., Fiset, T., Wiseman, G., and Homaayouni, S. (2014). "RADARSAT-2 to support risk reduction for the agriculture sector.", Joint 2014 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2014) and the 35th Canadian Symposium on Remote Sensing (CSRS 2014), Quebec Convention Centre, Quebec City, Canada, July 13-18, 2014.

Niazmardi, S., Homaayouni, S., McNaim, H., Shang, J., and Safari, A. (2014). "Multiple kernels learning for classification of agricultural time series data.", 3rd International Conference on Agro-Geoinformatics, Beijing, China, August 11-14, 2014, Article number 6910640.

McNaim, H., Wiseman, G., Powers, J., Merzouki, A., and Shang, J. (2014). "Assessment of disease risk in canola using multi-frequency SAR: preliminary results.", EUSAR 2014 – 10th European Conference on Synthetic Aperture Radar, Berlin, Germany, June 2-6, 2014.

Shang, J., Huffman, E.C., Liu, J., Ma, B.-L., Zhao, T., Qian, B., McNaim, H., Geng, X.Y., Lantz, N., and Wang, J. (2014). "Using Earth Observation to Monitor Corn Growth in Eastern Canada.", 68th North Eastern Corn Improvement Conference, Wooster, Ohio, USA, February 13-14, 2014.

Charbonneau, F.J., Brisco, B., van der Sanden, J.J., Toutin, T., Touzi, R., Chen, H., Liu, C., McNaim, H., Shang, J., Buckley, J.R., Arkett, M., and Poitevin, J. (2014). "RCM compact polarimetry applications development overview.", Joint 2014 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2014) and the 35th Canadian Symposium on Remote Sensing (CSRS 2014), Quebec Convention Centre, Quebec City, Canada, July 13-18, 2014.

Li, Y., Liu, T., McNaim, H., Shang, J., and Touzi, R. (2014). "RADARSAT-2 PolInSAR coherence optimization for agriculture crop change detection.", Joint 2014 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2014) and the 35th Canadian Symposium on Remote Sensing (CSRS 2014), Quebec Convention Centre, Quebec City, Canada, July 13-18, 2014.

Ma, B.-L., Smith, D.L., Shang, J., Whalen, J.K., Caldwell, B.C., Earl, H.J., Vanasse, A., and Scott, P. (2014). "Improving nutrient use efficiency and yield of canola in eastern Canada.", 20th World Congress of Soil Science, Jeju, South Korea, June 8-13, 2014, Presentation. (Poster)

Shang, J., Liu, J., Huffman, E.C., Qian, B., Pattey, E., Zhao, T., Ma, B.-L., and Wang, J.M. (2014). "Estimation of crop leaf area index using Landsat-8 and Rapideye images.", 3rd International Conference on Agro-Geoinformatics, Beijing, China, August 11-14, 2014.

Liu, J., Huffman, E.C., Qian, B., Shang, J., and Dong, T. (2014). "Assessment of MODIS products for crop yield estimation in the Canadian Prairies.", 3rd International Conference on Agro-Geoinformatics, Beijing, China, August 11-14, 2014, Oral presentation.

## 2013

Shang, J., McNaim, H., Champagne, C., and Jiao, X. (2013). "Radar's potential to estimate crop bio-physical parameters and beyond.", Remote sensing: Beyond images Workshop, Mexico City, México, December 14-15, 2014.

## 2012

Shang, J., McNaim, H., Charbonneau, F.J., Chen, Z., and Jiao, X. (2012). "Sensitivity analysis of compact polarimetry parameters to crop growth using simulated RADARSAT-2 SAR data.", IEEE International Geoscience & Remote Sensing Symposium (IGARSS 2012), Munich, Germany, July 22-27, 2012, pp. 1825-1828.

Shang, J., McNaim, H., Fernandes, R., Schulthess, U., and Storie, J. (2012). "Estimation of Crop Ground Cover and Leaf Area Index (LAI) of Wheat Using RapidEye Satellite Data: Preliminary Study.", First International Conference on Agro-Geoinformatics, Shanghai, China, August 2-4, 2012.

McNaim, H., Shang, J., Jiao, X., and Deschamps, B. (2012). "Establishing Crop Productivity Using RADARSAT-2.", The XII Congress of the International Society for Photogrammetry and Remote Sensing, Melbourne, Australia, August 25 – September 1, 2012.

Liu, T., McConkey, B.G., Kulshreshtha, S., Huffman, E.C., Green, M., Liu, J., Du, Y., and Shang, J. (2012). "Bioenergy production potential on marginal land in Canada.", 1st International Conference on Agro-Geoinformatics, Shanghai, China, August 2-4, 2012.

## 2011

Guo, L., Pei, Z., Zhang, S., Wang, Q., McNaim, H., Shang, J., and Jiao, X. (2011). "Rice identification using TerraSAR-X data.", Proceedings of SPIE - The International Society for Optical Engineering, 8203 (Article No. 82030J).

Shang, J., McNaim, H., Deschamps, B., Jiao, X., and Champagne, C. (2011). "Contribution of TerraSAR-X Data to In-Season Crop Mapping in Canada.", 3rd TanDEM-X Science Team Meeting, Oberpfaffenhofen, Germany, Feb 17-18, 2011.

Liu, C., Shang, J., Vachon, P.W., and McNaim, H. (2011). "Crop Change Assessment Using Polarimetric RADARSAT-2 Data.", The 5th International Workshop on Science and Applications of SAR Polarimetry and Polarimetric Interferometry, Frascati, Italy, Jan 24-28, 2011.

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## Research Publications:

2015

Shen, H.S., Liu, H., Chen, J.-C., Shao, S., Zhu, H., Tsao, R., and Zhou, T. (2015). "Tetramethylpyrazine from *Pleurotus geesteranus*.", *Natural Product Communications*, 10(9), pp. 1553-1554.

Hu, G., Zhu, Y., Hernandez, M., Koutchma, T., and Shao, S. (2015). "An efficient method for the simultaneous determination of furan, 2-methylfuran and 2-pentylfuran in fruit juices by headspace solid phase microextraction and gas chromatography-flame ionisation detector.", *Food Chemistry*, 192(Article number 17782), pp. 9-14. doi: 10.1016/j.foodchem.2015.06.100

Soliman, S.S.M., Li, X.-Z., Shao, S., Behar, M., Svircev, A.M., Tsao, R., Tsao, R., and Zhou, T. (2015). "Potential mycotoxin contamination risks of apple products associated with fungal flora of apple core.", *Food Control*, 47, pp. 585-591. doi : 10.1016/j.foodcont.2014.07.060

2013

Zhu, Y., Koutchma, T., Warriner, K., Shao, S., and Zhou, T. (2013). "Kinetics of patulin degradation in model solution, apple cider and apple juice by ultraviolet radiation", *Food Science and Technology International*, 19(4), pp. 291-303. doi : 10.1177/1082013212452414

Hu, G., Hernandez, M., Zhu, H., and Shao, S. (2013). "An efficient method for the determination of furan derivatives in apple cider and wine by solid phase extraction and high performance liquid chromatography-Diode array detector.", *Journal of Chromatography A*, 1284, pp. 100-106. doi : 10.1016/j.chroma.2013.02.002

2012

Shao, S., Zhou, T., and McGarvey, B.D. (2012). "Comparative metabolomic analysis of *Saccharomyces cerevisiae* during the degradation of patulin using gas chromatography-mass spectrometry.", *Applied Microbiology and Biotechnology*, 94(3), pp. 789-797. doi : 10.1007/s00253-011-3739-8

2011

Shao, S., Duncan, A.M., Yang, R., Marcone, M.F., Rajcan, I., and Tsao, R. (2011). "Systematic evaluation of pre-HPLC sample processing methods on total and individual isoflavones in soybeans and soy products.", *Food Research International*, 44(8), pp. 2425-2434. doi : 10.1016/j.foodres.2010.12.041

## Other Science Related Publications:

2012

Hernandez, M., Hu, G., and Shao, S. (2012). "The effect of UV light treatment on the migration of bisphenol A (BPA) from food packaging materials to food matrices.", *Guelph Food Safety Seminar Series (GFSSS) 10th Annual Symposium*, Guelph, ON, Canada, October 16, 2012.

Hu, G., Hernandez, M., and Shao, S. (2012). "An efficient method for the determination of furan derivatives in apple cider and wine by solid phase extraction and HPLC/DAD.", *Guelph Food Safety Seminar Series (GFSSS) 10th Annual Symposium*, Guelph, ON, Canada, October 16, 2012.

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## Research Publications:

2015

Gaudet, D.A., Nilsson, D., Lohr, T., and Sheedy, C. (2015). "Development of a real-time immuno-PCR assay for the quantification of 17 $\beta$ -estradiol in water.", *Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Wastes*, 50(10), pp. 683-690. doi: 10.1080/03601234.2015.1048097

Gagnon, P., Sheedy, C., Farenhorst, A., Cessna, A.J., Newlands, N.K., and McQueen, R.D.A. (2015). "Environmental Sustainability of Canadian Agriculture: Agri-Environmental Indicator Report Series.", - Indicator of Risk of Water Contamination – Pesticides (IROWC-PEST), Agriculture and Agri-Food Canada, pp. 8 pages.

2014

Gagnon, P., Sheedy, C., Farenhorst, A., McQueen, R.D.A., Cessna, A.J., and Newlands, N.K. (2014). "A coupled stochastic/deterministic model to estimate the evolution of the risk of water contamination by pesticides across Canada.", *Integrated Environmental Assessment and Management*, 10(3), pp. 429-436. doi: 10.1002/ieam.1533

2013

Kabaluk, J.T., Janmaat, A., Sheedy, C., Goettel, M.S., and Noronha, C. (2013). "Agriotes spp. Wireworms and Click Beetles.", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing.

2012

Caron, E., Farenhorst, A., Hao, X., and Sheedy, C. (2012). "Solid beef cattle manure application impacts on soil properties and 17 $\beta$ -estradiol fate in a clay loam soil.", *Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Wastes*, 47(6), pp. 495-504. doi: 10.1080/03601234.2012.665658

2011

Bailey, K.L., Pitt, W.M., Leggett, F.L., Sheedy, C., and Derby, J.-A. (2011). "Determining the infection process of *Phoma macrostoma* that leads to bioherbicidal activity on broadleaved weeds.", *Biological Control*, 59(2), pp. 268-276. doi: 10.1016/j.biocontrol.2011.06.019

Klima, C.L., Alexander, T.W., Read, R.R., Gow, S.P., Booker, C.W., Hannon, S., Sheedy, C., McAllister, T.A., and Selinger, L.B. (2011). "Genetic characterization and antimicrobial susceptibility of *Mannheimia haemolytica* isolated from the nasopharynx of feedlot cattle.", *Veterinary Microbiology*, 149(3-4), pp. 390-398. doi: 10.1016/j.vetmic.2010.11.018

## Other Science Related Publications:

2014

Wang, F., Frick, M., Amundsen, E.J., Gaudet, D.A., Laroche, A., and Sheedy, C. (2014). "Detection of stripe rust spores through self-assembly antibody conjugations by RT-IPCR.", 35th Plant Pathology Symposium of Alberta, Canmore, AB, Canada, October 27-29, 2014.

Charest, J., Sheedy, C., Tymensen, L.D., Jokinen, C.C., and Lamey, F.J. (2014). "Water Quality in Alberta's Irrigation Districts 2011 to 2015: 2013 Progress Report.", in Charest, J., Olson, B., Kalischuk, A., and Gross, D. (eds.) - *Water Quality in Alberta's Irrigation Districts 2011 to 2015: 2013 Progress Report*, Alberta Agriculture, Food and Rural Development, Edmonton, AB, Canada, pp. 29-83.

Vucurevich, T., Sheedy, C., Duke, G., and Kawchuk, L.M. (2014). "Immunofluorescent detection of clubroot resting spores.", Annual Meeting of the Plant Pathology Society of Alberta, Pocaterra Inn, Canmore, AB, Canada, November 3-5, 2014, pp. 3.

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## Research Publications:

2015

Ding, T., Xuan, X.T., Liu, D.H., Ye, X.-Q., Shi, J., Warriner, K., Xue, S.J., and Jones, C. (2015). "Electrolyzed Water Generated Using a Circulating Reactor.", *International Journal of Food Engineering*, 11(1), pp. 79-84. doi : 10.1515/ijfe-2014-0217

Liu, W.L., Zhang, L., Shi, J., Yi, H.X., Zhang, Y., Zhang, S., Gao, W., Du, M., Han, X., and Yu, X. (2015). "Assessment of the safety and applications of bacteriocinogenic *Enterococcus faecium* Y31 as an adjunct culture in North-eastern Chinese traditional fermentation paocai.", *Food Control*, 50, pp. 637-644. doi : 10.1016/j.foodcont.2014.10.004

He, S.-D., Shi, J., Walid, E., Zhang, H.W., Ma, Y., and Xue, S.J. (2015). "Reverse micellar extraction of lectin from blackturtle bean (*Phaseolus vulgaris*): Optimization of extraction conditions by response surface methodology.", *Food Chemistry*, 166, pp. 93-100. doi : 10.1016/j.foodchem.2014.05.156

Shi, J., Xue, S.J., Wang, B., Wang, W.-L., Ye, X.-Q., and Quek, S.Y. (2015). "Optimization of formulation and influence of environmental stresses on stability of lycopene-microemulsion.", *Food Science and Technology - LWT*, 60(2), pp. 999-1008. doi : 10.1016/j.lwt.2014.10.066

He, S.-D., Shi, J., Li, X., Ma, Y., and Xue, S.J. (2015). "Identification of a lectin protein from blackturtle bean (*Phaseolus vulgaris*) using LC-MS/MS and PCR method.", *Food Science and Technology - LWT*, 60(2, Part 2), pp. 1074-1079. doi : 10.1016/j.lwt.2014.10.015

Ding, T., Xuan, X.T., Li, J., Chen, S., Liu, D.H., Ye, X.-Q., Shi, J., and Xue, S.J. (2015). "Disinfection efficacy and mechanism of slightly acidic electrolyzed water on *Staphylococcus aureus* in pure culture.", *Food Control*, 60(Article number 4627), pp. 505-510. doi : 10.1016/j.foodcont.2015.08.037

Ding, T., Shi, J., Warriner, K., and Liu, D.H. (2015). "Impact of slightly acidic electrolyzed water and ultrasound on microbial loads and quality of fresh fruits.", *Food Science and Technology - LWT*, 60(2, Part 2), pp. 1194-1199. doi : 10.1016/j.lwt.2014.09.012

Albert Dhayakaran, R.P., Neethirajan, S., Xue, J., and Shi, J. (2015). "Characterization of antimicrobial efficacy of soy isoflavones against pathogenic biofilms.", *Food Science and Technology - LWT*, 63(2), pp. 859-865. doi : 10.1016/j.lwt.2015.04.053

He, S.-D., Simpson, B.K., Ngadi, M.O., Xue, S.J., Shi, J., and Ma, Y. (2015). "pH stability study of lectin from blackturtle bean (*Phaseolus vulgaris*) as influenced by guanidinium-HCl and thermal treatment.", *Protein and Peptide Letters*, 22(1), pp. 45-51.

Liu, T., Wang, H., Kuang, J., Sun, C., Shi, J., Duan, X.W., Qu, H.X., and Jiang, Y.M. (2015). "Short-term anaerobic, pure oxygen and refrigerated storage conditions affect the energy status and selective gene expression in litchi fruit.", *Food Science and Technology - LWT*, 60(2), pp. 1254-1261. doi : 10.1016/j.lwt.2014.09.003

Lin, Y., Lin, Y., Lin, H., Zhang, Shen, Chen, Y., and Shi, J. (2015). "Inhibitory effects of propyl gallate on browning and its relationship to active oxygen metabolism in pericarp of harvested longan fruit.", *Food Science and Technology - LWT*, 60(2), pp. 1122-1128. doi : 10.1016/j.lwt.2014.10.008

2014

Liu, W.L., Zhang, L., Shi, J., and Yi, H.X. (2014). "Effect of complex food environment on production of enteriocin IN 3531 with *enterococcus faecium* IN3531 as a starter in Chinese fermentation paocai making.", *Advanced Materials Research*, 884-885, pp. 429-432. doi : 10.4028/www.scientific.net/AMR.884-885.429

Liu, W.L., Zhang, L., Shi, J., and Yi, H.X. (2014). "Optimization of fermentation conditions for Chinese fermentation paocai with *Enterococcus faecium* IN3531 as a starter by single factor method.", *Advanced Materials Research*, 884-885, pp. 471-474. doi : 10.4028/www.scientific.net/AMR.884-885.471

He, S.-D., Shi, J., Ma, Y., Xue, S.J., Zhang, H.W., and Zhao, S.X. (2014). "Kinetics for the thermal stability of lectin from black turtle bean.", *Journal of Food Engineering*, 142, pp. 132-137. doi : 10.1016/j.jfoodeng.2014.06.008



Liu, W.L., Zhang, L., Yi, H.X., Shi, J., Xue, C., Li, H., Jiao, Y., Shigwedha, N., Du, M., and Han, X. (2014). "Qualitative detection of class IIa bacteriocinogenic lactic acid bacteria from traditional Chinese fermented food using a YGNGV-motif-based assay.", *Journal of Microbiological Methods*, 100(1), pp. 121-127. doi: 10.1016/j.mimet.2014.03.006

## 2013

Yu, D., Ma, Y., Xue, S.J., Jiang, L., Shi, J. (2013). "Characterization of immobilized phospholipase A 1 on magnetic nanoparticles for oil degumming application.", *Food Science and Technology - LWT*, 50(2), pp. 519-525. doi: 10.1016/j.lwt.2012.08.014

Zheng, X., Liu, C., Shi, J., Xue, S.J., Mu, Y., Lin, Z., and Liu, H. (2013). "Analysis of volume expansion and dehydration rate of berry slab under microwave-vacuum puffing conditions.", *Food Science and Technology - LWT*, 52(1), pp. 39-48. doi: 10.1016/j.lwt.2012.11.021

Xu, R.-R., Zhang, Y., Ye, X.-Q., Xue, S.J., Shi, J., Pan, J.-H., and Chen, Q.-P. (2013). "Inhibition effects and induction of apoptosis of flavonoids on the prostate cancer cell line PC-3 in vitro.", *Food Chemistry*, 138(1), pp. 48-53. doi: 10.1016/j.foodchem.2012.09.102

Shi, X.-Q., Wu, H., Shi, J., Xue, S.J., Wang, D., Wang, W.-L., Cheng, A., Gong, Z.-Q., Chen, X.-Y., and Wang, C.-G. (2013). "Effect of modifier on the composition and antioxidant activity of carotenoid extracts from pumpkin (*Cucurbita maxima*) by supercritical CO<sub>2</sub>.", *Food Science and Technology - LWT*, 51(2), pp. 433-440. doi: 10.1016/j.lwt.2012.11.003

Khanal, S., Xue, S.J., Khanal, R., Xie, W., Shi, J., Pauls, K.P., and Navabi, A. (2013). "Quantitative Trait Loci Analysis of Folate Content in Dry Beans, *Phaseolus vulgaris* L.", *International Journal of Agronomy*, 2013(Article ID 983641). doi: 10.1155/2013/983641

Liu, W.L., Zhang, L., Shi, J., and Yi, H.X. (2013). "Detection technique of bacteriocin from lactic acid bacteria and research advance in separation and purification technology.", *Science and Technology of Food Industry*, 22, pp. 414-422.

Lin, S., Wen, L., Yang, B., Jiang, G., Shi, J., Chen, F., and Jiang, Y.M. (2013). "Improved Growth of *Lactobacillus bulgaricus* and *Streptococcus thermophilus* as well as Increased Antioxidant Activity by Biotransforming Litchi Pericarp Polysaccharide with *Aspergillus awamori*.", *BioMed Research International*, 2013(Article No. 413793). doi: 10.1155/2013/413793

He, S.-D., Shi, J., Walid, E., Ma, Y., and Xue, S.J. (2013). "Extraction and purification of a lectin from small black kidney bean (*Phaseolus vulgaris*) using a reversed micellar system.", *Process Biochemistry*, 48(4), pp. 746-752. doi: 10.1016/j.procbio.2013.02.007

Cheng, A., Chen, X.-Y., Jin, Q., Wang, W.-L., Shi, J., and Liu, Y. (2013). "Comparison of the Phenolic Content and Antioxidant Activity of Red and Yellow Onions.", *Czech Journal of Food Sciences*, 31(5), pp. 501-508.

## 2012

Yu, D., Jiang, L., Li, Z., Shi, J., Xue, S.J., and Kakuda, Y. (2012). "Immobilization of Phospholipase A1 and its Application in Soybean Oil Degumming.", *Journal of the American Oil Chemists Society (JAOCS)*, 89(4), pp. 649-656. doi: 10.1007/s11746-011-1943-4

Liu, T.Y., Ma, Y., Xue, S.J., and Shi, J. (2012). "Modifications of structure and physicochemical properties of maize starch by  $\gamma$ -irradiation treatments.", *Food Science and Technology - LWT*, 46(1), pp. 156-163. doi: 10.1016/j.lwt.2011.10.012

Cui, Y., Zhang, C., Wang, Y., Shi, J., Zhang, L., Ding, Z., Qu, X., and Cui, H. (2012). "Class IIa bacteriocins: Diversity and new developments.", *International Journal of Molecular Sciences*, 13(12), pp. 16668-16707. doi: 10.3390/ijms131216668

## 2011

Liu, T.Y., Ma, Y., Yu, S.F., Shi, J., and Xue, S.J. (2011). "The effect of ball milling treatment on structure and porosity of maize starch granule.", *Innovative Food Science and Emerging Technologies*, 12(4), pp. 586-593. doi: 10.1016/j.ifset.2011.06.009

Diop, C.I.K., Li, H.L., Xie, B., and Shi, J. (2011). "Impact of the catalytic activity of iodine on the granule morphology, crystalline structure, thermal properties and water solubility of acetylated corn (*Zea mays*) starch synthesized under microwave assistance.", *Industrial Crops and Products*, 33(2), pp. 302-309. doi: 10.1016/j.indcrop.2010.11.018

Chen, Y., Duan, J., Jiang, Y.M., Shi, J., Peng, L., Xue, S.J., and Kakuda, Y. (2011). "Production, quality, and biological effects of oolong tea (*Camellia sinensis*).", *Food Reviews International*, 27(1), pp. 1-15. doi: 10.1080/87559129.2010.518294

Diop, C.I.K., Li, H.L., Xie, B., and Shi, J. (2011). "Effects of acetic acid/acetic anhydride ratios on the properties of corn starch acetates.", *Food Chemistry*, 126(4), pp. 1662-1669. doi: 10.1016/j.foodchem.2010.12.050

Chen, Y., Jiang, Y.M., Shi, J., Xu, X., Yang, S., and Duan, J. (2011). "Effect of Girdling at Various Positions of 'Huang Zhi Xiang' Tea Tree (*Camellia sinensis*) on the Contents of Catechins and Starch in Fresh Leaf.", *Plant Foods for Human Nutrition*, 66(2), pp. 169-174. doi : 10.1007/s11130-011-0222-8

Diop, C.I.K., Li, H.L., Xie, B., and Shi, J. (2011). "Combinatorial effects of mechanical activation and chemical stimulation on the microwave assisted acetylation of corn (*Zea mays*) starch.", *Starch*, 63(2), pp. 96-105. doi : 10.1002/star.201000106

Dong, X., Zhao, M.M., Shi, J., Yang, B., Li, J., Luo, D., Jiang, G., and Jiang, Y.M. (2011). "Effects of combined high -pressure homogenization and enzymatic treatment on extraction yield, hydrolysis and function properties of peanut proteins.", *Innovative Food Science and Emerging Technologies*, 12(4), pp. 478-483. doi : 10.1016/j.ifset.2011.07.002

Wu, H., Shi, J., Xue, S.J., Kakuda, Y., Wang, D., Jiang, Y.M., Ye, X.Q., Li, Y., and Jayasankar, S. (2011). "Essential oil extracted from peach (*Prunus persica*) kernel and its physicochemical and antioxidant properties.", *Food Science and Technology - LWT*, 44(10), pp. 2032-2039. doi : 10.1016/j.lwt.2011.05.012

Yi, Y., Liao, S.T., Zhang, M.W., Shi, J., Zhang, R.F., Deng, Y.Y., and Wei, Z.C. (2011). "Physicochemical characteristics and immunomodulatory activities of three polysaccharide-protein complexes of longan pulp.", *Molecules*, 16(7), pp. 6148-6164. doi : 10.3390/molecules16076148

Yang, B., Jiang, Y.M., Shi, J., Chen, F., and Ashraf, M. (2011). "Extraction and pharmacological properties of bioactive compounds from longan (*Dimocarpus longan* Lour.) fruit - A review.", *Food Research International*, 44(7), pp. 1837-1842. doi : 10.1016/j.foodres.2010.10.019

Dong, X., Zhao, M.M., Yang, B., Yang, X., Shi, J., and Jiang, Y.M. (2011). "Effect of high-pressure homogenization on the functional property of peanut protein.", *Journal of Food Process Engineering*, 34(6), pp. 2191-2204. doi : 10.1111/j.1745-4530.2009.00546.x

Wang, B., Wang, L.-J., Li, D., Adhikari, B., and Shi, J. (2011). "Effect of gum Arabic on stability of oil-in-water emulsion stabilized by flaxseed and soybean protein.", *Carbohydrate Polymers*, 86(1), pp. 343-351. doi : 10.1016/j.carbpol.2011.04.059

## Other Science Related Publications:

2012

Zvalo, V., Kalt, W., Shi, J., Fillmore, S.A.E., and Owen, J. (2012). "Sweet Potatoes (*Ipomoea batatas*) of Diverse Colours Grown in Atlantic Canada.", 2nd Symposium on Horticulture in Europe (SHE 2012), Angers, France, July 1-5, 2012. (Poster)

Shi, J., Xue, S.J., Ye, X.-Q., Ma, Y., and Jiang, Y.M. (2012). "Separation technology in food processing.", in Simpson, B.K., Nollet, L., Paliyath, G., Benjakul, S. and Toldra, F. (eds.) - *Food Biochemistry and Food Processing*. 2nd Edition, Wiley - Blackwell, Chapter 40, pp. 764-786.

Shi, J., Xue, S.J., Ma, Y., Jiang, Y.M., Ye, X.Q., and Yu, D. (2012). "Green separation technologies in food processing: supercritical-CO<sub>2</sub> fluid and subcritical water extraction.", in Boye, J.I. and Arcand, Y. (eds.) - *Green Technologies in Food Production and Processing (Food Engineering Series)*, Springer, Chapter 11, pp. 273-294.

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## Research Publications:

2015

Delisle, J., Shipp, J.L., and Brodeur, J. (2015). "Apple pollen as a supplemental food source for the control of western flower thrips by two predatory mites, *Amblyseius swirskii* and *Neoseiulus cucumeris* (Acari: Phytoseiidae), on potted chrysanthemum.", *Experimental and Applied Acarology*, 65(4), pp. 495-509. doi : 10.1007/s10493-014-9863-2

Delisle, J., Brodeur, J., and Shipp, J.L. (2015). "Evaluation of various types of supplemental food for two species of predatory mites, *Amblyseius swirskii* and *Neoseiulus cucumeris* (Acari: Phytoseiidae).", *Experimental and Applied Acarology*, 65(4), pp. 483-494. doi : 10.1007/s10493-014-9862-3

Hewitt, L.C., Shipp, J.L., Buitenhuis, R., and Scott-Dupree, C.D. (2015). "Seasonal climatic variations influence the efficacy of predatory mites used for control of western flower thrips in greenhouse ornamental crops.", *Experimental and Applied Acarology*, 65(4), pp. 435-450. doi : 10.1007/s10493-014-9861-4

Buitenhuis, R., Murphy, G., Shipp, J.L., Shipp, J.L., and Scott-Dupree, C.D. (2015). "*Amblyseius swirskii* in greenhouse production systems: a floricultural perspective.", *Experimental and Applied Acarology*, 65(4), pp. 451-464. doi : 10.1007/s10493-014-9869-9

2013

Buitenhuis, R., Shipp, J.L., Scott-Dupree, C.D., Brommit, A., and Lee, W. (2013). "Host plant effects on the behaviour and performance of *Amblyseius swirskii* (Acari: Phytoseiidae).", *Experimental and Applied Acarology*, pp. 1-10. doi : 10.1007/s10493-013-9735-1

2012

Morse, A.P., Kevan, P.G., Shipp, J.L., Khosla, S., and McGarvey, B.D. (2012). "The impact of greenhouse tomato (*Solanale s. Solanaceae*) floral volatiles on bumble bee (*Hymenoptera: Apidae*) pollination.", *Environmental Entomology*, 41(4), pp. 855-864. doi : 10.1603/en11234

Vänninen, I., Pinto, D.M., Nissinen, A.I., Shipp, J.L., and Johansen, N.S. (2012). "Prospecting the use of artificial lighting for integrated pest management", *Acta Horticulturae (ISHS)*, 956, pp. 593-608.

Shipp, J.L., Kapongo, J.-P., Park, H.-H., and Kevan, P.G. (2012). "Effect of bee-vectored *Beauveria bassiana* on greenhouse beneficials under greenhouse cage conditions.", *Biological Control*, 63(2), pp. 135-142. doi : 10.1016/j.biocontrol.2012.07.008

2011

Park, H.-H., Shipp, J.L., Buitenhuis, R., and Ahn, J.J. (2011). "Life history parameters of a commercially available *Amblyseius swirskii* (Acari: Phytoseiidae) fed on cattail (*Typha latifolia*) pollen and tomato russet mite (*Aculops lycopersici*).", *Journal of Asia Pacific Entomology*, 14(4), pp. 497-501. doi : 10.1016/j.aspen.2011.07.010

Ugine, T.A., Sanderson, J.P., Wraight, S.P., Shipp, J.L., Wang, K., and Nyrop, J.P. (2011). "Binomial Sampling of Western Flower Thrips Infesting Flowering Greenhouse Crops using Incidence-Mean Models.", *Environmental Entomology*, 40(2), pp. 381-390. doi : 10.1603/EN10085

Durisko, Z., Shipp, J.L., and Dukas, R. (2011). "Effects of Experience on Short- and Long-term Foraging Performance in Bumblebees.", *Ethology*, 117(1), pp. 49-55. doi : 10.1111/j.1439-0310.2010.01842.x

Johansen, N.S., Vänninen, I., Pinto, D.M., Nissinen, A.I., and Shipp, J.L. (2011). "In the light of new greenhouse technologies: 2. Direct effects of artificial lighting on arthropods and integrated pest management in greenhouse crops.", *Annals of Applied Biology*, 159(1), pp. 1-27. doi : 10.1111/j.1744-7348.2011.00483.x

Shipp, J.L., Johansen, N., Vänninen, I., and Jacobson, R. (2011). "Greenhouse climate: An important consideration when developing pest management programs for greenhouse crops.", *Acta Horticulturae (ISHS)*, 893(1), pp. 133-143.

Gradish, A.E., Scott-Dupree, C.D., Shipp, J.L., Harris, C.R., and Ferguson, G. (2011). "Effect of reduced risk pesticides on greenhouse vegetable arthropod biological control agents.", *Pest Management Science*, 67(1), pp. 82-86. doi : 10.1002/ps.2036

## Other Science Related Publications:

2014

Scott, I.M., Cáceres, L.A., Challa, S., Hannoufa, A., Sumarah, M.W., Tian, L.-N., Shipp, L., and Shipp, J.L. (2014). "Deterring tomato pests by manipulating the flower volatiles.", Joint Annual Meeting of the Entomological Societies of Canada and Saskatchewan. Symposium: Arthropod "omics" – Impact on Management, Saskatoon, Canada, September 26-October 1, 2014, Platform presentation.

2013

Shipp, J.L. (2013). "Bees: The New Pest Control Applicators.", *Innovation Express*, 4(1), pp. 7/8.

2012

Shipp, J.L., Faucher Delisle, J., Brodeur, J., and Hernández, Ó.M. (2012). "Influence of supplemental food sources on predatory mites (*Amblyseius swirskii* and *Neoseiulus cucumeris*) and their control efficacy for western flower thrips.", Entomological Society of America (ESA) 60th Annual Meeting, Knoxville Convention Centre, Knoxville, TN, USA, November 11-14, 2012, #0964.

Traugott, M., Athanassiou, C., Cutler, C.G., Desneux, N., Horowitz, A.R., Meyhöfer, R., Shipp, J.L., Stauffer, C., Weber, D.C., and Zalucki, M.P. (2012). "Editorial 2012: Shaping the profile of *Journal of Pest Science*. (Editorial).", *Journal of Pest Science*, 85(1), pp. 1-3.

Shipp, J.L. (2012). "New developments in bee vectoring technology in Canada.", National Academy of Agricultural Sciences, Rural Development Administration, Suwon, South Korea. (Presentation)

Shipp, J.L. (2012). "Optimization of management practices for biological control of thrips and other important pests of ornamental crops.", Research and Innovation Forum, Canadian Ornamental Science Cluster, Mississauga, ON, Canada, December 5, 2012. (Presentation)

Shipp, J.L. (2012). "Pollinators provide added value: Combining pollination and pest management.", Ontario Greenhouse Vegetable Growers Newsletter, September 2012, pp. 3-4. (Newsletter)

Shipp, J.L. (2012). "The ABC's of thrips.", Canadian Greenhouse Conference (CGC2012), Scotiabank Convention Centre, Niagara Falls, ON, Canada, October 3-4, 2012. (Presentation)

Faucher Delisle, J., Shipp, J.L., and Brodeur, J. (2012). "Le supplément alimentaire: à la rescousse des acariens prédateurs pour augmenter leur contrôle des ravageurs en sericulture.", 139e réunion annuelle de la Société d'entomologie du Québec, Boucherville, QC, Canada, November 1-2, 2012.

Hewitt, L.M., Scott-Dupree, C.D., Shipp, J.L., and Buitenhuis, R. (2012). "Determining the better thrips predator: the effect of seasonal variability on predatory mites in ornamental greenhouse IPM.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012. (Poster)

Hewitt, L.M., Scott-Dupree, C.D., Shipp, J.L., and Buitenhuis, R. (2012). "Some like it hot: the effect of seasonal variability on predatory mites in ornamental greenhouse IPM.", 10th Annual Ontario Pest Management Conference, Victoria East Golf Club, Guelph, ON, Canada, November 8, 2012. (Presentation)

Hewitt, L.M., Scott-Dupree, C.D., Shipp, J.L., and Buitenhuis, R. (2012). "Some like it hot: the effect of seasonal variability on predatory mites in ornamental greenhouse IPM.", Ontario Greenhouse Vegetable Growers Newsletter, December 2012, pp. 3-4. (Newsletter)

Nunes-Silva, P., Shipp, J.L., Hrcir, M., Imperatriz-Fonseca, V.L., and Kevan, P.G. (2012). "Influence of bumblebee behavior on tomato pollination: Effects of number of flower visits and forager body size.", 1st ApiEcoFlora, Kursaal Congress Centre, San Marino, San Marino, October 4-6, 2012. (Poster)

Nasreen, A. and Shipp, J.L. (2012). "Effects of cold storage on quality of the whitefly parasitoids, *Encarsia formosa* and *Eretmocerus eremicus*.", Ontario Greenhouse Vegetable Growers Newsletter, December 2012, pp. 6-7. (Newsletter)

Park, H.-H., Shipp, J.L., Kim, J.-J., and Kevan, P.G. (2012). "Bee-vectoring technology for crop protection and recent studies in Korea.", XXIV International Congress of Entomology (ICE 2012), Daegu, South Korea, August 19-24, 2012. (Presentation)

2011

Shipp, J.L., Zhang, Y., and Park, H.-H. (2011). "Monitoring of western flower thrips under supplemental lighting conditions for greenhouse mini cucumbers.", IOBC/WPRS Working Group: Integrated Control in Protected crops, Temperate Climate 2011, Sutton Scotney, UK, September 18-22, 2011, Published in: IOBC/WPRS, Vol. 68, pp. 173-176.

Buitenhuis, R., Shipp, J.L., Scott-Dupree, C.D., Brommit, A., and Lee, W. (2011). "Can trichome density explain the differences in behaviour and performance of *Amblyseius swirskii* on greenhouse ornamentals?", IOBC/WPRS Working Group: Integrated Control in Protected crops, Temperate Climate 2011, Sutton Scotney, UK, September 18-22, 2011, Published in: IOBC/WPRS, Vol. 68, pp. 29-32.

Shipp, J.L., Hewitt, L.M., Buitenhuis, R., and Scott-Dupree, C.D. (2011). "Does seasonality affect the performance of predatory mites?", 61st Essex County Associated Growers' Annual Trade Show, Leamington, ON, Canada, November 22-23, 2011. (Poster)

Hewitt, L.M., Scott-Dupree, C.D., Shipp, J.L., and Buitenhuis, R. (2011). "Influence of greenhouse climatic parameters on the use of predatory mites for management of western flower thrips (*Frankliniella occidentalis*) on ornamental crops.", Entomological Society of Ontario 148th Annual General Meeting, Brock University, St. Catharines, ON, Canada, October 21-23, 2011. (Poster)

Shipp, J.L., Morse, A., Kevan, P.G., and McGarvey, B.D. (2011). "Impact of greenhouse tomato floral volatiles on bumble bee pollination.", Xth ICPBR IICPBR Pollination Symposium, Cholula, México, June 27-29, 2011.

Nunes-Silva, P., Hmrcir, M., Shipp, J.L., Kevan, P.G., and Imperatriz-Fonseca, V.L. (2011). "The potential use of *Melipona fasciculata*, a stingless bee, for buzz pollination: What do vibration characteristics tell us?", Xth ICPBR IICPBR Pollination Symposium, Cholula, México, June 27-29, 2011.

Shipp, J.L. (2011). "Bee vectoring of fungal biocontrol agents and design of optimal inoculum dispenser.", National Biopesticide Priority Setting Workshop, AAFC Pest Management Centre, Ottawa, ON, Canada. (Presentation)

Nasreen, A., Shipp, J.L., and Ferguson, G. (2011). "Effects of cold storage on quality of whitefly parasitoids.", 61st Essex County Associated Growers' Annual Trade Show, Leamington, ON, Canada, November 22-23, 2011. (Presentation)

Shipp, J.L. (2011). "Using bumble bees as an application strategy for microbial agents for biological control of arthropod pests and disease suppression in greenhouse and outdoor crops.", Seminar to the Institute of Apiculture, Chinese Academy of Agricultural Sciences, Beijing, China. (Presentation)

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## Research Publications:

2015

Simard, M.-J., Nurse, R.E., and Darbyshire, S.J. (2015). "Emergence pattern and seed production of a Canadian woolly cupgrass (*Eriochloa villosa*) population in legume forage.", *Canadian Journal of Plant Science*, 95(3), pp. 539-548. doi : 10.4141/CJPS-2014-317

Tardif-Paradis, C., Simard, M.-J., Leroux, G.D., Panneton, B., Nurse, R.E., and Vanasse, A. (2015). "Effect of planter and tractor wheels on row and inter-row weed populations.", *Crop Protection*, 71, pp. 66-71. doi : 10.1016/j.cropro.2015.01.026

2014

Longchamps, L., Panneton, B., Simard, M.-J., and Leroux, G.D. (2014). "An Imagery-based Weed Cover Threshold Established Using Expert Knowledge.", *Weed Science*, 62(1), pp. 177-185. doi : 10.1614/WS-D-13-00050.1

Darbyshire, S.J. and Simard, M.-J. (2014). "Pastinaca sativa - contribution to the CABI Invasive Species Compendium – a web-based database (<http://www.cabi.org/isc/>)."

Longchamps, L., Panneton, B., Simard, M.-J., and Leroux, G.D. (2014). "Spatial aggregation of broadleaf and grass weeds in corn fields and its impact on site-specific weed management.", in Gonzales-de-Santos, P. and Ribeiro, A. (eds.) - *Second International Conference on Robotics and associated High-technologies and Equipment for Agriculture and forestry*, May 21-23, Madrid.

2013

Darbyshire, S.J., Simard, M.-J., and Nurse, R.E. (2013). "The Spikelet Callus of *Eriochloa villosa* (Poaceae).", *Journal of the Botanical Research Institute of Texas (BRIT)*, 7(2), pp. 697-702.

Longchamps, L., Panneton, B., Simard, M.-J., and Leroux, G.D. (2013). "A technique for high-accuracy ground-based continuous weed mapping at field scale.", *Transactions of the ASABE*, 56(6), pp. 1523-1533. doi : 10.13031/trans.56.10110

Simard, M.-J., Darbyshire, S.J., and Nurse, R.E. (2013). "Comparative seed predation of woolly cupgrass (*Eriochloa villosa*) and yellow foxtail (*Setaria pumila*) along a field border in Canada.", *Weed Biology and Management*. doi : 10.1111/wbm.12018

2012

Longchamps, L., Panneton, B., Simard, M.-J., and Leroux, G.D. (2012). "Could weed sensing in corn interrows result in efficient weed control?", *Weed Technology*, 26(4), pp. 649-656. doi : 10.1614/WT-D-12-00030.1

Francis, A., Darbyshire, S.J., Légère, A., and Simard, M.-J. (2012). "The Biology of Canadian Weeds. 151. *Erodium cicutarium* (L.) L'Hér. Ex Aiton.", *Canadian Journal of Plant Science*, 92(7), pp. 1359-1380. doi : 10.4141/CJPS2012-076

Simard, M.-J. and Benoît, D.-L. (2012). "Potential Pollen and Seed Production from Early- and Late-emerging Common Ragweed in Corn and Soybean.", *Weed Technology*, 26(3), pp. 510-516. doi : 10.1614/WT-D-11-00178.1

Masson, E., Nolwenn, N., Benoît, D.-L., Pinsonneault, L., Groulx, J., Hénault, G., and Simard, M.-J. (2012). "Assessment of the effectiveness of a mobilization project for the control of ragweed on the quality of life of allergic individuals.", *Ambrosie*, 27, pp. 33-42.

De Rainville, F.-M., Durand, A., Fortin, F.-A., Tanguy, K., Maldague, X., Panneton, B., and Simard, M.-J. (2012). "Bayesian classification and unsupervised learning for isolating weeds in row crops.", *Pattern Analysis & Applications*. doi : 10.1007/s10044-012-0307-5

2011

Simard, M.-J., Rouane, S., and Leroux, G.D. (2011). "Herbicide Rate, Glyphosate/Glufosinate Sequence and Corn/Soybean Rotation Effects on Weed Seed Banks.", *Weed Science*, 59(3), pp. 398-403. doi : 10.1614/WS-D-10-00162.1

Simard, M.-J. and Benoît, D.-L. (2011). "Effect of repetitive mowing on common ragweed (*Ambrosia artemisiifolia* L.) pollen and seed production.", *Annals of Agricultural and Environmental Medicine (AAEM)*, 18(1), pp. 55-62.

## Other Science Related Publications:

2015

Panneton, B., Bizeau, A., and Simard, M.-J. (2015). "A 3D view of weeds in horticultural crops.", Weed Science Society of America meeting 2014, Lexington, Kentucky, USA, February 9-13, 2015. (Poster)

Simard, M.-J. and Lambert-Beaudet, C. (2015). "Weed seed survival in corn and alfalfa silage.", Weed Science Society of America meeting 2014, Lexington, Kentucky, USA, February 9-13, 2015, Oral presentation.

2014

Simard, M.-J. (2014). "Suivre le développement des mauvaises herbes résistantes aux herbicides pour agir à temps.", Les journées horticoles – Journée Lutte intégrée, Saint-Rémi, Québec, Canada, December 4, 2014.

Simard, M.-J. and Bernier, D. (2014). "Herbicide resistance in Québec: More suspects, more cases.", Canadian Weed Science Society meeting 2014, Montreal, Canada, November 16-19, 2014. (Poster)

Bernier, D. and Simard, M.-J. (2014). "Situation des mauvaises herbes résistantes aux herbicides au Québec : saison 2012-2013.", Société de Protection des Plantes du Québec, Saint-Marc-sur-Richelieu, Québec, Canada, June 10-12, 2014.

Lafrance, P., Simard, M.-J., Bégin, G., Thériault, G., and van Bochove, É. (2014). "Efficiency of two types of vegetated buffer zones to limit the transfer of glyphosate and AMPA by runoff towards surface water.", Canadian Weed Science Society meeting 2014, Montreal, Canada, November 16-19, 2014. (Poster)

Hall, L.M., Alexander, B.C.S., Beckie, H.J., Simard, M.-J., Clements, D.R., Nurse, R.E., and Lewis, M. (2014). "There is more to fitness than fecundity: demographic analysis to evaluate genetically modified crops.", ISBGMO, South Africa, November 2014. (Abstract)

Hall, L.M., Alexander, B.C.S., Beckie, H.J., Simard, M.-J., Clements, D.R., Nurse, R.E., and Lewis, M. (2014). "There is more to fitness than fecundity: invasiveness of GM crops.", Crop Sci. Soc. Amer., Long Beach, CA, USA, November, 2014. (Abstract)

Clements, D.R., Beckie, H.J., Hall, L.M., Nurse, R.E., Simard, M.-J., Raatz, L.L., and Alexander, B.C.S. (2014). "Quantifying the relative invasive potential of genetically modified crops using demographic analysis.", 2014 WSSA/CWSS Annual Meeting, Vancouver, B.C., Canada, February 3-6, 2014. (Abstract)

2013

Simard, M.-J. (2013). "L'ériochloé velue (*Eriochloa villosa*) (graminée), une nouvelle mauvaise herbe à surveiller.", 20e séminaire du CRDSGC / 20th seminar of SCRDC, Centre de Recherche et de Développement sur les Sols et les Grandes Cultures/ Soils and Crops Research and Development Centre, Québec, QC, Canada, March 14, 2013. (Presentation)

2012

Simard, M.-J., Darbyshire, S.J., and Nurse, R.E. (2012). "Emergence pattern and fitness of a Canadian woolly cupgrass (*Eriochloa villosa*) population.", Weed Science Society of America Meeting, Waikoloa, Hawaii, USA, February 7-10, 2012. (Abstract)

Alexander, B.C.S., Beckie, H.J., Simard, M.-J., Nurse, R.E., Clements, D.R., and Hall, L.M. (2012). "Quantification of invasiveness in crops using demographic analysis.", 2nd International Symposium on Biosafety of Genetically Modified Organisms (ISBGMO12), St Louis, Missouri, USA, September, 2012. (Abstract)

Simard, M.-J., Panneton, B., Tardif-Paradis, C., Leroux, G.D., Nurse, R.E., and Vanasse, A. (2012). "Do unseeded corn or soybean rows have more weeds?", Canadian Weed Science Society 66th Annual Meeting, Fairmont Hotel, Winnipeg, MB, Canada, November 12-15, 2012. (Abstract)

Longchamps, L., Panneton, B., Simard, M.-J., and Leroux, G.D. (2012). "Development of a quick diagnosis method to target fields with better potential for site-specific weed management.", 11th International Conference on Precision Agriculture (ICPA), Indianapolis, IN, USA, July 15-18, 2012. (Abstract)

Nadeau, M.-J., Masson, E., Noisel, N., Groulx, J., Hénault, G., Benoît, D.-L., Simard, M.-J., and LaFlamme, L. (2012). "Projet herbe à poux 2007-2010. Résumé scientifique – Phase I.", published by Agence de santé et des services sociaux de la Montérégie, Direction de santé publique, QC, Canada, 12 pages, ISBN 9782550628927. (Technology transfer)

Longchamps, L., Panneton, B., Simard, M.-J., and Leroux, G.D. (2012). "Row versus inter-row weed cover in rainfed corn fields.", Weed Science Society of America Meeting, Waikoloa, Hawaii, USA, February 7-10, 2012. (Abstract)

2011

Simard, M.-J., Rouane, S., and Leroux, G.D. (2011). "Effect of Herbicide Rate and Rotation on the Weed Seed Bank After Three Years of Transgenic Corn/soybean Cropping.", 51st Annual Meeting of the Weed Science Society of America (WSSA), Hilton Portland & Executive Tower Hotel, Portland, OR, USA, February 7-10, 2011. (Poster)

Nadeau, M.-J., Masson, E., Noisèl, N., Groulx, J., Potvin, P., Benoît, D.-L., and Simard, M.-J. (2011). "Projet Herbe à poux 2007-2010. Réduire le pollen de l'herbe à poux : mission réaliste. Faits Saillants.", published by Agence de santé et des services sociaux de la Montérégie, Direction de santé publique, QC, Canada, 4 pages, 11-244-01F. (Technology transfer)

Benoît, D.-L. and Simard, M.-J. (2011). "Common ragweed densities in two municipalities in Quebec with and without control programs.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 60. (Poster)

Simard, M.-J., Panneton, B., Leroux, G.D., Vanasse, A., and Nurse, R.E. (2011). "Can Inter-row Soil Disturbance at Seeding Lead to Efficient Localized Weed Control Using Plant Cover Detection?", 51st Annual Meeting of the Weed Science Society of America (WSSA), Hilton Portland & Executive Tower Hotel, Portland, OR, USA, February 7-10, 2011. (Poster)

Benoît, D.-L. and Simard, M.-J. (2011). "Ragweed pollen concentrations following a three year control program in two municipalities in southwestern Quebec.", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 59. (Poster)



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## Research Publications:

2014

Zhang, Y., Schemthaler, J.P., Labbé, N.M., Hefford, M.A., Zhao, J., and Simmonds, D.H. (2014). "Improved Protein Quality in Transgenic Soybean Expressing a De Novo Synthetic Protein, MB-16.", *Transgenic Research*, 23(3), pp. 455-467. doi : 10.1007/s1248-013-9777-5

Calla, B., Blahut-Beatty, L., Koziol, L., Zhang, Y., Neece, D.J., Carbajulca, D., Garcia, A., Simmonds, D.H., and Clough, S.J. (2014). "Genomic evaluation of oxalate-degrading transgenic soybean in response to *Sclerotinia sclerotiorum* infection.", *Molecular Plant Pathology*, 15(6), pp. 563-575. doi : 10.1111/mpp.12115

Calla, B., Blahut-Beatty, L., Koziol, L., Simmonds, D.H., and Clough, S.J. (2014). "Transcriptome analyses suggest a disturbance of iron homeostasis in soybean leaves during white mold disease establishment.", *Molecular Plant Pathology*, 15(6), pp. 576-588. doi : 10.1111/mpp.12113

2013

Zhang, Y., Itaya, A., Fu, P., Zheng, S.Q., Hulm, J., Blahut-Beatty, L., Marillia, E.-F., Lindenbaum, M., Fabijanski, S.F., and Simmonds, D.H. (2013). "Generation of stable engineered chromosomes in soybean.", *Plant Biotechnology Journal*, 30(5), pp. 455-464. doi : 10.5511/plantbiotechnology.13.0704b

2012

Srouf, A., Afzal, A.J., Blahut-Beatty, L., Hemmati, N., Simmonds, D.H., Li, W.B., Liu, M., Town, C.D., Sharma, H., Arelli, P., and Lightfoot, D.A. (2012). "The receptor like kinase at Rhg1-a/Rfs2 caused pleiotropic resistance to sudden death syndrome and soybean cyst nematode as a transgene by altering signaling responses.", *BMC Genomics*, 13, pp. 368-377. doi : 10.1186/1471-2164-13-368

Chai, T.-T., Simmonds, D.H., Day, D.A., Colmer, T.D., and Finnegan, P.M. (2012). "A GmAOX2b antisense gene compromises vegetative growth and seed production in soybean.", *Planta*, 236(1), pp. 199-207. doi : 10.1007/s00425-012-1601-6

2011

Li, R.G., Bancroft, B., Hutcheon, C., Zhao, S., Zheng, S.Q., Blahut-Beatty, L., De Rocher, J., and Simmonds, D.H. (2011). "Multiple inserts of gene of interest (GOI) and selectable marker gene (SMG) are co-integrated and stably transmitted as a single genetic locus in transgenic soybean plants.", *In Vitro Cellular & Developmental Biology - Plant*, 47(2), pp. 274-281. doi : 10.1007/s11627-011-9359-2

## Other Science Related Publications:

2014

Blahut-Beatty, L., Koziol, L., Calla, B., Buchwaldt, L., Neece, D.J., Clough, S.J., and Simmonds, D.H. (2014). "Strategies to identify functionally significant defense genes against *Sclerotinia sclerotiorum*.", *Bloomington, MN, USA, January 22-24, 2014*, pp. 32.

Simmonds, D.H., Calla, B., Blahut-Beatty, L., Koziol, L., Buchwaldt, L., Neece, D.J., and Clough, S.J. (2014). "Gene expression studies to identify and verify the function of soybean defense genes against *Sclerotinia sclerotiorum*.", *2nd Plant Genomics Congress, Europe, London, UK, May 11-14, 2014*. (Poster)

Clough, S.J., Calla, B., Blahut-Beatty, L., Koziol, L., Neece, D.J., and Simmonds, D.H. (2014). "Utilizando dados de expressão de RNA para identificar genes e mecanismos envolvidos na defesa da soja a *Sclerotinia sclerotiorum*.", *Londrina, Brazil, August 17-22, 2014*.

Simmonds, D.H., Calla, B., Blahut-Beatty, L., Koziol, L., Buchwaldt, L., Neece, D.J., and Clough, S.J. (2014). "Gene expression studies to identify and verify the function of soybean defense genes against *Sclerotinia sclerotiorum*.", *15th Biennial Conference Molecular and Cellular Biology of the Soybean, Minneapolis, Minnesota, USA, August 3-6, 2014*, pp. 44.

2011

Calla, B., Blahut-Beatty, L., Koziol, L., Neece, D.J., Clough, S.J., and Simmonds, D.H. (2011). "Identification of candidate defence-related genes to *Sclerotinia sclerotiorum* in soybean and functional analysis in soybean and *Arabidopsis*.", Botrytis-Sclerotinia Post-Genome Workshop, Lyon, France, September 15-17, 2011. (Presentation)

Blahut-Beatty, L., Koziol, L., Calla, B., Neece, D.J., Radwan, O., Clough, S.J., and Simmonds, D.H. (2011). "Functional verification of candidate defense-related genes to *Sclerotinia sclerotiorum* in soybean and *Arabidopsis*.", National Sclerotinia Initiative Annual Meeting, Bloomington, MN, USA, January 19-21, 2011. (Presentation)

Simmonds, D.H. (2011). "Functional verification of candidate defense-related genes to *Sclerotinia sclerotiorum* in soybean and *Arabidopsis*.", National Sclerotinia Initiative 7th Annual Meeting, Bloomington, MN, USA, January 19-21, 2011, pp. 12. (Poster)

Simmonds, D.H., Zhang, Y., Calla, B., Fu, P., Blahut-Beatty, L., Zheng, S.Q., Itaya, A., Koziol, L., Simmonds, J.A., Neece, D.J., Fabijanski, S.F., Clough, S.J., and Lindenbaum, M. (2011). "Induced resistance to pests in crop plants modified with Oxalate Oxidase: identification of candidate defence-related genes and a strategy for gene stacking.", Biotechnology Havana 2011, Havana, Cuba, November 28-December 3, 2011.

Calla, B., Neece, D.J., Blahut-Beatty, L., Koziol, L., Simmonds, D.H., and Clough, S.J. (2011). "Identification of a soybean G-protein coupled receptor and its role in plant defense responses.", Plant Biology 2011, Minneapolis, MN, USA, August 6-10, 2011. (Poster)

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## Research Publications:

2016

Singh, A.K., Knox, R.E., Clarke, J.M., Clarke, F.R., Singh, A., DePauw, R.M., and Cuthbert, R.D. (2016). "Genetics of pre-harvest sprouting resistance in a cross of Canadian adapted durum wheat genotypes.", *Molecular Breeding*, 33(4), pp. 919-929. doi : 10.1007/s11032-013-0006-y

2015

Singh, A.K., Clarke, J.M., DePauw, R.M., Knox, R.E., McCaig, T.N., and Cuthbert, R.D. (2015). "AAC Current Durum Wheat.", *Canadian Journal of Plant Science*, 95(3), pp. 589-594. doi : 10.4141/CJPS-2014-326

Singh, A.K., Clarke, J.M., Knox, R.E., DePauw, R.M., Wise, I.L., Thomas, J.B., McCaig, T.N., Cuthbert, R.D., Clarke, F.R., and Fernandez, M.R. (2015). "AAC Marchwell durum wheat.", *Canadian Journal of Plant Science*, 95(1), pp. 189-195. doi : 10.4141/cjps-2014-223

2014

DePauw, R.M., Knox, R.E., Cuthbert, R.D., Singh, A.K., and McCaig, T.N. (2014). "AAC Bailey hard red spring wheat.", *Canadian Journal of Plant Science*, 94(1), pp. 175-181. doi : 10.4141/cjps2013-252

Fernandez, M.R., May, W.E., Chalmers, S., Savard, M.E., and Singh, A.K. (2014). "Are early foliar fungicide applications on durum wheat grown in southeast Saskatchewan beneficial in increasing grain productivity?", *Canadian Journal of Plant Science*, 94(5), pp. 891-903. doi : 10.4141/CJPS2013-325

Fernandez, M.R., Fox, S.L., Hucl, P.J., Singh, A.K., and Stevenson, F.C. (2014). "Root rot severity and fungal populations in spring common, durum and spelt wheat, and Kamut grown under organic management in western Canada.", *Canadian Journal of Plant Science*, 94(5), pp. 937-946. doi : 10.4141/CJPS2013-359

Fernandez, M.R., Fox, S.L., Hucl, P.J., and Singh, A.K. (2014). "Leaf spotting reaction of spring common, durum and spelt wheat, and Kamut under organic management in western Canada.", *Canadian Journal of Plant Science*, 94(5), pp. 929-935. doi : 10.4141/CJPS2013-310

Singh, A., Knox, R.E., DePauw, R.M., Singh, A.K., Cuthbert, R.D., Campbell, H.L., Shorter, S., and Bhavani, S. (2014). "Stripe rust and leaf rust resistance QTL mapping, epistatic interactions, and co-localization with stem rust resistance loci in spring wheat evaluated over three continents.", *Theoretical and Applied Genetics (TAG)*, 127(11), pp. 2465-2477. doi : 10.1007/s00122-014-2390-z

Singh, A.K., Clarke, J.M., Knox, R.E., DePauw, R.M., McCaig, T.N., Cuthbert, R.D., Clarke, F.R., and Fernandez, M.R. (2014). "AAC Raymore durum wheat.", *Canadian Journal of Plant Science*, 94(7), pp. 1289-1296. doi : 10.4141/CJPS-2014-048

2013

Fu, B.X., Schlichting, L., Pozniak, C.J., and Singh, A.K. (2013). "Pigment loss from semolina to dough: Rapid measurement and relationship with pasta colour.", *Journal of Cereal Science*. doi : 10.1016/j.jcs.2013.03.007

Singh, A., Pandey, M.P., Singh, A.K., Knox, R.E., Ammar, K., Clarke, J.M., Clarke, F.R., Singh, R.P., Pozniak, C.J., DePauw, R.M., McCallum, B.D., Cuthbert, R.D., Randhawa, H.S., and Fetch Jr., T.G. (2013). "Identification and mapping of leaf, stem and stripe rust resistance quantitative trait loci and their interactions in durum wheat.", *Molecular Breeding*, 31(2), pp. 405-418. doi : 10.1007/s11032-012-9798-4

He, Y., Wei, Y., DePauw, R.M., Qian, B., Lemke, R.L., Singh, A.K., Cuthbert, R.D., McConkey, B.G., and Wang, H. (2013). "Yield production of spring wheat in the semiarid prairie: effect of timing of precipitation and soil texture over 30 years.", *Field Crops Research*, 149, pp. 329-337. doi : 10.1016/j.fcr.2013.05.013

Randhawa, H.S., Asif, M., Pozniak, C.J., Clarke, J.M., Graf, R.J., Fox, S.L., Humphreys, D.G., Knox, R.E., DePauw, R.M., Singh, A.K., Cuthbert, R.D., Hucl, P.J., and Spaner, D.M. (2013). "Application of Molecular Markers for Wheat Breeding in Canada.", *Plant Breeding*, 132(5), pp. 458-471. doi : 10.1111/pbr.12057

Singh, A., Knox, R.E., DePauw, R.M., Singh, A.K., Cuthbert, R.D., Campbell, H.L., Singh, D., Bhavani, S., Fetch Jr., T.G., and Clarke, F.R. (2013). "Identification and mapping in spring wheat of genetic factors controlling stem rust resistance and the study of their epistatic interactions across multiple environments.", *Theoretical and Applied Genetics (TAG)*, 126(8), pp. 1951-1964. doi : 10.1007/s00122-013-2109-6

## 2012

Singh, A.K., Clarke, J.M., Knox, R.E., DePauw, R.M., McCaig, T.N., Fernandez, M.R., and Clarke, F.R. (2012). "Transcend Durum wheat.", *Canadian Journal of Plant Science*, 92(4), pp. 809-813. doi : 10.4141/cjps2011-255

Knox, R.E., Clarke, F.R., Clarke, J.M., Fox, S.L., DePauw, R.M., and Singh, A.K. (2012). "Enhancing the identification of genetic loci and transgressive segregants for preharvest sprouting resistance in a durum wheat population.", *Euphytica*, 186(1), pp. 193-206. doi : 10.1007/s10681-011-0557-0

Isidro, J., Knox, R.E., Clarke, F.R., Singh, A.K., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2012). "Quantitative genetic analysis and mapping of leaf angle in durum wheat.", *Planta*, 236(6), pp. 1713-1723. doi : 10.1007/s00425-012-1728-5

DePauw, R.M., Knox, R.E., Singh, A.K., Fox, S.L., Humphreys, D.G., and Hucl, P.J. (2012). "Developing standardized methods for breeding preharvest sprouting resistant wheat, challenges and successes in Canadian wheat.", *Euphytica*, 188(1), pp. 7-14. doi : 10.1007/s10681-011-0611-y

Cruz, A.F., Hamel, C., Yang, C., Mastubara, T., Gan, Y.T., Singh, A.K., Kuwada, K., and Ishii, T. (2012). "Phytochemicals to suppress Fusarium head blight in wheat-chickpea rotation.", *Phytochemistry*, 78, pp. 72-80. doi : 10.1016/j.phytochem.2012.03.003

Singh, A.K., Hamel, C., DePauw, R.M., and Knox, R.E. (2012). "Genetic variability in arbuscular mycorrhizal fungi compatibility supports the selection of durum wheat genotypes for enhancing soil ecological services and cropping systems in Canada.", *Canadian Journal of Microbiology*, 58(3), pp. 293-302. doi : 10.1139/W11-140

Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., Krishna, P., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2012). "Brassinosteroid leaf unrolling QTL mapping in durum wheat.", *Planta*, 236(1), pp. 273-281. doi : 10.1007/s00425-012-1603-4

## 2011

Fu, B.X., Schlichting, L., Pozniak, C.J., and Singh, A.K. (2011). "A fast, simple, and reliable method to predict pasta yellowness.", *Cereal Chemistry*, 88(3), pp. 264-270. doi : 10.1094/CCHEM-12-10-0173

Singh, A.K., Coleman, T.K., Tollenaar, M., and Lee, E.A. (2011). "Nature of the Genetic Variation in an Elite Maize Breeding Cross.", *Crop Science*, 51(1), pp. 75-83. doi : 10.2135/cropsci2010.06.0378

DePauw, R.M., Knox, R.E., Humphreys, D.G., Thomas, J.B., Fox, S.L., Brown, P.D., Singh, A.K., Pozniak, C.J., Randhawa, H.S., Fowler, D.B., Graf, R.J., and Hucl, P.J. (2011). "New breeding tools impact Canadian commercial farmer fields.", *Czech Journal of Genetics and Plant Breeding (CJGPB)*, 47(Spec. Issue 1), pp. S28-S34.

## Other Science Related Publications:

### 2014

Biswas, D.K., Ashe, P., Shaterian, H., Sudarshan, G.P., He, Y., Knox, R.E., DePauw, R.M., Wang, H., Cuthbert, R.D., Singh, A.K., and Selvaraj, G. (2014). "Phenotypic, physiological and molecular responses of a selected collection of common wheat (*Triticum aestivum* L.) and durum wheat [*Triticum turgidum* L. ssp. *Durum* (Desf.) Husn.] lines to drought stress under laboratory conditions.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Kumar, S., Knox, R.E., Clarke, F.R., Clarke, J.M., Pozniak, C.J., Isidro, J., Singh, A.K., Cuthbert, R.D., DePauw, R.M., Campbell, H.L., and Somers, D.J. (2014). "QTL mapping for resistance to loose smut in a durum wheat doubled haploid population.", CSA/CSHS Conference, Lethbridge, Alberta, Canada, July 10-14, 2014.

Knox, R.E., Kumar, S., Fetch Jr., T.G., Singh, A.K., Clarke, J.M., DePauw, R.M., Cuthbert, R.D., Campbell, H.L., Singh, D., Bhavani, S., Pozniak, C.J., and Clarke, F.R. (2014). "Identification of Quantitative Trait Loci for Stem Rust Resistance in Durum Wheat.", Canadian Wheat Alliance Annual Science Meeting 2014, Saskatoon, Canada, April 2014.

Knox, R.E., Singh, A., Kumar, S., DePauw, R.M., Clarke, F.R., Cuthbert, R.D., Singh, A.K., Pozniak, C.J., and Campbell, H.L. (2014). "Epistasis and Preliminary Fine Mapping of Quantitative Trait Loci for Common Bunt Resistance.", XXII International Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2014.

DePauw, R.M., Cuthbert, R.D., Knox, R.E., Kumar, S., Singh, A., Singh, A.K., Campbell, H.L., Bhavani, S., Singh, D., Clarke, F.R., and Fetch Jr., T.G. (2014). "Evidence for Recombination of Sr2 and Fhb1.", Borlaug Global Rust Initiative (BGRI) Technical Workshop 2014, CIMMYT, México, March 2014.

## 2013

Singh, A., DePauw, R.M., Knox, R.E., Cuthbert, R.D., Singh, A.K., Singh, D., Bhavani, S., Fetch Jr., T.G., and Campbell, H.L. (2013). "Identification and mapping of genetic factors controlling stem rust resistance in spring wheat and the study of their epistatic interactions across multiple environments.", 5th BGRI Workshop, New Delhi, India, August 19-22, 2013.

Isidro, J., Knox, R.E., Clarke, F.R., Singh, A.K., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2013). "Quantitative trait loci for chlorophyll content in durum wheat.", XXI Plant and Animal Genome Conference, San Diego, CA, USA, January 12-16, 2013.

Feurtado, J.A., Huang, D., Jaradat, M.R., Singh, A.K., Knox, R.E., and Cutler, A. (2013). "Drought Stress Response in Flag Leaves of Canadian Durum Wheat", Canadian Plant Genomics Workshop, Halifax, NF, Canada, August 12-15, 2013.

Knox, R.E., Menzies, J.G., and Singh, A.K. (2013). "DNA markers associated with ergot resistance in durum wheat.", 2nd Conference of Cereal Biotechnology and Breeding, Budapest, Hungary, November 5-7, 2013. (Abstract)

Singh, A., Knox, R.E., DePauw, R.M., Cuthbert, R.D., Singh, A.K., Shorter, S., Campbell, H., and Bhavani, S. (2013). "Identification and mapping of genetic factors controlling stripe and leaf rust resistance in spring wheat.", 5th BGRI Workshop, New Delhi, India, August 19-22, 2013.

## 2012

Knox, R.E., Hucl, P.J., Cuthbert, R.D., Singh, A.K., Clarke, F.R., DePauw, R.M., Pozniak, C.J., Fox, S.L., Humphreys, D.G., Clarke, J.M., Randhawa, H.S., Spaner, D.M., McCartney, C., Gaudet, D.A., Menzies, J.G., Gilbert, J.R., Fetch Jr., T.G., McCallum, B.D., and Brûlé-Babel, A.L. (2012). "Phenomics.", Canadian Triticum Advancement through Genomics (CTAG) annual meeting 2014, Saskatoon, SK, Canada.

Singh, A., DePauw, R.M., Knox, R.E., Cuthbert, R.D., Singh, A.K., Singh, D., Bhavani, S., Fetch Jr., T.G., and Campbell, H.L. (2012). "Mapping of stem rust resistance QTL and study of their epistatic interactions in hexaploid wheat (*Triticum aestivum* L.).", Borlaug Global Rust Initiative (BGRI) Technical Workshop, Beijing, China, September 1-4, 2012.

DePauw, R.M., McCallum, B.D., Voldeng, H.D., Knox, R.E., Edwards, N., Hatcher, D., Fetch Jr., T.G., Lukow, O.M., Fox, S.L., Pozniak, C.J., Hucl, P.J., Comeau, A., and Singh, A.K. (2012). "Canadian Triticologists: The Game Changers!", Canadian Journal of Plant Science, 92, pp. 593. (Abstract)

Humphreys, D.G., DePauw, R.M., Knox, R.E., Singh, A.K., Cuthbert, R.D., Fox, S.L., and Randhawa, H.S. (2012). "Weathering and pre-harvest sprouting resistance.", Canadian Journal of Plant Science, 92, pp. 593. (Abstract)

Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2012). "Mapping quantitative trait loci for leaf angle in durum wheat.", Canadian Journal of Plant Science, 92, pp. 593. (Abstract)

Singh, A., Pandey, M.P., Singh, A.K., Clarke, J.M., Knox, R.E., Ammar, K., Singh, R.P., Pozniak, C.J., DePauw, R.M., Clarke, F.R., McCallum, B.D., Cuthbert, R.D., and Randhawa, H.S. (2012). "Molecular mapping of leaf rust and stripe rust resistance QTL in durum wheat.", Canadian Journal of Plant Science, 92, pp. 593. (Abstract)

DePauw, R.M., He, Y., Wang, H., Cutforth, H.W., Cuthbert, R.D., Singh, A.K., and Knox, R.E. (2012). "Pressures On Wheat To Produce Safe, Nutritious And Affordable Quantities At Sustainable Prices For Producers—Adapting to Change. Adapting Crops to Change—Technology Transfer in the 21st Century.", CSA-CSHS-CCA-AIC Conference, University of Saskatchewan, Saskatoon, Saskatchewan, Canada, July 16-19, 2012.

Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2012). "Leaf angle and its relationship with brassinosteroid response loci in durum wheat.", XX Plant and Animal Genome Conference, San Diego, CA, USA, January 14-18, 2012.

## 2011

Singh, A.K., Knox, R.E., DePauw, R.M., Clarke, F.R., Martin, R.A., Xue, A.G., Gilbert, J., Brûlé-Babel, A.L., Campbell, H., and Cuthbert, R.D. (2011). "Validation of molecular markers linked to Sumai 3 resistance to DON and FDK in Canadian spring wheat populations.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 106.

Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2011). "Leaf angle and its relationship with brassinosteroid response loci in durum wheat.", Plant & Animal Genome XX Conference, Town & Country Convention Center, San Diego, CA, USA, January 14-18, 2012.

Haber, S.M., Gilbert, J., and Singh, A.K. (2011). "On the 'Express Route' to fusarium head blight resistance in durum wheat.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 68.

DePauw, R.M., Somers, D.J., Cuthbert, R.D., McCallum, B.D., Knox, R.E., Voldeng, H.D., Humphreys, D.G., Fox, S.L., Singh, A.K., McCartney, C.A., and Fedak, G. (2011). "Are QTLs for fusarium head blight response additive?", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 70.

Fernandez, M.R., May, W.E., Chalmers, S., Savard, M.E., and Singh, A.K. (2011). "Effectiveness of fungicide applications at various growth stages on head/kernel diseases, and productivity of durum wheat in southern Saskatchewan.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp.87.

DePauw, R.M., Singh, A., Singh, A.K., Knox, R.E., Singh, D., Bhavani, S., and Fetch Jr., T.G. (2011). "The SrCad and Sr2 locus influences reaction to stripe rust and Fusarium head blight.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, Poster #60. (Poster)

Fox, S.L., DePauw, R.M., Humphreys, D.G., Hucl, P.J., Singh, A.K., Pozniak, C.J., Brown, P.D., Graf, R.J., Randhawa, H.S., Voldeng, H.D., McCartney, C.A., Hiebert, C.W., Knox, R.E., Thomas, J.B., Townley-Smith, L., and Fetch Jr., T.G. (2011). "Canadian initiatives in breeding for stem rust resistance to race Ug99 and variants.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, pp. 121-126.

Knox, R.E., DePauw, R.M., Singh, A., Singh, A.K., Singh, D., Bhavani, S., Fetch Jr., T.G., and Campbell, H. (2011). "Investigating the role of SrCad and Sr2 on stem rust race TTKST in wheat.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, pp. 186.

DePauw, R.M., McCallum, B.D., Voldeng, H.D., Knox, R.E., Edwards, N., Fetch Jr., T.G., Lukow, O.M., Fox, S.L., Pozniak, C.J., Hucl, P.J., Singh, A.K., and Comeau, A. (2011). "Canadian Triticologists: the game changers.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., Krishna, P., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2011). "Brassinosteroid leaf unrolling QTL mapping in durum wheat.", 1st Congress of Cereal Biotechnology and Breeding, Szeged, Hungary, May 24 -27, 2011. (Abstract)

Isidro, J., Knox, R.E., Singh, A.K., Clarke, F.R., DePauw, R.M., Clarke, J.M., and Somers, D.J. (2011). "Mapping quantitative trait loci for leaf angle in durum wheat.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Isidro, J., Singh, A.K., Wang, H., DePauw, R.M., Pozniak, C.J., Knox, R.E., Cuthbert, R.D., Beres, B.L., and Johnson, E.N. (2011). "Effects of plant density on durum crop production.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Singh, M.P., Singh, A.K., Clarke, J.M., Knox, R.E., Ammar, K., Singh, R.P., Pozniak, C.J., DePauw, R.M., Clarke, F.R., McCallum, B.D., Cuthbert, J.L., and Randhawa, H.S. (2011). "Molecular mapping of leaf rust and stripe rust resistance QTL in durum wheat.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

DePauw, R.M., Singh, A., Singh, A.K., Knox, R.E., Singh, D., and Fetch Jr., T.G. (2011). "The presence of SrCad and Sr2 influences reaction to stripe rust and Fusarium head blight.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011. (Poster)

Haber, S.M., Gilbert, J., Singh, A.K., and Clarke, J.M. (2011). "Revisiting an Evolutionary Approach to Deriving Fusarium Head Blight-Resistant Lines from Elite Durum Germplasm.", 2011 National Fusarium Head Blight Forum, Hyatt Regency Hotel, St. Louis, MO, USA, December 4-6, 2011, pp. 24. (Poster)

Knox, R.E., Clarke, F.R., Clarke, J.M., Fox, S.L., DePauw, R.M., Singh, A.K., and Isidro-Sanchez, J. (2011). "Evaluation of methods of measurement of pre-harvest sprouting resistance in durum wheat", 12th International Symposium on Pre-Harvest Sprouting in Cereals (ISPHSC), Red Deer, AB, Canada, July 24-27, 2011.

DePauw, R.M., Knox, R.E., Singh, A.K., Humphreys, D.G., Fox, S.L., and Hucl, P.J. (2011). "Breeding for Pre-Harvest Sprouting Resistance in Canadian Wheat: Challenges & Successes.", 12th International Symposium on Pre-Harvest Sprouting in Cereals (ISPHSC), Red Deer, AB, Canada, July 24-27, 2011.

Hamel, C., Bazghaleh, N., Dai, M., Furrzola Gomez, E., Torres-Arias, Y., and Singh, A.K. (2011). "Arbuscular mycorrhizal in a sustainable World.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

Elouze, W., He, Y., Hamel, C., Wang, H., Hanson, K.G., and Singh, A.K. (2011). "Arbuscular mycorrhiza interaction with historical and modern wheat genotypes.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011. (Poster)

Humphreys, D.G., DePauw, R.M., Knox, R.E., Singh, A.K., Cuthbert, R.D., Fox, S.L., and Randhawa, H.S. (2011). "Weathering and pre-harvest sprouting resistance.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

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## Research Publications:

2014

Murmu, J., Wilton, M., Allard, G.C., Pandeya, R.S., Desveaux, D., Singh, J., and Subramaniam, R. (2014). "Arabidopsis GOLDEN2-LIKE (GLK) transcription factors activate jasmonic (JA)-dependent disease susceptibility to the biotrophic pathogen *Hyaloperonospora arabidopsidis*, as well as JA-independent plant immunity against the necrotrophic pathogen *Botrytis cinerea*.", *Molecular Plant Pathology*, 15(2), pp. 174-184. doi: 10.1111/mp.12077

Dash, P.K., Cao, Y., Jailani, A., Gupta, P., Venglat, S.P., Xiang, D., Rai, R., Sharma, R., Thirunavukkarasu, N., Abdin, M., Yadava, D., Singh, N., Singh, J., Selvaraj, G., Deyholos, M.K., Kumar, P.A., and Datla, R.S.S. (2014). "Genome-wide analysis of drought induced gene expression changes in flax (*Linum usitatissimum*).", *GM Crops & Food: Biotechnology in Agriculture and the Food Chain*, 5(2), pp. 106-119. doi: 10.4161/gmcr.29742

Dahal, K., Weraduwege, S., Kane, K., Rauf, S., Leonardos, E.D., Gadapati, W., Savitch, L.V., Singh, J., Marillia, E.-F., Taylor, D.C., Micallef, M., Knowles, V., Plaxton, W., Barron, J., Sarhan, F., Hüner, N.P.A., Grodzinski, B., and Micallef, B.J. (2014). "Enhancing biomass production and yield by maintaining enhanced capacity for CO<sub>2</sub> uptake in response to elevated CO<sub>2</sub>.", *Canadian Journal of Plant Science*, 94(6), pp. 1075-1083. doi: 10.4141/cjps2013-151

Dahal, K., Kane, K., Sarhan, F., Savitch, L.V., Singh, J., Grodzinski, B., and Hüner, N.P.A. (2014). "CBF transcription factors as targets for maintenance of crop growth under sub-optimal conditions.", .

Hüner, N.P.A., Dahal, K., Kurepin, L.V., Savitch, L.V., Singh, J., Ivanov, A.G., Kane, K., and Sarhan, F. (2014). "Potential for Increased Photosynthetic Performance and Crop Productivity in Response to Climate Change: role of CBFs and Gibberellic Acid.", *Frontiers in Chemistry*, 2(Article 18). doi: 10.3389/fchem.2014.00018

Dahal, K., Kane, K., Sarhan, F., Savitch, L.V., Singh, J., Grodzinski, B., and Hüner, N.P.A. (2014). "C-repeat transcription factors as targets for maintenance of crop growth under sub-optimal conditions.", in Passaraki, M. (ed.) - *Handbook of Plant and Crop Physiology*, 3rd Edition, CRC Press, pp. 313-332.

2013

Kurepin, L.V., Dahal, K., Savitch, L.V., Singh, J., Bode, R., Ivanov, A.G., Hurry, V.M., and Hüner, N.P.A. (2013). "Role of CBFs as Integrators of Chloroplast Redox, Phytochrome and Plant Hormonal Signaling during Cold Acclimation.", *International Journal of Molecular Sciences*, 14(6), pp. 12729-12763. doi: 10.3390/ijms140612729

2012

Dahal, K., Kane, K., Gadapati, W., Webb, E., Savitch, L.V., Singh, J., Sharma, P., Sarhan, F., Longstaffe, F.J., Grodzinski, B., and Hüner, N.P.A. (2012). "The effects of phenotypic plasticity on photosynthetic performance in winter rye, winter wheat and *Brassica napus*.", *Physiologia Plantarum*, 144(2), pp. 169-188. doi: 10.1111/j.1399-3054.2011.01513.x

Dahal, K., Gadapati, W., Savitch, L.V., Singh, J., and Hüner, N.P.A. (2012). "Cold acclimation and BnCBF17-over-expression enhance photosynthetic performance and energy conversion efficiency during long-term growth of *Brassica napus* under elevated CO<sub>2</sub> conditions.", *Planta*, 236(5), pp. 1639-1652. doi: 10.1007/s00425-012-1710-2

Kant, P., Gulati, A., Harris, L.J., Gleddie, S.C., Singh, J., and Pauls, K.P. (2012). "Transgenic corn plants with modified ribosomal protein L3 show decreased ear rot disease after inoculation with *Fusarium graminearum*.", *Australian Journal of Crop Science*, 6(12), pp. 1598-1605.

2011

Gaudet, D.A., Wang, Y., Frick, M., Puchalski, B., Penniket, C., Ouellet, T., Robert, L.S., Singh, J., and Laroche, A. (2011). "Low temperature induced defence gene expression in winter wheat in relation to resistance to snow moulds and other wheat diseases.", *Plant Science*, 180(1), pp. 99-110. doi: 10.1016/j.plantsci.2010.07.023

Schreiber, K.J., Nasmith, C.G., Allard, G.C., Singh, J., Subramaniam, R., and Desveaux, D. (2011). "Found in Translation: High-Throughput Chemical Screening in *Arabidopsis thaliana* Identifies Small Molecules That Reduce *Fusarium* Head Blight Disease in Wheat.", *Molecular Plant-Microbe Interactions*, 24(6), pp. 640-648. doi: 10.1094/MPMI-09-10-0210

Laroche, A., Penniket, C., Frick, M., Genswein, B.M.A., Thomas, D.K., Puchalski, B., Graf, R.J., Selinger, L.B., Robert, L.S., Ouellet, T., Singh, J., and Gaudet, D.A. (2011). "Gene expression in Triticale.", in Chibar, R.N. and Dexter, J. (eds.) - *Wheat Science Dynamics: Challenges and Opportunities*, Agrobias International, Jodhpur, India, pp. 653-657.

## Other Science Related Publications:

2014

Singh, J., Fillingham, M., VanderZaag, A.C., MacDonald, J.D., Crolla, A., Kinsley, C., and Burt, S.D. (2014). "Yet another use for ePTFE: Removing and capturing ammonia from stored liquid manure.", Northeast Agricultural and Biological Engineering Conference (NABEC), Kemptonville, Canada, July 28, 2014, Presentation.

Beck, K.L., Singh, J., and Anzar, M. (2014). "The avian chorio-allantoic membrane: a suitable short-term culture system for bovine ovarian tissue.", *Reproduction, Fertility and Development*, 27(1), pp. 116-117. doi: 10.1071/RDv27n1Ab47 (Abstract)

Ivanov, A.G., Sprott, D.P., Sedeek, M., Rosembert, M., Kurepin, L.V., Singh, J., Hüner, N.P.A., and Savitch, L.V. (2014). "Role of CBF-mediated alternative electron pathways in balancing chloroplast redox signaling and cold acclimation of photosynthesis.", *Photosynthesis Research for Sustainability 2014*, Pushchino, Russia, June 2-7, 2014, Poster S7.26. (Abstract)

2012

Scherthaner, J.P., Singh, J., Labbé, N.M., Liao, D., and Marsolais, F. (2012). "The unfolded protein response in plant seeds.", in Hendriks, B.P. (ed.) - *Agricultural Research Updates*. Vol. 2, Nova Science Publishers Inc, pp. 429-454.

Rosembert, M., Sprott, D.P., Singh, J., and Savitch, L.V. (2012). "Pre-mRNA splicing-related proteins play an essential role in the photosynthetic adjustment and acquisition of freezing tolerance of *Arabidopsis thaliana* undergoing cold acclimation.", 9th Annual Ottawa-Carleton Institute of Biology Symposium, Ottawa, ON, Canada. (Poster)

2011

Rosembert, M., Sprott, D.P., Ponomareva, E., Singh, J., and Savitch, L.V. (2011). "The role of pre-mRNA splicing-related proteins in the photosynthetic adjustment and acquisition of freezing tolerance of *Arabidopsis thaliana* undergoing cold acclimation.", Canadian Society of Plant Physiologists Eastern Regional Meeting & Plant Development Workshop / Congrès de la Société Canadienne de Physiologie Végétale & Congrès de Développement Végétale (Congrès Régional de l'Est), Carleton University, Ottawa, ON, Canada, December 2-3, 2011, P25, pp. 42. (Poster)

Sprott, D.P., Allard, G.C., Singh, J., and Savitch, L.V. (2011). "Perturbation of circadian rhythmicity in *Arabidopsis* by altered GLK loci affects multiple output pathways.", Canadian Society of Plant Physiologists Eastern Regional Meeting & Plant Development Workshop / Congrès de la Société Canadienne de Physiologie Végétale & Congrès de Développement Végétale (Congrès Régional de l'Est), Carleton University, Ottawa, ON, Canada, December 2-3, 2011, P12, pp. 35. (Poster)

Ponomareva, E., Sprott, D.P., Singh, J., and Savitch, L.V. (2011). "Effects of different signalling pathways on regulation of GLK GARP transcription factors in *Arabidopsis thaliana*.", Canadian Society of Plant Physiologists Eastern Regional Meeting & Plant Development Workshop / Congrès de la Société Canadienne de Physiologie Végétale & Congrès de Développement Végétale (Congrès Régional de l'Est), Carleton University, Ottawa, ON, Canada, December 2-3, 2011, P10, pp. 34. (Poster)

Murmu, J., Singh, J., Wilton, M., Allard, G.C., Kirkham, C., Pandeya, R.S., Desveaux, D., and Subramaniam, R. (2011). "GLK transcription factors - an integral component of plant defense in *Arabidopsis*.", Canadian Society of Plant Physiologists Eastern Regional Meeting & Plant Development Workshop / Congrès de la Société Canadienne de Physiologie Végétale & Congrès de Développement Végétale (Congrès Régional de l'Est), Carleton University, Ottawa, ON, Canada, December 2-3, 2011, CS-2, pp. 20.

Allard, G.C., Subramaniam, R., Ouellet, T., Harris, L.J., and Singh, J. (2011). "Rapid screening of *Arabidopsis* mutants to identify transporter genes for resistance to *Fusarium graminearum*.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 100.

Dahal, K., Gadapati, W., Savitch, L.V., Singh, J., Sharma, P., Grodzinski, B., and Hüner, N.P.A. (2011). "The Effects of Phenotypic Plasticity on Photosynthetic Performance and Water Use Efficiency of *Brassica napus* at elevated CO<sub>2</sub>: The role of CBF Transcription Factors.", Green Crop Network 5th Annual Meeting, Montreal, Canada, May 3-6, 2011. (Poster)



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## Research Publications:

2015

Sama, L.K., Siow, Y.L., and Karmin, O.K. (2015). "The CBS/CSE system: A potential therapeutic target in NAFLD?", *Canadian Journal of Physiology and Pharmacology*, 93(1), pp. 1-11. doi: 10.1139/cjpp-2014-0394

Debnath, S.C., Percival, D.C., and Siow, Y.L. (2015). "Biodiversity and conservation of wild small fruit species for a sustainable environment.", *Acta Horticulturae (ISHS)*, 1101, pp. 9-14. doi: 10.17660/ActaHortic.2015.1101.2

Ross, K.A., Siow, Y.L., Brown, D.C.W., Isaak, C.K., Godfrey, D.V., and Fukumoto, L.R. (2015). "Characterization of Water Extractable Crude Polysaccharides from Cherry, Raspberry, and Ginseng Berry Fruits: Chemical Composition and Bioactivity.", *International Journal of Food Properties*, 18(3), pp. 670-689. doi: 10.1080/10942912.2013.837066

Sid, V., Wu, N., Sama, L.K., Siow, Y.L., House, J.D., and Karmin, O.K. (2015). "Folic acid supplementation during high fat diet feeding restores AMP-activated protein kinase (AMPK) activation via an AMP-LKB1 dependent mechanism.", *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology*, 309(10), pp. R1215-R1225. doi: 10.1152/ajpregu.00260.2015

Sama, L.K., Sid, V., Wang, P., Siow, Y.L., House, J.D., and Karmin, O.K. (2015). "Tyrosol Attenuates High Fat Diet-Induced Hepatic Oxidative Stress: Potential Involvement of Cystathionine  $\beta$ -Synthase and Cystathionine  $\gamma$ -Lyase.", *Lipids*, pp. 1-8. doi: 10.1007/s11745-015-4084-y

Isaak, C.K., Petkau, J.C., Karmin, O.K., Debnath, S.C., and Siow, Y.L. (2015). "Manitoba Lingonberry (*Vaccinium vitis-idaea*) Bioactivities in Ischemia-Reperfusion Injury.", *Journal of Agricultural and Food Chemistry*, 63(23), pp. 5660-5669. doi: 10.1021/acs.jafc.5b00797

2014

Wang, P., Isaak, C.K., Siow, Y.L., and Karmin, O.K. (2014). "Downregulation of cystathionine  $\beta$ -synthase and cystathionine  $\gamma$ -lyase expression stimulates inflammation in kidney ischemia-reperfusion injury.", *Physiological Reports*, 2(12: e12251), pp. 1-11. doi: 10.14814/phy2.12251

2013

Wang, P., Zhu, Q., Wu, N., Siow, Y.L., Aukema, H., and O, K. (2013). "Tyrosol attenuates ischemia-reperfusion-induced kidney injury via inhibition of inducible nitric oxide synthase.", *Journal of Agricultural and Food Chemistry*, 61(15), pp. 3669-3675. doi: 10.1021/jf400227u

Isaak, C.K., Petkau, J.C., O, K., Ominski, K.H., Rodriguez-Lecompte, J.C., and Siow, Y.L. (2013). "Seasonal variations in phenolic compounds and antioxidant capacity of *Comus stolonifera* plant material: Applications in agriculture", *Canadian Journal of Plant Science*, 93(4), pp. 725-734. doi: 10.4141/CJPS2012-310

Wu, N., Sama, L.K., Hwang, S.Y., Zhu, Q., Wang, P., Siow, Y.L., and O, K. (2013). "Activation of 3-hydroxy-3-methylglutaryl coenzyme A (HMG-CoA) reductase during high fat diet feeding.", *Biochimica et Biophysica Acta (BBA) - Molecular Basis of Disease*, 1832(10), pp. 1560-1568. doi: 10.1016/j.bbdis.2013.04.024

Hwang, S.Y., Sama, L.K., Siow, Y.L., and O, K. (2013). "High fat diet stimulates hepatic cystathionine  $\beta$ -synthase and cystathionine  $\gamma$ -lyase expression.", *Canadian Journal of Physiology and Pharmacology*. doi: 10.1139/cjpp-2013-0106

Isaak, C.K. and Siow, Y.L. (2013). "The Evolution of Nutrition Research.", *Canadian Journal of Physiology and Pharmacology*, 91(4), pp. 257-267. doi: 10.1139/cjpp-2012-0367

2012

Debnath, S.C., Siow, Y.L., Petkau, J.C., An, D., and Bykova, N.V. (2012). "Molecular markers and anti-oxidant activity in berry crops genetic diversity analysis.", *Canadian Journal of Plant Science*, 92(6), pp. 1121-1133. doi: 10.4141/cjps2011-240

Sama, L.K., Wu, N., Wang, P., Hwang, S.Y., Siow, Y.L., and O, K. (2012). "Folic acid supplementation attenuates high fat diet induced hepatic oxidative stress via regulation of NADPH oxidase.", *Canadian Journal of Physiology and Pharmacology*, 90(2), pp. 155-165. doi: 10.1139/Y11-124

Sun, L., Isaak, C.K., Zhou, Y.-L., Petkau, J.C., O, K., Liu, Y., and Siow, Y.L. (2012). "Salidroside and tyrosol from *Rhodiola* protect H9c2 cells from ischemia/reperfusion-induced apoptosis.", *Life Sciences*, 91(5-6), pp. 151-158. doi : 10.1016/j.lfs.2012.06.026

Lear, S.A., Sama, L.K., Siow, T.J., Mancini, G.B.J., Siow, Y.L., and O, K. (2012). "Oxidative stress is associated with visceral adipose tissue and subclinical atherosclerosis in a healthy multi-ethnic population.", *Applied Physiology, Nutrition, and Metabolism*, 37(6), pp. 1164-1170. doi: 10.1139/h2012-107

2011

Hwang, S.Y., Siow, Y.L., Au-Yeung, K.K.W., House, J.D., and O, K. (2011). "Folic acid supplementation inhibits NADPH oxidase-mediated superoxide anion production in the kidney.", *American Journal of Physiology: Renal Physiology*, 300, pp. F189-F198. doi : 10.1152/ajprenal.00272.2010

Siow, Y.L., Sama, L.K., and O, K. (2011). "Redox regulation in health and disease - Therapeutic potential of berberine.", *Food Research International*, 44(8), pp. 2409-2417. doi : 10.1016/j.foodres.2010.12.038

Wu, N., Sama, L.K., Siow, Y.L., and O, K. (2011). "Regulation of hepatic cholesterol biosynthesis by berberine during hyperhomocysteinemia.", *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology*, 300(3), pp. R635-R643. doi : 10.1152/ajpregu.00441.2010

Siow, Y.L., Petkau, J.C., Sama, L.K., Enns, J.E., and O, K. (2011). "Berberine: Biochemical Analysis and Cardiovascular Benefits.", *The Americas Journal of Plant Science and Biotechnology*, 5(Spec. Issue 1), pp. 121-126.

## Other Science Related Publications:

2015

Sid, V., Wu, N., Sama, L.K., Siow, Y.L., and Karmin, O.K. (2015). "Regulation of AMP-activated protein kinase and cholesterol biosynthesis in non-alcoholic fatty liver disease.", *Canadian Cardiovascular Congress, Toronto, Canada, October 17-20, 2015.*

Siow, Y.L., Brown, D.C.W., Blewett, H.J., Debnath, S.C., and Ross, K.A. (2015). *Lingonberry: characterization and preserving a n emerging bioresource for Canada. Project ID: 13-1129; Research Project Annual Report 2014-2015., AAFC Science and Technology Branch. (Report)*

Brown, D.C.W., Siow, Y.L., Lui, E., Stebbing, J.A., and Prashar, S. (2015). "Active Component Composition and Efficacy Variability in North American Ginseng.", *63rd International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research, Budapest, Hungary, August 23-27, 2015.*

Sid, V., Shang, Y., Sama, L.K., Wang, P., Siow, Y.L., and Karmin, O.K. (2015). "Supplementation of folic acid attenuates hepatic inflammation in high fat diet fed mice.", *Experimental Biology 2015, Boston, USA, March 28-April 1, 2015.*

Karmin, O.K., Wang, P., Isaak, C.K., and Siow, Y.L. (2015). "Reduction of endogenous hydrogen sulfide generation increases cytokine expression in kidney ischemia-reperfusion injury.", *3rd European Conference on the Biology of Hydrogen Sulfide H2S, Athens, Greece, May 3-6, 2015, pp. 6. (Abstract)*

Karmin, O.K., Wu, N., Sama, L.K., and Siow, Y.L. (2015). "Dysregulation of hepatic cholesterol biosynthesis in diet-Induced non-alcoholic fatty liver disease.", *XVII International Symposium of Atherosclerosis, Amsterdam, The Netherlands, May 23-26, 2015.*

Bhusal, A., Siow, Y.L., and Brown, D.C.W. (2015). "Evaluation of antioxidant capacity, total phenolics and anthocyanins in lingonberries (*Vaccinium vitis-idaea*) from northern Manitoba and Newfoundland.", *Canadian Nutrition Society Annual Meeting, Winnipeg, Canada, May 28-30, 2015. (Abstract)*

Siow, Y.L., Debnath, S.C., Brown, D.C.W., Blewett, H.J., and Rossebath, R. (2015). "Lingonberries the next super fruit.", *Farm Focus, April 1, 2015.*

Siow, Y.L., Debnath, S.C., Brown, D.C.W., Blewett, H.J., and Rossebath, R. (2015). *Lure of the lingonberry: win-win for northern agriculture and heart health., Agriculture and Agri-Food Canada.*

Debnath, S.C., Anderson, S., Bishop, G.A., Dixon, P.L., McKenzie, D.-L., Mills, A.A.S., and Siow, Y.L. (2015). *Developing innovative technologies to accelerate industry transition from 'wild' to cultivated cool climate berry crop production systems. Project ID: 13-1155; Research Project Annual Report 2014-2015., AAFC Science and Technology Branch. (Report)*

Siow, Y.L., Isaak, C.K., Wang, P., Brown, D.C.W., and Karmin, O.K. (2015). "Lingonberry juice supplementation protects kidney from ischemia reperfusion injury.", *12th European Nutrition Conference, Berlin, Germany, October 20-23, 2015. doi: 10.1159/000440895*

## 2014

- Siow, Y.L. and Debnath, S.C. (2014). "Lingonberries from the north and health impacts - Weekly Science Story, Nov. 05, 2014; circulated by Dr. Siddika Mithani, Assistant Deputy Minister, STB and Dr. Gilles Saindon, Associate Assistant Deputy Minister, STB, Agriculture and Agri-Food Canada."
- Ross, K.A., Siow, Y.L., and Brown, D.C.W. (2014). "Characterization and Purification of Water Extractable Polysaccharides from Sweet Cherries, Apples, Raspberries, and Ginseng.", IFT, New Orleans, USA. (Poster)
- Isaak, C.K. and Siow, Y.L. (2014). "Lingonberry (*Vaccinium vitis-idaea*) anthocyanins protect cardiomyoblasts against ischemia-reperfusion injury.", *Experimental Biology 2014*, San Diego, USA, April 26-May 1, 2014, FASEB J. 28(1 Suppl): 973.1. Student awarded Travel Award.
- Siow, Y.L., Brown, D.C.W., Blewett, H.J., Debnath, S.C., and Ross, K.A. (2014). Lingonberry: characterization and preserving an emerging bioresource for Canada. Project ID: 13-1129; Research Project Annual Report 2013-2014, AAFC Science and Technology Branch. (Report)
- Sama, L.K., Hwang, S.Y., Siow, Y.L., and Karmin, O.K. (2014). "High fat diet alters homocysteine metabolism and hydrogen sulfide biosynthesis in mice.", *Experimental Biology 2014*, San Diego, USA, April 26-May 1, 2014, FASEB J. 28(1 Suppl): 1116.3.
- Wang, P., Isaak, C.K., Siow, Y.L., and Karmin, O.K. (2014). "Acute kidney injury decreased endogenous hydrogen sulfide production and increased cytokine expression: Impact on cardiovascular system.", *Canadian Cardiovascular Congress*, Vancouver, Canada, October 25-28, 2014. (Abstract)
- Debnath, S.C., McKenzie, D.B., Bishop, G.A., Dixon, P.L., Siow, Y.L., and Mills, A.A.S. (2014). "Blueberries: transitioning from wild to cultivated production.", *STB Weekly Science Story*, January 21, 2014. (Newsletter)
- Siow, Y.L. (2014). "What do we need to know about your NHP (Editorial)?", *Canadian Journal of Physiology and Pharmacology*, 92(2), pp. iii. doi : 10.1139/cjpp-2013-0455
- Debnath, S.C., Anderson, S., Bishop, G.A., Dixon, P.L., McKenzie, D.B., Mills, A.A.S., and Siow, Y.L. (2014). Developing innovative technologies to accelerate industry transition from 'wild' to cultivated cool climate berry crop production systems. Project ID: 13-1155; Research Project Annual Report 2013-2014, AAFC Science and Technology Branch. (Report)

## 2013

- Ross, K.A., Siow, Y.L., and Brown, D.C.W. (2013). "Water Extractable Polysaccharides from Tree Fruits and Berries: Novel Compounds with Potential Health Benefits.", 3rd Food Studies Conference, Austin, TX, USA, October 15-16, 2013. (Poster)
- Williamson, J.J., Ryland, D., Isaak, C.K., Prashar, S., Siow, Y.L., and Aliani, M. (2013). "The effect of Saskatoon berry syrup and vitamin D on the acceptability and functional properties of roibos and green iced-teas.", *Canadian Nutrition Society (CNS) - Société canadienne de nutrition (SCN) Annual Meeting 2013*, Loews Hôtel Le Concorde, Québec City, QC, Canada, May 30 - June 2, 2013.
- Hwang, S.Y., Siow, Y.L., House, J.D., and O, K. (2013). "Regulation of monocyte chemoattractant protein-1 expression in the kidney during hyperhomocysteinemia.", *World Congress of Nephrology (WCN2013)*, Hong Kong, China, May 31 - June 4, 2013, Abs MO332.
- Wang, P., Siow, Y.L., and O, K. (2013). "Attenuation of renal ischemia reperfusion injury by phenolic compound.", *World Congress of Nephrology (WCN2013)*, Hong Kong, China, May 31 - June 4, 2013, Abs SA230.

## 2012

- O, K., Wu, N., Sama, L.K., and Siow, Y.L. (2012). "Beneficial effects of berberine on cholesterol biosynthesis.", *XVI International Symposium on Atherosclerosis (ISA2012)*, Sydney, New South Wales, Australia, March 26-29, 2012, Published in: *Atherosclerosis Suppl.*
- Siow, Y.L., Sama, L.K., Wu, N., and O, K. (2012). "Antioxidant action of berberine.", *International Conference on Cultivating Natural Bioactives for Health & Disease*, London Convention Centre, London, ON, Canada, July 9-11, 2012.

## 2011

- Isaak, C.K., Petkau, J.C., Debnath, S.C., and Siow, Y.L. (2011). "Effects of cool climate berries on apoptosis.", *LifeScience Alley Tenth Annual Conference and Expo*, Minneapolis, MN, USA, December 7, 2011.
- Brown, D.C.W., Mazza, G., Ross, K.A., Jordan, M.A., McCallum, J.L., Netticadan, T., Siow, Y.L., Khanizadeh, S., Ames, N.P., and Lui, E.M.K. (2011). "Plant Bioactives Research in Canada.", *Plant Bioactives Research in Canada. Canada-United Kingdom Gut and Health Workshop*, AAFC-FRDC / AAC-CRDA, Saint-Hyacinthe, QC, Canada, February 24-25, 2011.

Zhou, S., Brown, D.C.W., Lui, E.M.K., Siow, Y.L., and Wu, D. (2011). "North American ginseng constituent analysis and evaluation of potential efficacy for therapeutic applications.", 10th Meeting of Consortium for Globalization of Chinese Medicine (CGCM), Shanghai, China, August 26-28, 2011.

Wardner, M., Petkau, J.C., Siow, Y.L., and Isaak, C.K. (2011). "A survey of the antioxidant capacity found in Northern Manitoban plants.", Undergraduate Research Conference, University of Winnipeg, Winnipeg, MB, Canada, 2011.

Debnath, S.C., Siow, Y.L., Petkau, J.C., An, D., and Bykova, N.V. (2011). "Molecular markers and antioxidant activity in berry crop diversity analysis.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011, 78, Session 1. (Presentation)

Isaak, C.K., Petkau, J.C., Debnath, S.C., and Siow, Y.L. (2011). "Effects of cool climate berries on apoptosis.", Therapeutic Applications for Functional Foods Conference, St. Boniface Hospital Research Centre, Winnipeg, MB, Canada, May 31 -June 1, 2011, AbsP-13.

Siow, Y.L. (2011). "Evidence-based agri-food: do you know what you have?", Therapeutic Applications for Functional Foods Conference, St. Boniface Hospital Research Centre, Winnipeg, MB, Canada, May 31 -June 1, 2011, AbsS-19.

Brown, D.C.W., Lui, E.M.K., Zhou, Z., Siow, Y.L., and Wu, D. (2011). "North American ginseng constituent analysis and evaluation of potential efficacy for therapeutic applications.", Therapeutic Applications for Functional Foods Conference, St. Boniface Hospital Research Centre, Winnipeg, MB, Canada, May 31 -June 1, 2011, AbsP-3.

Siow, Y.L. (2011). "Evidence-based Agri-food: A Road to Healthy Living.", 28th Annual Spring Research Symposium, University of Manitoba Centre on Aging, Winnipeg, MB, Canada, May 2, 2011.

Wu, N., Siow, Y.L., and O, K. (2011). "Increased hepatic cyclooxygenase-2 (COX-2) expression by hyperhomocysteinemia via nuclear factor- $\kappa$ B activation.", Therapeutic Applications for Functional Foods Conference, St. Boniface Hospital Research Centre, Winnipeg, MB, Canada, May 31 -June 1, 2011, AbsP-24.

Sun, L., Zhou, Y.-L., Petkau, J.C., O, K., Liu, Y., and Siow, Y.L. (2011). "Salidroside and tyrosol protect H9c2 cell from ischemia/reperfusion-induced apoptosis.", Therapeutic Applications for Functional Foods Conference, St. Boniface Hospital Research Centre, Winnipeg, MB, Canada, May 31 -June 1, 2011, AbsP-23. (Abstract)

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## Research Publications:

2015

Jackson, M.D., Marshall, S.A., and Skevington, J.H. (2015). "Molecular phylogeny of the Taeniapterini (Diptera: Micropezidae) using nuclear and mitochondrial DNA, with a reclassification of the genus Taeniaptera Macquart.", *Insect Systematics & Evolution*, 46(5), pp. 411-430. doi: 10.1163/1876312X-45032125

Marshall, S.A., Skevington, J.H., Kelso, S., and Zhou, C. (2015). "A redefinition and review of the genus Myrmolimosina Marshall (Diptera: Sphaeroceridae), with morphological and molecular assessments of new species from Mexico and Guatemala.", *The Canadian Entomologist*. doi: 10.4039/tce.2014.88

Skevington, J.H., Pawlicki, J., Kelso, S., Kerr, K.C.R., and Jacklin, M. (2015). "Subspecific Identification of the Great Lakes' First Brown Booby (*Sula leucogaster*) Using DNA.", *Canadian Field Naturalist*, 129(1), pp. 53-59.

Rocha, L.S.G., Burt, T.O., de Mello-Patiu, C.A., and Skevington, J.H. (2015). "The first Stylogaster Macquart, 1835 (Diptera: Conopidae) fossil, from Oligo-Miocene Dominican amber, and some phylogenetic and biogeographic considerations.", *Fossil Record*, 18, pp. 119-125. doi: 10.5194/fr-18-119-2015

Burt, T.O., Skevington, J.H., and Rocha, L. (2015). "Revision of Nearctic Stylogaster (Diptera: Conopidae).", *The Canadian Entomologist*, 147(2), pp. 125-147. doi: 10.4039/tce.2014.39

2014

Thompson, F.C. and Skevington, J.H. (2014). "Afrotropical flower flies (Diptera: Syrphidae). A new genus and species from Kenya, with a review of the melanostomine group of genera.", *Zootaxa*, 3847(1), pp. 97-114. doi: 10.11646/zootaxa.3847.1.5

Penney, H.D., Hassall, C., Skevington, J.H., Lamborn, B., and Sherratt, T.N. (2014). "The relationship between morphological and behavioural mimicry in hover flies (Diptera: Syrphidae).", *American Naturalist*, 183(2), pp. 281-289. doi: 10.1086/674612

Kehlmaier, C., Dierick, M., and Skevington, J.H. (2014). "Micro-CT studies of amber inclusions reveal internal genitalic features of big-headed flies, enabling a systematic placement of *Metanephrocerus* Aczél, 1948 (Insecta: Diptera: Pipunculidae).", *Arthropod Systematics & Phylogeny*, 72(1), pp. 23-36.

Gibson, J.F., Skevington, J.H., and Camras, S. (2014). "Conopidae (Diptera).", in Claps, L.E., Debandi, G. and Roig-Juñent, S. (eds.) - *Biodiversidad de Artrópodos Argentinos. Vol. 3*, Sociedad Entomológica Argentina.

Miranda, G.F.G., Marshall, S.A., and Skevington, J.H. (2014). "Revision of the genus *Pelecinobaccha* Shannon, description of *Relictanum* gen. nov., and redescription of *Atylobaccha flukiella* (Curran, 1941) (Diptera: Syrphidae).", *Zootaxa*, 3819(1), pp. 1-154. doi: 10.11646/zootaxa.3819.1.1

Skevington, J.H., Young, A.D., and Thompson, F.C. (2014). "Natural History and Systematics of Flower Flies (Diptera: Syrphidae).", *Entomological Society of Queensland News Bulletin*, 42(8), pp. 139-143.

2013

Lambkin, C.L., Sinclair, B.J., Pape, T., Courtney, G.W., Skevington, J.H., Meier, R., Yeates, D.K., Blagoderov, V.A., and Wiegmann, B.M. (2013). "The phylogenetic relationships among infraorders and superfamilies of Diptera based on morphological evidence.", *Systematic Entomology*, 38(1), pp. 164-179. doi: 10.1111/j.1365-3113.2012.00652.x

Miranda, G.F.G., Young, A.D., Locke, M.M., Marshall, S.A., Skevington, J.H., and Thompson, F.C. (2013). "Key to the Genera of Nearctic Syrphidae.", *Canadian Journal of Arthropod Identification*, 23, pp. 1-351. doi: 10.3752/cjai.2013.23

Wright, S.G. and Skevington, J.H. (2013). "Revision of the subgenus *Episyrphus* (*Episyrphus*) *Matsumura* (Diptera: Syrphidae) in Australia.", *Zootaxa*, 3683(1), pp. 51-64. doi: 10.11646/zootaxa.3683.1.3

Skevington, J.H. (2013). "Review of: 'Flies. The Natural History and Diversity of Diptera' by Stephen A. Marshall. Firefly Books Ltd., Richmond Hill, Ontario. 616 pp.", published in *Bulletin of the Entomological Society of Canada* 45(1), 40-41. (Review)

Kits, J.H., Marshall, S.A., and Skevington, J.H. (2013). "Phylogeny of the Archiborborinae (Diptera: Sphaeroceridae) Based on Combined Morphological and Molecular Analysis.", *PLoS ONE*, 8(1, Article No. e51190). doi : 10.1371/journal.pone.0051190

Gibson, J.F. and Skevington, J.H. (2013). "Phylogeny and taxonomic revision of all genera of Conopidae (Diptera) based on morphological data.", *Zoological Journal of the Linnean Society*, 167(1), pp. 43-81. doi : 10.1111/j.1096-3642.2012.00873.x

Gibson, J.F., Skevington, J.H., and Kelso, S. (2013). "A phylogenetic analysis of relationships among genera of Conopidae (Diptera) based on molecular and morphological data.", *Cladistics*, 29(2), pp. 193-226. doi : 10.1111/j.1096-0031.2012.00422.x

Locke, M.M. and Skevington, J.H. (2013). "Revision of Nearctic *Dasysyrphus* Enderlein (Diptera: Syrphidae).", *Zootaxa*, 3660(1), pp. 1-80. doi : 10.11646/zootaxa.3660.1.1

## 2012

Skevington, J.H. and Thompson, F.C. (2012). "Review of New World *Sericomyia* (Diptera: Syrphidae), including description of a new species.", *Canadian Entomologist*, 144(2), pp. 216-247. doi : 10.4039/tce.2012.24

Knee, W., Beaulieu, F., Skevington, J.H., Kelso, S., Cognato, A.I., and Forbes, M.R. (2012). "Species boundaries and host range of tortoise mites (Uropodoidea) phoretic on bark beetles (Scolytinae), using morphometric and molecular markers.", *PLoS ONE*, 7(10, Article No. e47243). doi : 10.1371/journal.pone.0047243

Penney, H.D., Hassall, C., Skevington, J.H., Abbott, K.R., and Sherratt, T.N. (2012). "A comparative analysis of the evolution of imperfect mimicry.", *Nature*, 483(7390), pp. 461-464. doi : 10.1038/nature10961

Sinclair, B.J., Cumming, J.M., Brooks, S.E., O'Hara, J.E., and Skevington, J.H. (Eds.) (2012). "Ottawa Dipterology (1937-1989): Festschrift commemorating the coordinators of the Manual of Nearctic Diptera and their contributions to building the Canadian National Collection of Insects. Part 2.", *Canadian Entomologist*, 144(1), pp. i+1-195.

Knee, W., Beaulieu, F., Skevington, J.H., Kelso, S., and Forbes, M.R. (2012). "Cryptic species of mites (Uropodoidea: Uroobovella spp.) associated with burying beetles (Silphidae: Nicrophorus): The collapse of a host generalist revealed by molecular and morphological analyses.", *Molecular Phylogenetics and Evolution*, 65(1), pp. 276-286. doi : 10.1016/j.ympev.2012.06.013

## 2011

Gibson, J.F., Kelso, S., Jackson, M.D., Kits, J.H., Miranda, G.F.G., and Skevington, J.H. (2011). "Diptera-Specific PCR-Amplification Primers of Use in Molecular Phylogenetic Research.", *Annals of the Entomological Society of America*, 104(5), pp. 976-997. doi : 10.1603/AN10153

Sinclair, B.J., Cumming, J.M., Brooks, S.E., O'Hara, J.E., and Skevington, J.H. (Eds.) (2011). "Ottawa Dipterology (1937-1989): Festschrift commemorating the coordinators of the Manual of Nearctic Diptera and their contributions to building the Canadian National Collection of Insects. Part 1.", *Canadian Entomologist*, 143(6), pp. ii + 539-740.

Cumming, J.M., Sinclair, B.J., Brooks, S.E., O'Hara, J.E., and Skevington, J.H. (2011). "The history of dipterology at the Canadian National Collection of Insects, with special reference to the Manual of Nearctic Diptera.", *The Canadian Entomologist*, 143(6), pp. 539-577. doi : 10.4039/n11-029

Wiegmann, B.M., Trautwein, M.D., Winkler, I.S., Barr, N.B., Kim, J.W., Lambkin, C.L., Bertone, M.A., Cassel, B.K., Bayless, K.M., Heimberg, A.M., Wheeler, B.M., Peterson, K.J., Pape, T., Sinclair, B.J., Skevington, J.H., Blagoderov, V.A., Caravas, J., Kuttly, S.N., Schmidt-Ott, U., Kampmeier, G.E., Thompson, F.C., Grimaldi, D.A., Beckenbach, A.T., Courtney, G.W., Friedrich, M., Meier, R., and Yeates, D.K. (2011). "Episodic Radiations in the fly tree of life.", *Proceedings of the National Academy of Sciences of the USA (PNAS)*, 108(14), pp. 5690-5695. doi : 10.1073/pnas.1012675108

## Other Science Related Publications:

### 2015

Brooks, S.E., Sinclair, B.J., Cumming, J.M., O'Hara, J.E., Skevington, J.H., Lonsdale, O., and Cooper, B.E. (2015). *Diptera types in the Canadian National Collection of Insects. Supplement. Edition 4.0. 95 pp.*, [Published on the Internet]. URL: <http://www.nadsdiptera.org/Catalogs/CNCTypes/Suppl.htm>. (Book)

### 2014

Skevington, J.H., Young, A.D., and Thompson, F.C. (2014). "Natural History and Systematics of Flower Flies (Diptera: Syrphidae).", Victoria Department of Agriculture, Melbourne, Victoria, Australia.

Skevington, J.H. (2014). "When is a Raven not a Raven? Taxonomy in the 21st century.", *Owen Sound Field-Naturalists*, Owen Sound, Ontario, Canada.

- Skevington, J.H. (2014). "When is a Raven not a Raven? Taxonomy in the 21st century.", Mississippi Valley Field -Naturalists', Almonte, Ontario, Canada.
- Jackson, M.A., Skevington, J.H., Marshall, S.A., and Kelso, S. (2014). "Diverse biology and deep sampling: molecular phylogen y of the Nerioidea and Diopsoidea.", International Congress of Dipterology, Potsdam, Germany.
- Skevington, J.H., Young, A.D., Mengual, X., van Steenis, W., van Zuijlen, M., Ståhls, G., Hauser, M., Kelso, S., and Thompson, F.C. (2014). "Putting Australian Flower Flies (Diptera: Syrphidae) into a World Phylogenetic Context.", Australian Entomological Society Conferences, Canberra, Australia.
- Skevington, J.H. (2014). "A Naturalist's Garden.", Rockcliffe Park Garden Club, Ottawa, Ontario, Canada.
- Skevington, J.H., Young, A.D., and Thompson, F.C. (2014). "Natural History and Systematics of Flower Flies (Diptera: Syrphidae).", CSIRO, Canberra, ACT, Australia, Invited talk.
- Skevington, J.H., Kehlmaier, C., De Meyer, M., Rafael, J.A., and Kelso, S. (2014). "Pipunculidae phylogenetics: Preparing the ground for an updated classification and a wave of host research and ecological discovery.", International Congress of Dipterology, Potsdam, Germany.
- Skevington, J.H., Mengual, X., Ståhls, G., Young, A.D., Hauser, M., and Kelso, S. (2014). "Syrphidae phylogenetics.", International Congress of Dipterology, Potsdam, Germany.
- Skevington, J.H. (2014). "A special thanks to Morgan Jackson.", The ESO Newsletter, 19(2), pp. 81. (Newsletter)
- Skevington, J.H., Young, A.D., and Thompson, F.C. (2014). "Natural History and Systematics of Flower Flies (Diptera: Syrphidae).", Queensland Entomological Society, Brisbane, Queensland, Canada.
- Skevington, J.H. (2014). "ESO Past President's Message.", The ESO Newsletter, 19(1), pp. 2-3. (Newsletter)
- Young, A.D., Skevington, J.H., Thompson, F.C., van Steenis, W., and van Zuijlen, M. (2014). "Syrphidae: A revision of the Australian Fauna.", Australian Entomological Society Conferences, Canberra, Australia.

## 2013

- Skevington, J.H. (2013). "Getting the most out of eBird", Montreal, Quebec, Canada. (Presentation)
- Skevington, J.H. (2013). "The challenges and joys of birding in West Papua, Indonesia.", Ottawa Field Naturalists' Club, Ottawa, Ontario, Canada. (Presentation)
- Skevington, J.H. (2013). "ESO President's Message.", The ESO Newsletter, 18(1), pp. 1-2. (Newsletter)
- Skevington, J.H. and Cumming, J.M. (2013). "Richard (Dick) Vockeroth 2 May 1928 to 16 November 2012.", Fly Times, 50, pp. 29-30.
- Skevington, J.H. and Cumming, J.M. (2013). "Richard (Dick) Vockeroth 2 May 1928 to 16 November 2012.", Fly Times, 50, pp. 29-30.
- Solecki, A.M., Skevington, J.H., Buddle, C.M., and Wheeler, T.A. (2013). "Phylogeography of higher Diptera in disjunct xeric grasslands.", Joint Annual Meeting of the Entomological Societies of Ontario and Canada, Guelph, Ontario, Canada.
- Young, A.D., Miranda, G.F.G., Locke, M.M., Skevington, J.H., and Marshall, S.A. (2013). "A key to the genera of Nearctic Syrphidae. Photographic and comprehensive.", Joint Annual Meeting of the Entomological Societies of Ontario and Canada, Guelph, Ontario, Canada.
- Burt, T., Skevington, J.H., and Dawson, J (2013). "Taxonomic revision of Nearctic Conopidae.", North American Dipterists' Society, Starkville, Mississippi, USA. (Presentation)
- Skevington, J.H. and Cumming, J.M. (2013). "In Memory: Richard (Dick) Vockeroth 2 May 1928 to 16 November 2012.", Bulletin of the Entomological Society of Canada, 45(1), pp. 32-33.
- Skevington, J.H. (2013). "Update on Syrphidae research at CNC.", Symposium on Syrphidae, Novosibirsk, Russia. (Presentation)
- Skevington, J.H. (2013). "Naturalized Gardens – Bringing Nature to your Doorstep.", Ottawa Horticultural Society, Ottawa, Ontario, Canada. (Presentation)
- Skevington, J.H. (2013). "Breaking the taxonomic barrier: Research on Diptera pollinators in Canada.", Wildlife Preservation Canada, Toronto, Ontario, Canada. (Presentation)
- Skevington, J.H. (2013). "A Naturalist's Garden.", Greely Gardeners, Ottawa, Ontario, Canada. (Presentation)
- Skevington, J.H. (2013). "A Naturalist's Garden.", Ottawa Horticulture Club, Ottawa, ON, Canada. (Presentation)

Skevington, J.H. and Marshall, S.A. (2013). "Canpolin research on Diptera Pollinators.", Joint Annual Meeting of the Entomological Societies of Ontario and Canada, Guelph, Ontario, Canada, Invited talk

Burt, T., Skevington, J.H., and Dawson, J (2013). "A Nearctic revision of the Conopidae: the challenges.", Joint Annual Meeting of the Entomological Societies of Ontario and Canada, Guelph, Ontario, Canada.

Skevington, J.H. and Cumming, J.M. (2013). "In Memory: Richard (Dick) Vockeroth 2 May 1928 to 16 November 2012.", Bulletin of the Entomological Society of Canada, 45(1), pp. 32-33.

## 2012

Sinclair, B.J., Cumming, J.M., Brooks, S.E., O'Hara, J.E., and Skevington, J.H. (2012). "Ottawa Dipterology (1937-1989): Festschrift commemorating the coordinators of the Manual of Nearctic Diptera and their contributions to building the Canadian National Collection of Insects. Part 2. (Foreword).", Canadian Entomologist, 144(1), pp. ii.

Sinclair, B.J., Cumming, J.M., Brooks, S.E., O'Hara, J.E., and Skevington, J.H. (2012). "Ottawa Dipterology (1937-1989): Festschrift commemorating the coordinators of the Manual of Nearctic Diptera and their contributions to building the Canadian National Collection of Insects. Part 3 (Foreword).", Canadian Entomologist, 144(2), pp. i.

Skevington, J.H., Thompson, F.C., and Gibson, J.F. (2012). "Sid Camras and his conopid legacy.", Fly Times, 49, pp. 39-65.

## 2011

Skevington, J.H. and Thompson, F.C. (2011). "Revision of New World Sericomyia (Diptera: Syrphidae) – A contribution to the upcoming Festschrift to be published in The Canadian Entomologist.", Entomological Society of Ontario 148th Annual General Meeting, Brock University, St. Catharines, ON, Canada, October 21-23, 2011.

Sinclair, B.J., Cumming, J.M., Brooks, S.E., O'Hara, J.E., and Skevington, J.H. (2011). "Ottawa Dipterology (1937-1989): Festschrift commemorating the coordinators of the Manual of Nearctic Diptera and their contributions to building the Canadian National Collection of Insects. Part 1. (Foreword).", Canadian Entomologist, 143(6), pp. i-ii.

Skevington, J.H. and Callaghan, C. (2011). "The 50th Annual Regional Science Fair – OFNC Awards.", Trail & Landscape, 45(3), pp. 120-122.

Locke, M.M., Skevington, J.H., and Marshall, S.A. (2011). "Revision of Nearctic Dasysyrphus (Diptera: Syrphidae).", Entomological Society of Ontario 148th Annual General Meeting, Brock University, St. Catharines, ON, Canada, October 21-23, 2011.

Miranda, G.F.G., Young, A.D., Marshall, S.A., Locke, M.M., and Skevington, J.H. (2011). "Flower flies made easy: an open-access photographic key to the flower flies (Diptera: Syrphidae) of North America.", 6th International Symposium on the Syrphidae, Glasgow, UK, August 5-8, 2011. (Poster)

Skevington, J.H. (2011). "Gardening to maximize minibeast diversity.", Ottawa Master Gardener's, Ottawa, ON, Canada. (Presentation)

Skevington, J.H. (2011). "Gardening to Maximize Minibeast Diversity.", Parry Sound Field Naturalists', Parry Sound, ON, Canada. (Presentation)

Skevington, J.H., Marshall, S.A., Miranda, G.F.G., Locke, M.M., Young, A.D., Crins, W.J., and Thompson, F.C. (2011). "Canadian flower fly research - An update on recent Canpolin supported research.", 6th International Symposium on the Syrphidae, Glasgow, UK, August 5-8, 2011.

Young, A.D., Marshall, S.A., and Skevington, J.H. (2011). "The use of molecules and morphology in taxonomy: A review of the Nearctic species of *Platycheirus* (Diptera: Syrphidae).", 148th Annual General Meeting for the Entomological Society of Ontario, Brock University, St. Catharines, ON, Canada, October 21-23, 2011. (Presentation)

Locke, M.M., Skevington, J.H., and Marshall, S.A. (2011). "Revision of Nearctic *Dasysyrphus* (Diptera: Syrphidae).", 6th International Symposium on the Syrphidae, Glasgow, UK, August 5-8, 2011.



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## Research Publications:

### 2015

Small, E. (2015). "Blossoming treasures of biodiversity – 47. Teff & Fonio – Africa's sustainable cereals.", *Biodiversity*, 16(1), pp. 27-41. doi : 10.1080/14888386.2014.997290

Small, E. and Naraine, S.G.U. (2015). "Size matters: evolution of large drug-secreting resin glands in elite pharmaceutical strains of *Cannabis sativa* (marijuana).", *Genetic Resources and Crop Evolution*. doi : 10.1007/s10722-015-0254-2

Small, E. and Naraine, S.G.U. (2015). "Expansion of female sex organs in response to prolonged virginity in *Cannabis sativa* (marijuana).", *Genetic Resources and Crop Evolution*. doi : 10.1007/s10722-015-0253-3

Small, E. (2015). "Evolution and Classification of *Cannabis sativa* (Marijuana, Hemp) in Relation to Human Utilization.", *Botanical Review*, 81(3), pp. 189-294. doi : 10.1007/s12229-015-9157-3

Small, E. (2015). "Blossoming treasures of biodiversity – 48. Canary Grass – a special crop for birds and biodiversity.", *Biodiversity*. doi : 10.1080/14888386.2015.1038304

### 2014

Small, E. (2014). "A rejoinder to Didier Bazile's letter to the editor contesting Blossoming Treasures of Biodiversity article 42.", *Biodiversity*, 15(1), pp. 5.

Small, E. (2014). "Hemp fiber and composites for the 21st century.", in Thakur, V.K.T. and Njuguna, J. (eds.) - *Natural fibers and composites*, Studium Press LLC, Houston, USA, pp. 29–64.

Small, E. (2014). "Blossoming treasures of biodiversity – 44. Saguaro – threatened monarch of the desert.", *Biodiversity*, 15(1), pp. 39-53. doi : 10.1080/14888386.2014.896224

Small, E. (2014). "Blossoming treasures of biodiversity – 45. Tepary Bean - an ideal arid zone crop.", *Biodiversity*, 15(2-3), pp. 220-228. doi : 10.1080/14888386.2014.903203

Small, E. (2014). "Blossoming treasures of biodiversity – 46. Golden Rice – a food fight to enhance the unsustainable monarch of mega-crops.", *Biodiversity*, 15(4), pp. 269-289. doi : 10.1080/14888386.2014.963145

### 2013

Small, E. (2013). "Blossoming treasures of biodiversity – 41. Camelina – will this emerging biofuel benefit biodiversity?", *Biodiversity*, 14(2), pp. 112-122. doi : 10.1080/14888386.2013.774868

Small, E. (2013). "Blossoming treasures of biodiversity – 42. Quinoa – is the United Nations' featured crop of 2013 bad for biodiversity?", *Biodiversity*, 14(3), pp. 169-179. doi : 10.1080/14888386.2013.835551

Small, E. (2013). "Blossoming treasures of biodiversity – 43. Cotton – redeeming the world's most vilified plant threat to biodiversity.", *Biodiversity*, 14(4), pp. 207-222. doi : 10.1080/14888386.2013.848172

Small, E. (2013). "Préface.", in Coulot, P. and Rabaute, P. (eds.) - *Monographie des Leguminosae de France: Tome 3: Tribu des Trifolieae*, pp. 13-14.

### 2012

Small, E. (2012). "Blossoming treasures of biodiversity: 40. Kales & collards – Crops for a warming polar climate.", *Biodiversity*, 13(3&4), pp. 265-276.

Small, E. (2012). "Blossoming treasures of biodiversity: 39. Catnip – Safer pesticide potential.", *Biodiversity*, 13(2), pp. 118-126.

Small, E. (2012). "Blossoming treasures of biodiversity: 38. Lupins – Benefit and harm potentials.", *Biodiversity*, 13(1), pp. 54-64. doi : 10.1080/14888386.2012.658327

Small, E. and Brookes, B. (2012). "Temperature and Moisture Content for Storage Maintenance of Germination Capacity of Seeds of Industrial Hemp, Marijuana, and Ditchweed Forms of *Cannabis sativa*.", *Journal of Natural Fibers*, 9(4), pp. 240-255. doi : 10.1080/15440478.2012.737179

Small, E. (2012). "The new Noah's Ark: beautiful and useful species only. Part 2: The chosen species.", *Biodiversity*, 13(1), pp. 37-53. doi : 10.1080/14888386.2012.659443

## 2011

Small, E. (2011). "The new Noah's Ark: beautiful and useful species only. Part 1. Biodiversity conservation issues and priorities.", *Biodiversity*, 12(4), pp. 232-247. doi : 10.1080/14888386.2011.642663

Small, E. (2011). "Blossoming treasures of biodiversity: 37. Spirulina - food for the universe.", *Biodiversity*, 12(4), pp. 255-265.

Small, E. (2011). "Blossoming treasures of biodiversity: 36. Castor Bean - taming the world's most poisonous plant.", *Biodiversity*, 12(3), pp. 186-195.

Small, E. and Darbyshire, S.J. (2011). "Blossoming treasures of biodiversity: 35. Mosquito Ferns (*Azolla* species) - tiny 'super plants'.", *Biodiversity*, 12(2), pp. 119-128.

Small, E. (2011). "Blossoming treasures of biodiversity: 34. Chia - not just a pet.", *Biodiversity*, 12(1), pp. 49-56.

## Other Science Related Publications:

### 2014

Small, E. (2014). "Top Canadian ornamental plants. 7. Geraniums.", *Canadian Botanical Association Bulletin*, 47(1), pp. 16-24.

Small, E. (2014). "Top Canadian ornamental plants. 9. Lilac.", *Canadian Botanical Association Bulletin*, 47(3), pp. 93-101.

Small, E. (2014). "Top Canadian ornamental plants. 8. Petunia.", *Canadian Botanical Association Bulletin*, 47(2), pp. 49-55.

### 2013

Catling, P.M., Mitrow, G., Small, E., Macklin, J.A., and Cayouette, J. (2013). "Examples of the value of The AAFC National Collection of Vascular Plants.", *Bulletin technique soumis à la Direction du CRECO*, 2013(Avril), pp. 9p.

Boutain, J.R., Visi, D.K., Allen, M.S., Xu, J., Small, E., Hummer, K.E., and McClatchey, W.C. (2013). "New approach to DNA barcoding fresh plant and herbarium specimens with semiconductor sequencing: a phyloplastome model with hops (*Humulus*, *Cannabaceae*).", 5th International Barcode of Life Conference, Chinese Academy of Sciences and Kunming Institute of Botany, Kunming, China. (Abstract)

Small, E. (2013). "Cannabis (hemp, marijuana) for the 21st century.", *Diamond Jubilee Seminar Series, AAFC Central Experimental Farm, Neatby Building/ AAC Ferme expérimentale centrale, Édifice Neatby, Ottawa, ON, Canada, May 10, 2013. (Presentation)*

Small, E. (2013). "Top Canadian ornamental plants. 6. Chrysanthemums.", *Canadian Botanical Association Bulletin*, 46(3), pp. 83-90.

Small, E. (2013). "Top Canadian ornamental plants. 5. Lilies.", *Canadian Botanical Association Bulletin*, 46(2), pp. 61-70.

Small, E. (2013). "Top Canadian ornamental plants. 4. Tulips.", *Canadian Botanical Association Bulletin*, 46(1), pp. 19-28.

### 2012

Small, E. (2012). "Top Canadian ornamental plants. Part 2. Roses.", *Canadian Botanical Association Bulletin*, 45(2), pp. 78-87.

Small, E. and Catling, P.M. (2012). *Canadian medicinal crops*, NRC Research Press. (Book)

Small, E., Catling, P.M., and Brookes, B. (2012). *Official Plant Emblems of Canada: A Biodiversity Treasure.*, Public Works and Government Services Canada (PWGSC)/ Travaux publics et Services gouvernementaux Canada (TPSGC). (Book)

Small, E. (2012). "Top Canadian ornamental plants. Overview. Part 3.", *Canadian Botanical Association Bulletin*, 45(1), pp. 33-44.

Small, E. (2012). "Top Canadian ornamental plants. Part 3. Poinsettia.", *Canadian Botanical Association Bulletin*, 45(3), pp. 118-124.

## 2011

Small, E. (2011). *Alfalfa and Relatives: Evolution and classification of Medicago.*, NRC Research Press and CABI Publishing. (Book)

Small, E. (2011). *Top 100 exotic food plants.*, CRC Press Taylor & Francis, Boca Raton, FL, USA. (Book)

Han, Y., Zhang, Y., Motes, C.M., Jiang, G., Sledge, M., Greene, S., Coyne, C., Kisha, T., Small, E., and Monteros, M.J. (2011). "Maximizing genetic diversity of the model legume *Medicago truncatula* using nested core collections.", *Model Legume Congress*, Sainte-Maxime, France, May 15-19, 2011. (Abstract)

Small, E. (2011). "Medicinal crops.", in Marsh, J.H. (ed.) - *The Canadian Encyclopedia/L'Encyclopédie canadienne*. (E-publication), Historical-Dominion Institute, Toronto, ON, Canada.

Small, E. (2011). "Top Canadian ornamental plants. Overview. Part 1.", *Canadian Botanical Association Bulletin*, 44(2), pp. 62-68.

Small, E. (2011). "Top Canadian ornamental plants. Overview. Part 2.", *Canadian Botanical Association Bulletin*, 44(3), pp. 100-112.

Small, E. and Catling, P.M. (2011). "Native plant emblems of Canada - 15. Maples.", *Canadian Botanical Association Bulletin*, 44(1), pp. 17-32.

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## Research Publications:

2015

Sheppard, S.C., Bittman, S., Donohoe, G., Flaten, D.N., Wittenberg, K.M., Small, J.A., Berthiaume, R.R., McAllister, T.A., Beauchemin, K.A., McKinnon, J.J., Amiro, B.D., MacDonald, D., Mattos, F., and Ominski, K.H. (2015). "Beef cattle husbandry practices across ecoregions of Canada in 2011.", *Canadian Journal of Animal Science*, 95(2), pp. 305-321. doi : 10.4141/CJAS-2014-158

2012

Legesse, G., Small, J.A., Scott, S.L., Kebreab, E., Crow, G.H., Block, H.C., Robins, C.D., Khakbazan, M., and McCaughey, W.P. (2012). "Bioperformance evaluation of various summer pasture and winter feeding strategies for cow-calf production.", *Canadian Journal of Animal Science*, 92(1), pp. 89-102. doi: 10.4141/CJAS2011-082

2011

Legesse, G., Small, J.A., Scott, S.L., Crow, G.H., Block, H.C., Alemu, A.W., Robins, C.D., and Kebreab, E. (2011). "Predictions of enteric methane emissions for various summer pasture and winter feeding strategies for cow calf production.", *Animal Feed Science and Technology*, 166-167, pp. 678-687. doi : 10.1016/j.anifeedsci.2011.04.082

## Other Science Related Publications:

2014

Sheppard, S.C., Bittman, S., Donohoe, G., Flaten, D.N., Wittenberg, K.M., Small, J.A., Berthiaume, R.R., McAllister, T.A., Beauchemin, K.A., McKinnon, J.J., and Ominski, K.H. (2014). "A new farm survey of beef management practices in Canada.", *Canadian Society of Soil Science Annual Meetings, Banff, AB, Canada, May 4-7, 2014. (Abstract)*

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## Research Publications:

2013

Smirle, M.J., Zurowski, C.L., Lowery, D.T., and Mostafa, A.M. (2013). "Insecticide susceptibility of three species of cutworm (Lepidoptera: Noctuidae) pests of grapes.", *Journal of Economic Entomology*, 106(5), pp. 2135-2140. doi : 10.1603/EC13110

## Other Science Related Publications:

2014

Smirle, M.J. (2014). Chemical control of spotted wing drosophila (SWD): insecticide efficacy, resistance development, and effects on natural enemies. Report to the British Columbia Cherry Association Research Committee. 7 pp. (research report to industry). (Report)

Smirle, M.J. (2014). "Chemical control of spotted wing drosophila: insecticide efficacy and resistance development.", British Columbia Cherry Association Annual General Meeting, Kelowna, BC, Canada, February 21, 2014. (Presentation)

Cossentine, J.E. and Smirle, M.J. (2014). "Microbial pathogens for biocontrol of spotted wing Drosophila.", British Columbia Cherry Association Annual General Meeting, Kelowna, BC, Canada, February 21, 2014. (Presentation)

2013

Smirle, M.J. (2013). "Spotted wing drosophila.", Regional Research Users' Meeting (RRUM) on Cherries, Summerland, BC, Canada, December 10, 2013. (Presentation)

Smirle, M.J., Zurowski, C.L., Derrick, B., and Cossentine, J.E. (2013). "Evaluation of insecticides for control of spotted-wing drosophila (*Drosophila suzukii*) adults using a dry-film bioassay.", Western Forum on Pest Management, Winnipeg, Canada, October, 2013. (PowerPoint presentation)

Dhillon, J., Smirle, M.J., and Cossentine, J.E. (2013). "Incidence of ovoviviparity in *Drosophila suzukii*.", Joint Annual Entomological Society of Ontario and Canada meeting, Guelph, ON, Canada, October, 2013. (Poster)

Cossentine, J.E., Vincent, C., Smirle, M.J., and Côté, J.-C. (2013). "*Choristoneura rosaceana*, obliquebanded leafroller (Lepidoptera: Tortricidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Wallingford, UK, pp. 130-134.

2011

Smirle, M.J., Zurowski, C.L., Lowery, D.T., and Mostafa, A.M. (2011). "Response to Insecticides of Cutworm Pests of Grapes.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011.

Smirle, M.J. (2011). "Spotted wing drosophila in North America.", Presentation to the staff of the Pest Management Centre and the Minor Use Program, Ottawa, ON, Canada, January 18, 2012. (Presentation)

Smirle, M.J. (2011). "Spotted wing drosophila - what is this new fruit fly in BC?", Lecture to the general public at the PARC-Summerland Open House, Summerland, BC, Canada, September, 2011. (Presentation)

# Smith, Anne M., Ph.D.

Research Scientist

Email: [anne.smith@agr.gc.ca](mailto:anne.smith@agr.gc.ca)

## Research Publications:

2015

Smith, A.M., Hill, M.J., and Zhang, Y. (2015). "Estimating ground cover in the mixed prairie grassland of southern Alberta using vegetation indices related to physiological function.", *Canadian Journal of Remote Sensing*, 41(1), pp. 51-66. doi : 10.1080/07038992.2015.1042101

2014

Eddy, P.R., Smith, A.M., Hill, B.D., Peddle, D.R., Coburn, C.A., and Blackshaw, R.E. (2014). "Weed and crop discrimination using hyperspectral image data and reduced bandsets.", *Canadian Journal of Remote Sensing*, 39(6), pp. 481-490. doi : 10.5589/m14-001

2012

Smith, A.M. (2012). "Spatial and temporal variation in vulnerability of crop production to drought in southern Alberta.", *Canadian Geographer*, 56(4), pp. 474-491. doi : 10.1111/j.1541-0064.2012.00440.x

2011

Buckley, J.R. and Smith, A.M. (2011). "Comparing RADARSAT 2 and TerraSAR-X quad-polar SAR imagery of grasslands.", *International Geoscience and Remote Sensing Symposium (IGARSS)*, 2011 (Article No. 6050022), pp. 3676-3679. doi : 10.1109/IGARSS.2011.6050022

Zhang, K., Wang, J.-G., and Pattey, E., Smith, A.M. (2011). "Improving the Retrieval of the Biophysical Parameters of Vegetation Canopies by using the Contribution Index.", *Canadian Journal of Remote Sensing*, 37(6), pp. 643-652. doi : 10.5589/m12-006

Smith, A.M. and Buckley, J.R. (2011). "Investigating RADARSAT-2 as a tool for monitoring grassland in western Canada.", *Canadian Journal of Remote Sensing*, 37(1), pp. 93-102.

Teillet, P.M., Ren, X., and Smith, A.M. (2011). "Suitability of rangeland terrain for satellite remote sensing calibration.", *Canadian Journal of Remote Sensing*, 36(5), pp. 451-463. doi : 10.5589/m10-074

## Other Science Related Publications:

2015

Smith, A.M., Yang, X., and Hill, M.J. (2015). "Remote sensing for grassland monitoring – a case study in the Alberta mixed grass sub-region.", 9th Symposium of the International Society for Digital Earth (ISDE), Halifax, NS, Canada, pp. 14. (Abstract)

Zebarth, B.J., Moreau, G., Smith, A.M., Toner, P., Cambouris, A.N., Goyer, C., Owen, J., and Burton, D.L. (2015). "Yield variation in potato fields: Lessons learned so far.", 2015 Crop Update Session, Fredericton, NB, Canada, January 13-14, 2015.

Zebarth, B.J., Moreau, G., Hemphil, M., Leclerc, Y., and Smith, A.M. (2015). "Overcoming limitations to potato productivity: the New Brunswick experience.", 2015 accelerated release open house of AAFC, Fredericton, NB, Canada, February 11, 2015. (Presentation)

Zebarth, B.J., Moreau, G., Dixon, W.T., Smith, A.M., and Cambouris, A.N. (2015). "Application of high resolution remote sensing imagery to potato production.", McCain Foods (Canada) grower meetings, Grand Falls/Florenceville, NB, Canada, February 24-25, 2015, Presentation.

Yang, X., Smith, A.M., and Hill, M.J. (2015). "Updating the Grassland Vegetation Inventory Using Landsat Imagery - Conversion of Native Grassland to Cultivated Agriculture.", 36th Canadian Symposium on Remote Sensing, St. John's, Newfoundland, Canada, pp. 140. (Abstract)

## 2014

Xu, S., Sura, S., Wang, G.P., Smith, A.M., Zaheer, R., Cook, S.R., Olson, A.F., Cessna, A.J., Lamey, F.J., and McAllister, T. A. (2014). "Degradation of antimicrobial resistance determinants during windrow composting and stockpiling of manure from cattle administered sub-therapeutic antimicrobials.", XVIth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada, July 27-August 1, 2014.

Zebarth, B.J., Moreau, G., Smith, A.M., and Toner, P. (2014). "Yield variation within potato fields: Case studies from 2013.", Northeast Potato Technology Forum 2014, Fredericton, NB, Canada, March 12-13, 2014.

Zebarth, B.J., Moreau, G., Smith, A.M., and Toner, P. (2014). "Yield variation within potato fields: Case studies from 2013.", Integrating new technologies to understand and manage the variability of our soils, Grand Falls, NB, Canada, March 29, 2014.

Smith, A.M., Zebarth, B.J., and Oseen, I. (2014). Assessing field variability in New Brunswick potato fields using unmanned aerial systems imagery. Report submitted to McCain Foods (Canada). (Report)

Moreau, G., Zebarth, B.J., Smith, A.M., and Toner, P. (2014). "Improving profitability and competitiveness through mitigation of limitations to potato yield.", Northeast Potato Technology Forum 2014, Fredericton, NB, Canada, March 12-13, 2014.

## 2013

Kloppenburg, C., Smith, A.M., Staenz, K., Bourchier, R.S., and Coburn, C.A. (2013). "Detecting Leafy Spurge in Native Grassland Using Hyperspectral Image Analysis.", 34th Canadian Symposium on Remote Sensing, Victoria, BC, Canada, August 27-30, 2013.

Oseen, I., Smith, A.M., Kloppenburg, C., Larson, G.L., and Bourchier, R.S. (2013). "Mapping the invasive weed species leafy spurge: the influence of image spatial and spectral resolution.", 34th Canadian Symposium on Remote Sensing, Victoria, BC, Canada, August 27-30, 2013.

## 2012

Smith, A.M. (2012). "Eye in the sky – Earth observation tools monitor grassland productivity.", AgExpo 2012, Lethbridge, AB, Canada, February 29-March 2, 2012. (Presentation)

## 2011

Kloppenburg, C., Smith, A.M., Staenz, K., Bourchier, R.S., and Van Hezewijk, B.H. (2011). "Detecting leafy spurge (*Euphorbia esula* L.) in native grassland using hyperspectral image analysis.", 32nd Canadian Symposium on Remote Sensing/14e Congrès de l'association québécoise de télédétection, Bishop's University, Lennoxville, QC, Canada, June 13-16, 2011.

Xu, W., Ren, X., and Smith, A.M. (2011). "Remote sensing, crop yield estimation and agricultural vulnerability assessment: A case of Southern Alberta.", 19th International Conference on Geoinformatics, Shanghai, China, June 24-26, 2011, published in Proceedings - 2011 19th International Conference on Geoinformatics, Article number 5980692, Category number CFP1132H-ART; Code 86318. (Presentation)

# Smith, Elwin G., Ph.D.

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## Research Publications:

2015

Harker, K.N., O'Donovan, J.T., Smith, E.G., Johnson, E.N., Peng, G., Willenborg, C.J., Gulden, R.H., Mohr, R.M., Gill, K.S., and Grenkow, L.A. (2015). "Seed size and seeding rate effects on canola emergence, development, yield and seed weight.", *Canadian Journal of Plant Science*, 95(1), pp. 1-8. doi : 10.4141/cjps-2014-222

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Dossall, L.M., Hall, L.M., Kutcher, H.R., Willenborg, C.J., Peng, G., Irvine, R.B., and Mohr, R.M. (2015). "Canola cultivar mixtures and rotations do not mitigate the negative impacts of continuous canola.", *Canadian Journal of Plant Science*, 95(6), pp. 1085-1099. doi : 10.4141/cjps-2015-126

Harker, K.N., Yu, A.Z., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Johnson, E.N., Gan, Y.T., Kutcher, H.R., Dossall, L.M., Peng, G. (2015). "Canola rotation frequency impacts canola yield and associated pest species.", *Canadian Journal of Plant Science*, 95(1), pp. 9-20. doi : 10.4141/cjps-2014-289

O'Donovan, J.T., Anbessa, Y., Grant, C.A., MacLeod, A., Edney, M.J., Izydorczyk, M.S., Turkington, T.K., Juskiw, P.E., Lafond, G.P., May, W.E., Harker, K.N., Johnson, E.N., Beres, B.L., McAllister, T.A., Smith, E.G., and Chapman, W. (2015). "Relative responses of new malting barley cultivars to increasing nitrogen rates in western Canada.", *Canadian Journal of Plant Science*, 95(5), pp. 831-839. doi : 10.4141/cjps-2014-415

St. Luce, M., Grant, C.A., Zebarth, B.J., Ziadi, N., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Khakbazan, M., and Smith, E.G. (2015). "Legumes can reduce economic optimum nitrogen rates and increase yields in a wheat-canola cropping sequence in western Canada.", *Field Crops Research*, 179, pp. 12-25. doi : 10.1016/j.fcr.2015.04.003

Smith, E.G., Janzen, H.H., and Kröbel, R. (2015). "Yield and profitability of fallow and fertilizer inputs in long-term wheat rotation plots at Lethbridge, Alberta.", *Canadian Journal of Plant Science*, 95(3), pp. 579-587. doi : 10.4141/CJPS-2014-356

Smith, E.G., Janzen, H.H., and Larney, F.J. (2015). "Long-term cropping system impact on quality and productivity of a Dark Brown Chernozem in southern Alberta.", *Canadian Journal of Soil Science*, 95(2), pp. 177-186. doi : 10.4141/CJSS-2014-104

2014

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Turkington, T.K., Lupwayi, N.Z., Stevenson, F.C., McLaren, D.L., Khakbazan, M., and Smith, E.G. (2014). "Rotational effects of legumes and non-legumes on hybrid canola and malting barley.", *Agronomy Journal*, 106(6), pp. 1921-1932. doi : 10.2134/agronj14.0236

Grant, B.B., Smith, W.N., Campbell, C.A., Desjardins, R.L., Lemke, R.L., Kröbel, R., McConkey, B.G., and Smith, E.G. (2014). "Comparison of DayCent and DNDC models: Case studies using data from long-term experiments on the Canadian prairies.", in Del Grosso, S., Parton, B., Lajpat, A. (eds.) - *Advances in Modeling Agricultural Systems: Trans-disciplinary Research, Synthesize, Modeling, and Applications*, Volume 5, ASA, CSSA, and SSSA, Madison, WI, USA.

Smith, E.G., Hao, X., and Miller, J.J. (2014). "Economics of Utilizing Biodigested Beef Feedlot Manure to Manage Nutrient Application to Cropland.", *International Journal of Renewable Energy & Biofuels*, 2014 (Article ID 371507). doi : 10.5171/2014.371507

Khakbazan, M., Grant, C.A., Huang, J., Smith, E.G., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Lafond, G.P., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., and Lupwayi, N.Z. (2014). "Economic effects of preceding crops and nitrogen application on canola and subsequent barley.", *Agronomy Journal*, 106(6), pp. 2055-2066. doi : 10.2134/agronj14.0253

2013

Kutcher, H.R., Brandt, K., Smith, E.G., Ulrich, D.J., and Malhi, S.S. (2013). "Blackleg disease of canola mitigated by resistant cultivars and four-year crop rotations in western Canada.", *Canadian Journal of Plant Pathology*. doi : 10.1080/07060661.2013.775600



Smith, E.G., Kutcher, H.R., Brandt, S.A., Ulrich, D.J., Malhi, S.S., and Johnston, M. (2013). "The profitability of short-duration canola and pea rotations in western Canada.", *Canadian Journal of Plant Science*, 93(5), pp. 933-940. doi : 10.4141/cjps2013-021

## 2012

Turkington, T.K., O'Donovan, J.T., Edney, M.J., Juskiw, P.E., McKenzie, R.H., Harker, K.N., Clayton, G.W., Xi, K., Lafond, G.P., Irvine, R.B., Brandt, S.A., Johnson, E.N., May, W.E., and Smith, E.G. (2012). "Effect of crop residue, nitrogen rate and fungicide application on malting barley productivity, quality, and foliar disease severity.", *Canadian Journal of Plant Science*, 92(3), pp. 577-588. doi: 10.4141/CJPS2011-216

Smith, E.G., O'Donovan, J.T., Henderson, W.J., Turkington, T.K., McKenzie, R.H., Harker, K.N., Clayton, G.W., Juskiw, P.E., Lafond, G.P., Brandt, S.A., Edney, M.J., Johnson, E.N., and May, W.E. (2012). "Net return risk for malting barley production in Western Canada as influenced by production strategies.", *Agronomy Journal*, 104(5), pp. 1374-1382. doi : 10.2134/agronj2011.0416

Smith, E.G., Janzen, H.H., Ellert, B.H., and Nakonechny, D.J. (2012). "Rotation 120 – Lethbridge Alberta.", *Prairie Soils and Crops*, 5, pp. 155-164.

Carew, R., Florkowski, W.J., and Smith, E.G. (2012). "Hedonic Analysis of Apple Attributes in Metropolitan Markets of Western Canada.", *Agribusiness: An International Journal*, 28(3), pp. 293-309. doi : 10.1002/agr.21302

Smith, E.G., Ellert, B.H., Janzen, H.H., and Nakonechny, E.M. (2012). "Rotation ABC – Lethbridge, Alberta.", *Prairie Soils and Crops*, 5, pp. 147-154.

O'Donovan, J.T., Turkington, T.K., Edney, M.J., Juskiw, P.E., McKenzie, R.H., Harker, K.N., Clayton, G.W., Lafond, G.P., Grant, C.A., Brandt, S.A., Johnson, E.N., May, W.E., and Smith, E.G. (2012). "Effect of seeding date and seeding rate on malting barley production in western Canada.", *Canadian Journal of Plant Science*, 92(2), pp. 321-330. doi : 10.4141/cjps2011-130

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Klein-Gebbinck, H.W., Dossall, L.M., Hall, L.M., Willenborg, C.J., Kutcher, H.R., Malhi, S.S., Vera, C.L., Gan, Y.T., Lafond, G.P., May, W.E., Grant, C.A., and McLaren, D.L. (2012). "High-yield no-till canola production on the Canadian prairies.", *Canadian Journal of Plant Science*, 92(2), pp. 221-233. doi : 10.4141/CJPS2011-125

Toor, I.A., Smith, E.G., Whalen, J.K., and Naseem, A. (2012). "Tree-Based Intercropping in Southern Ontario, Canada.", *Canadian Journal of Agricultural Economics*, 60(2), pp. 141-154. doi: 10.1111/j.1744-7976.2012.01245.x

Smith, E.G., Lamey, F.J., Nakonechny, D.J., Barbieri, J.M., and Lindwall, C.W. (2012). "Productivity of Long-Term No-Till Plots - Lethbridge Alberta.", *Prairie Soils and Crops*, 5, pp. 123-131.

Campbell, C.A., Juma, N.G., Zentner, R.P., Smith, E.G., Izaurralde, R.C., Robertson, J.A., Dyck, M.F., and Janzen, H.H. (2012). "A Bibliography of Scientific Publications Based on Long-Term Crop Rotation Studies in the Canadian Prairies.", *Prairie Soils and Crops*, 5, pp. 7-29.

## 2011

Kellman, L.M. and Smith, E.G. (2011). "Examination of nitrate concentration, loading and isotope dynamics in subsurface drain age under standard agricultural cropping in Atlantic Canada.", *Journal of Environmental Management*, 92(11), pp. 2892-2899. doi : 10.1016/j.jenvman.2011.06.043

## Other Science Related Publications:

### 2015

Beres, B.L., Pageau, D., Dion, Y., Turkington, T.K., Lupwayi, N.Z., Lamey, F.J., Ellert, B.H., and Smith, E.G. (2015). "Rotational Diversity Effects in a Cereal-Based Cropping System.", *Botany 2015*, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015.

Beres, B.L., Pageau, D., Dion, Y., Turkington, T.K., Lupwayi, N.Z., Lamey, F.J., Ellert, B.H., and Smith, E.G. (2015). "Rotational diversity effects in a cereal-based cropping system.", *Canadian Journal of Plant Science*. (Abstract)

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2015). "Legumes in rotation affect hybrid canola and malting barley.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015, Keynote Theme D oral presentation.

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Johnson, E.N., Kutcher, H.R., Willenborg, C.J., Gan, Y.T., Dossall, L.M., Hall, L.M., Peng, G., Irvine, R.B., and Mohr, R.M. (2015). "Sustainable canola production increases with cropping system diversity.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. (Poster)

## 2014

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Lafond, G.P., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2014). "Rotational Effects of Legumes and Non-Legumes on Hybrid Canola, and Malting Barley.", American Society of Agronomy Annual Meeting 2014, Long Beach, CA, USA, November 3-5, 2014.

Smith, E.G. and Janzen, H.H. (2014). "The value of soil quality indices in crop production for western Canada.", 2014 Canadian Economics Association and the Canadian Agricultural Economics Society annual joint meeting, Simon Fraser University, Vancouver, BC, Canada, May 29 - June 1, 2014.

Le Roy, D., Friesen, R., and Smith, E.G. (2014). "An Economic Analysis of Weed Control in Canola Grown in Western Canada.", 2014 Canadian Economics Association and the Canadian Agricultural Economics Society annual joint meeting, Simon Fraser University, Vancouver, BC, Canada, May 29 - June 1, 2014, Selected paper presentation.

Beres, B.L., Pageau, D., Dion, Y., Turkington, T.K., Lupwayi, N.Z., Lamey, F.J., Ellert, B.H., and Smith, E.G. (2014). "Rotational Diversity Effects in a Triticale-Based Cropping System.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

## 2013

Cagdas, A., Jeffrey, S.R., Smith, E.G., and Boxall, P. (2013). "Adoption of BMPs and Technical Inefficiency in Canadian Canola Production.", Agricultural and Applied Economics Association and the Canadian Agricultural Economics Society annual joint meeting, Washington DC, USA, August 4-6, 2013, Selected paper presentation.

O'Donovan, J.T., Turkington, T.K., Edney, M., Smith, E.G., Harker, K.N., Beres, B.L., Clayton, G.W., Brandt, S.A., Johnson, E.N., Lafond, G.P., May, W.E., Grant, C.A., McKenzie, R., Juskiw, P.E., Kadeta, Y., Stonehouse, K., and Chapman, B. (2013). "Varietal and agronomic impacts on malting barley yield and quality.", FarmTech 2013, Westin Hotel, Edmonton, AB, Canada, January 29-31, 2013.

Le Roy, D. and Smith, E.G. (2013). Biotechnology innovation in Canadian canola. Report to the Canola Council of Canada., Department of Economics, University of Lethbridge. (Report)

Smith, E.G. and Warner, K. (2013). Canola Yield as impacted by Inputs, Management Decisions and the Environment., Agriculture and Agri-Food Canada, Lethbridge Research Centre. (Report)

Smith, E.G., Carew, R., and Warner, K. (2013). "Decision Making Among Canola Growers in the Prairie Provinces: The impact of Farm and Grower Characteristics.", Agricultural and Applied Economics Association and the Canadian Agricultural Economics Society annual joint meeting, Washington DC, USA, August 4-6, 2013.

O'Donovan, J.T., Turkington, T.K., Edney, M., Juskiw, P.E., May, W.E., Grant, C.A., Smith, E.G., Harker, K.N., Johnson, E.N., Beres, B.L., Kadeta, Y., and Chapman, B. (2013). "Relative responses of malting barley varieties to increasing nitrogen rates.", 16th Australian Barley Technical Symposium, Melbourne, Australia, September 8-11, 2013, pp. 58.

Smith, E.G. and Wregget, J. (2013). Selected Responses by Canola Growers to a 2011 Survey - Report prepared for the Canola Council of Canada, January 24, 2013. (Report)

Smith, E.G. (2013). "Energy and Economics.", Agronomy and the Canadian Society of Agronomy annual joint meeting, Tampa, FL, USA, November 3-6, 2013.

Smith, E.G. (2013). "Survey of Canola Growers: Practices, Inputs and Production.", Soils and Crops 2013, Saskatchewan, SK, Canada, March 6, 2013.

## 2012

Miller, J.J., Chanasyk, D.S., Curtis, T.W., Olson, B.M., Lastuka, D., Lewis, M., Petry, S., Rogness, D., Ross, C.M., Schmitt, K., Smith, E.G., and Willms, W.D. (2012). "Influence of P- and N-based Manure Application on Runoff Quality.", 64th Annual International Conference of the Soil and Water Conservation Society (SWCS), Dearborn, MI, USA, July 11-15, 2009, Poster #41, pp. 68. (Poster)

Dunbar, J., Le Roy, D., and Smith, E.G. (2012). "Assessing the Risk and Returns From Alternative Canola Production Methods on the Canadian Prairies.", 2012 Annual Meeting of the Canadian Agricultural Economics Society (CAES), Niagara Falls, ON, Canada, June 17-19, 2012.

Smith, E.G. (2012). "Economics of F<sub>2</sub> canola seed.", Agronomy Update Conference 2012, Red Deer, AB, Canada, January 17-18, 2012. (Presentation)

Miller, J.J., Chanasyk, D.S., Curtis, T.W., Lastuka, D., Rogness, D., Ross, C.M., Schmitt, K., Smith, E.G., and Willms, W.D. (2012). "Watershed Evaluation of Beneficial Management Practices (WEBs project) in the Lower Little Bow River Basin of Southern Alberta.", 49th Annual Alberta Soil Science Workshop, Ramada Inn, Edmonton, AB, Canada, February 14-16, 2012. (Poster)

Smith, E.G. (2012). "Production Risk: An Application to Malting Barley in Alberta.", Alberta Agricultural Economics Association Annual Meeting, Red Deer, AB, Canada, May 3-4, 2012. (Presentation)

Smith, E.G., O'Donovan, J.T., Henderson, W.J., Turkington, T.K., and Clayton, G.W. (2012). "Malting Barley Production: Profitability and Risk", 2012 Annual Meeting of the Canadian Agricultural Economics Society (CAES), Niagara Falls, ON, Canada, June 17-19, 2012.

## 2011

Johnson, E.N., Brandt, S.A., Hall, L.M., and Smith, E.G. (2011). "Agronomic challenges and opportunities for second generation crops with novel traits and new crops.", in Beckie, H.J. and Hall, L.M. (eds.) - Topics in Canadian Weed Science, Vol. 8. New Crops and Crops with Second-Generation Traits: Weed Management Challenges, Canadian Weed Science Society – Société canadienne de malherbologie, Pinawa, MB, pp. 31-48.

Lamey, F.J., Willms, W.D., Smith, E.G., Janzen, H.H., Ellert, B.H., and Miller, J.J. (2011). "Other long-term experiments at Lethbridge Research Centre.", Historical Rotations Workshop, Lethbridge, AB, Canada, June 21-22, 2011. (Presentation)

# Smith, Ian M., Ph.D.

Research Scientist

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## Research Publications:

2012

Radwell, A.J. and Smith, I.M. (2012). "North American members of the reticulata-like species group of the water mite genus *Kongsbergia* (Acari: Hydrachnidae: Aturidae).", *Zootaxa*, 3540, pp. 1-49.

Radwell, A.J. and Smith, I.M. (2012). "Two unusual new species of *Kongsbergia* (Acari: Hydrachnidae: Aturidae) from eastern North America.", *International Journal of Acarology*, 38(7), pp. 557-563. doi : 10.1080/01647954.2012.710248

2011

Radwell, A.J., Dowling, A.P.G., Smith, I.M., and Kaliki, V. (2011). "*Kongsbergia robisoni*, n. Sp. (Acari: Hydrachnidae: Aturidae) from the interior highlands of north America based on morphology and molecular genetic analysis.", *International Journal of Acarology*, 37(Suppl. 1), pp. 194-205. doi: 10.1080/01647954.2010.548404

## Other Science Related Publications:

2012

Dowling, A.P.G., Radwell, A.J., and Smith, I.M. (2012). "Using monographs, cybertaxonomy, and phylogenetics to train a future generation of water mite systematists.", *Entomological Society of America (ESA) 60th Annual Meeting, Knoxville Convention Centre, Knoxville, TN, USA, November 11-14, 2012, #0032.*

2011

Scudder, G.G.E. and Smith, I.M. (2011). "Introduction and Summary.", in Scudder, G.G.E. and Smith, I.M. (eds.) - *Assessment of Species Diversity in the Montane Cordillera Ecozone. Series: Assessment of Species Diversity in Canadian Ecozones*, Royal British Columbia Museum, Canada.

Smith, I.M., Lindquist, E.E., and Behan-Pelletier, V.M. (2011). "Mites (Acari).", in Scudder, G.G.E. and Smith, I.M. (eds.) - *Assessment of Species Diversity in the Montane Cordillera Ecozone. Series: Assessment of Species Diversity in Canadian Ecozones*, Royal British Columbia Museum, Canada.

Scudder, G.G.E. and Smith, I.M. (Eds.) (2011). *Assessment of Species Diversity in the Montane Cordillera Ecozone. Series: Assessment of Species Diversity in Canadian Ecozones*, Canada: NRC Research Press. (Book)

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## Research Publications:

2015

Zalapa, J.E., Bougie, T.C., Bougie, T.A., Schlautman, B.J., Wiesman, E., Guzman, A., Fajardo, D.A., Steffan, S., and Smith, T.W. (2015). "Clonal diversity and genetic differentiation revealed by SSR markers in wild *Vaccinium macrocarpon* and *Vaccinium oxycoccos*." *Annals of Applied Biology*, 166(2), pp. 196-207. doi: 10.1111/aab.12173

2014

Lundholm, J.T., Heim, A., Tran, S., and Smith, T.W. (2014). "Leaf and life history traits predict plant growth in a green roof ecosystem." *PLoS ONE*, 9(6:e101395), pp. 1-9. doi: 10.1371/journal.pone.0101395

2012

Smith, T.W. and Lundholm, J.T. (2012). "Environmental geometry and heterogeneity–diversity relationships in spatially explicit simulated communities." *Journal of Vegetation Science*, 23(4), pp. 732-744. doi: 10.1111/j.1654-1103.2011.01380.x

2011

Balsdon, J.L., Smith, T.W., and Lundholm, J.T. (2011). "Phenotypic and genotypic differentiation of *Vaccinium vitis-idaea* (L.) between coastal barrens and forests in Nova Scotia, Canada." *Botany*, 89(3), pp. 147-155. doi: 10.1139/B11-003

Galbraith, D.A., Iwanycki, N.E., McGoey, B.V., McGregor, J., Pringle, J.S., Rothfels, C.J., and Smith, T.W. (2011). "The Evolving Role of Botanical Gardens and Natural Areas: A Floristics Case Study from Royal Botanical Gardens, Canada." *Plant Diversity and Resources*, 33(1), pp. 123-131. doi: 10.3724/SP.J.1143.2011.10235

## Other Science Related Publications:

2015

Nowell, V., Smith, T.W., Cavallin, N., and McPhee, J. (2015). COSEWIC Assessment and Update Status Report on the hop tree, *Ptelea trifoliata*, in Canada. Technical Report, Committee on the Status of Endangered Wildlife in Canada, Ottawa. (Report)

2014

Mitrow, G., Catling, P.M., Cayouette, J., Macklin, J.A., Smith, T.W., and Ward, A. (2014). Annual Report of the AAFC National Collection of Vascular Plants (DAO Herbarium) and National Vascular Plant Identification Service (January – December 2013). Completed in May 2014. (Report)

Côté, M.J., Leduc, L., Kerr, D., Dollard, C., Blain, A., Catling, P.M., Mitrow, G., Martin, S.L., Smith, T.W., and Macklin, J.A. (2014). "Barcoding of Quarantine and invasive species in Canada: Invasive Plants." *Weeds Across Borders*, Ottawa, Canada, October 2014. (Abstract)

Mitrow, G., Catling, P.M., Cayouette, J., Macklin, J.A., Smith, T.W., and Ward, A. (2014). "Preventing humidity and direct water damage in a dried plant collection (DAO)." *The Society for Preservation of Natural History Collection (SPNHC)*, June 2014. (Poster)

2013

Côté, M.J., Leduc, L., Kerr, D., Dollard, C., Catling, P.M., Mitrow, G., Martin, S.L., Smith, T.W., and Macklin, J.A. (2013). "Barcoding of Quarantine and Invasive Species in Canada: Invasive Plants. Co-operation project between the Canadian Food Inspection Agency – CFIA and AAFC (GRDI - Genomics Research and Development)." *Plant Genome Evolution Meeting 2013*, Amsterdam, The Netherlands, September 8-10, 2013. (Abstract)

Smith, T.W. and Wang, S. (2013). "Species Limits and Polyploidy in *Vaccinium oxycoccos*.", Canadian Botanical Association, Kamloops, BC, Canada, Oral Presentation.

Walinga, C. and Smith, T.W. (2013). "Morphometric analysis of the small-fruited cranberry, *Vaccinium oxycoccos* L. in eastern Canada.", Canadian Botanical Association, Kamloops, BC, Canada. (Poster)

## 2011

Rothfels, C.J. and Smith, T.W. (2011). COSEWIC assessment and update status report on the Green Dragon *Arisaema dracontium* in Canada., Committee on the Status of Endangered Wildlife in Canada (COSEWIC) Secretariat, Canadian Wildlife Service. (Report)

Smith, T.W. and Rothfels, C.J. (2011). COSEWIC assessment and update status report on the Broad Beech Fern *Phegopteris hexagonoptera* in Canada., Committee on the Status of Endangered Wildlife in Canada (COSEWIC) Secretariat, Canadian Wildlife Service. (Report)

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## Research Publications:

2016

Yang, X.-T., Song, J., Du, L., Fomey, C.F., Campbell-Palmer, L., Fillmore, S.A.E., Wismer, P., and Zhang, Z. (2016). "Ethylene and 1-MCP regulate major volatile biosynthetic pathways in apple fruit.", *Food Chemistry*, 194, pp. 325-336. doi : 10.1016/j.foodchem.2015.08.018

Song, J., Li, L., Yang, X., Palmer, C., Li, X.H., and Zhang, Z. (2016). "Quantitative proteomic investigations using stable isotope labeling by peptide dimethylation and multi reaction monitoring on fruit ripening, senescence and redox-antioxidant system.", *Acta Horticulturae (ISHS)*.

2015

Song, J., Du, L., Li, L., Campbell-Palmer, L., Fomey, C.F., Fillmore, S.A.E., Zhang, Z., and Li, X.H. (2015). "Targeted quantitative proteomic investigation employing multiple reaction monitoring on quantitative changes in proteins that regulate volatile biosynthesis of strawberry fruit at different ripening stages.", *Journal of Proteomics*, 126, pp. 288-295. doi : 10.1016/j.jprot.2015.06.004

Song, J. (2015). "Development of fruit proteomic techniques and their application to apples and pears: promises and challenges.", in Wills, R.B.H and Golding, J. (ed.) - *Advances in Postharvest Fruit and Vegetable Technology*, CRC Press Taylor, Boca Raton, FL, USA.

Song, J. (2015). "Recent postharvest technologies to manage flavour and phytochemicals.", in Wills, R.B.H and Golding, J. (ed.) - *Advances in Postharvest Fruit and Vegetable Technology*, CRC Press Taylor, Boca Raton, FL, USA, pp. 309-328.

Song, J., Du, L., Li, L., Kalt, W., Campbell, L., Fillmore, S.A.E., Zhang, Y., Zhang, Z., and Li, X.H. (2015). "Quantitative changes in proteins responsible for flavonoid and anthocyanin biosynthesis in strawberry fruit at different ripening stages: A targeted quantitative proteomic investigation employing multiple reaction monitoring.", *Journal of Proteomics*, 122, pp. 1-10. doi : 10.1016/j.jprot.2015.03.017

2014

Song, J., Fomey, C.F., and Jordan, M.A. (2014). "A method to detection of diphenylamine contamination of stored apple fruit and storages using headspace solid phase micro-extraction and gas chromatography/mass spectroscopy.", *Food Chemistry*, 160, pp. 255-259. doi : 10.1016/j.foodchem.2014.03.099

Du, L., Yang, X.-T., Song, J., Ma, Z., Zhang, Z., and Pang, X. (2014). "Characterization of the stage dependency of high temperature on green ripening reveals a distinct chlorophyll degradation regulation in banana fruit.", *Scientia Horticulturae*, 180, pp. 139-146. doi : 10.1016/j.scienta.2014.10.026

Song, J. (2014). "Recent Developments in Proteomic Analysis of Fruits.", in Wills, R.B.H and Golding, J. (ed.) - *Advances in Postharvest Fruit and Vegetable Technology*, CRC Press Taylor, Boca Raton, FL, USA, pp. 261-283.

2013

Fan, L. and Song, J. (2013). "Antimicrobial microbes-bacteriocin producing lactic acid bacteria.", in Méndez-Vilas, A. (ed.) - *Microbial pathogens and strategies for combating them: science, technology and education*, CRC Press, pp. 899-909.

Yang, X.-T., Song, J., Campbell-Palmer, L., Fillmore, S.A.E., and Zhang, Z. (2013). "Effect of ethylene and 1-MCP on expression of genes involved in ethylene biosynthesis and perception during ripening of apple fruit.", *Postharvest Biology and Technology*, 78, pp. 55-66. doi : 10.1016/j.postharvbio.2012.11.012

Chen, S., Fan, L., Song, J., Liu, C., and Zhang, H. (2013). "Identification of irradiated meats by determining o- and m-tyrosine as markers.", *Meat Science*, 93(2), pp. 226-232. doi : 10.1016/j.meatsci.2012.08.022

Zheng, Q., Song, J., Campbell-Palmer, L., Thompson, K.L., Li, L., Walker, B.A., Cui, Y.S., and Li, X.H. (2013). "A proteomic investigation of apple fruit during ripening and in response to ethylene treatment.", *Journal of Proteomics*, 93, pp. 276-294. doi : 10.1016/j.jprot.2013.02.006

Yang, X.-T., Li, L., Song, J., Campbell-Palmer, L., Pinto, D., Chisholm, K., Li, X.H., and Zhang, Z. (2013). "Peptide pre-fractionation is essential for proteomic approaches employing quantitative stable isotope dimethyl labeling and multiple reaction monitoring of fruit proteomic research.", *Journal of Separation Science*, 37(1-2), pp. 77-84. doi: 10.1002/jssc.201301041

Li, L., Song, J., Kalt, W., Fomey, C.F., Tsao, R., Pinto, D., Chisholm, K., Campbell, L., Fillmore, S.A.E., and Li, X.-H. (2013). "Quantitative proteomic investigation employing stable isotope labeling by peptide dimethylation on proteins of strawberry fruit at different ripening stages.", *Journal of Proteomics*, 94(6), pp. 219-239. doi: 10.1016/j.jprot.2013.09.004

## 2012

Yang, X.-T., Song, J., Campbell-Palmer, L., Walker, B.A., and Zhang, Z. (2012). "Allergen related gene expression in apple fruit is differentially controlled by ethylene during fruit ripening.", *Postharvest Biology and Technology*, 63(1), pp. 40-49. doi: 10.1016/j.postharvbio.2011.09.003

Bangerth, F., Song, J., and Streif, J. (2012). "Physiological Impacts of Fruit Ripening and Storage Conditions on Aroma Volatile Formation in Apple and Strawberry Fruit: A Review.", *HortScience*, 47(1), pp. 4-10.

## 2011

Fan, L., Song, J., Fomey, C.F., and Jordan, M.A. (2011). "Fruit maturity affects the response of apples to heat stress.", *Postharvest Biology and Technology*, 62(1), pp. 35-42. doi: 10.1016/j.postharvbio.2011.04.007

Yang, X.-T., Song, J., Fillmore, S.A.E., Pang, X., and Zhang, Z. (2011). "Effect of high temperature on color, chlorophyll fluorescence and volatile biosynthesis in green-ripe banana fruit.", *Postharvest Biology and Technology*, 62(3), pp. 246-257. doi: 10.1016/j.postharvbio.2011.06.011

## Other Science Related Publications:

### 2015

Fan, L., Chen, S., Doucette, C., Hughes, T., Song, J., Kalt, W., Zhang, H., and Fillmore, S.A.E. (2015). "Characterization of Heat-resistant Fungus, *Neosartorya pseudofischeri* Subjected to Heat Treatments.", IAFP Conference 2015, Published abstract. (Poster)

Fan, L., Chen, S., Doucette, C., Hughes, T., Song, J., Kalt, W., Zhang, H., and Fillmore, S.A.E. (2015). "Characterization of Heat-resistant Fungi-Food Safety and Quality Aspects.", Ag. Connect 2015 Summit. (Poster)

McClure, K.A., Gardner, K.M., Toivonen, P.M.A., Hampson, C.R., Lannard, B.L., Rajcan, I., Song, J., and Myles, S. (2015). "Genetic mapping using next-generation DNA sequencing in apple.", Canadian Plant Genome Workshop (CPGW 2015), Victoria, BC, Canada, August 1-13., 2015.

Fan, L., Chen, S., Doucette, C., Hughes, T., Song, J., Kalt, W., Zhang, H., and Fillmore, S.A.E. (2015). "Characterization of Heat-resistant Fungus, *Neosartorya pseudofischeri* Subjected to Heat Treatments.", Annual Meeting of the International Association of Food Protection (IAFP 2015), Oregon Convention Center, Portland, OR, USA, July 26-29, 2015, Published abstract. (Poster)

Chen, S., Fan, L., Song, J., Zhang, H., Doucette, C., Hughes, T., and Fillmore, S.A.E. (2015). "Antilisterial effect of bacteriocinogenic lactic acid bacteria in vegetable or fruit juice medium.", United Fresh 2015, Chicago, IL, USA, June 9-11, 2015. (Poster)

Toivonen, P.M.A., DeLong, J.M., Hampson, C.R., Song, J., Fomey, C.F., and Myles, S. (2015). "Peel maturity only correlates with soft scald in a highly susceptible orchard of Ambrosia™ apple.", *HortScience*, 50(9), pp. S181. (Abstract)

Paudel, J.R., Davidson, C., Campbell, L., Clark, C., Nolan, L., Song, J., Murphy, A.M., Itkin, M., Aharoni, A., and Tai, H.H. (2015). "Reduced Steroidal Glycoalkaloid Levels Affects *Solanum tuberosum* resistance against Pests and Diseases."

Song, J., Fomey, C.F., Myles, S., Sauerteig, K.A., Du, L., Hampson, C.R., Toivonen, P.M.A., Fan, L., DeLong, J.M., and Fillmore, S.A.E. (2015). "An integrated "omics" investigation on control mechanisms and molecular markers of apple fruit storage disorders.", AG Connect 2015 Summit, Truro, NS, USA, March 31-April 1, 2015. (Poster)

Fan, L., Chen, S., Doucette, C., Hughes, T., Song, J., Kalt, W., Zhang, H., and Fillmore, S.A.E. (2015). "Characterization of Heat-resistant Fungi-Food Safety and Quality Aspects.", AG Connect 2015 Summit, Truro, NS, USA, March 31-April 1, 2015. (Poster)

Du, L., Song, J., Palmer, C., Fillmore, S.A.E., and Zhang, Z. (2015). "Proteome changes in banana fruit in response to high temperature and ethylene treatments.", ASHS 2015, New Orleans, Louisiana, USA, August 4-7, 2015.



Song, J., Du, L., Kalt, W., Palmer, C., Fillmore, S.A.E., Zhang, Z., and Li, X.-H. (2015). "Targeted quantitative proteomic investigation reveals the changes in proteins responsible for flavonoid and anthocyanin biosynthesis in strawberry fruit at different ripening stages.", ASHS2015, New Orleans, Louisiana, USA, August 4-7, 2015.

Toivonen, P.M.A., DeLong, J.M., Song, J., and Fomey, C.F. (2015). "Peel Maturity only Correlates with Soft Scald in a Highly Susceptible Orchard of Ambrosia™ apple.", ASHS2015, New Orleans, Louisiana, USA, August 4-7, 2015.

Chen, S., Fan, L., Song, J., Zhang, H., Doucette, C., Hughes, T., and Fillmore, S.A.E. (2015). "Antilisterial effect of bacteriocinogenic lactic acid bacteria in vegetable or fruit juice medium.", United Fresh 2015, Chicago, IL, USA, June 9-11, 2015. (Poster)

## 2014

Chen, S., Fan, L., Song, J., Zhang, H., Doucette, C., and Fillmore, S.A.E. (2014). "Inhibitory effect of bacteriocinogenic lactic acid bacteria on *Listeria innocua* inoculated in simulated medium of vegetable or fruit juice.", 11th International Symposium on LAB, Conference presentation and published abstract.

Chen, S., Fan, L., Song, J., Zhang, H., Doucette, C., Hughes, T., and Campbell, L. (2014). "Quantitative proteomic investigation employing stable isotope labeling by peptide dimethylation on protein changes of *Lactococcus lactis*.", 11th International Symposium on LAB, Egmond aan Zee, The Netherlands, August 31-September 4, 2014, Conference presentation and published abstract.

Song, J., Li, L., Yang, X., Palmer, C., Li, X.H., and Zhang, Z. (2014). "Quantitative proteomic investigations using stable isotope labeling by peptide dimethylation and multi reaction monitoring on fruit ripening, senescence and redox-antioxidant system.", 29th International Horticultural Congress, Brisbane, Queensland, Australia, August 17-24, 2014.

Song, J., Fan, L., Li, L., Hughes, T., Palmer, C., and Li, X.H. (2014). "Quantitative proteomic investigation on effect of 1-methylcyclopropene treatments on postharvest quality of selected cut flowers.", 29th International Horticultural Congress, Brisbane, Queensland, Australia, August 17-24, 2014, Conference presentation and abstract.

## 2013

Fan, L., Song, J., Hughes, T., Doucette, C., Campbell-Palmer, L., and Fillmore, S.A.E. (2013). "Effects of electrolyzed water and 1-methylcyclopropene (1-MCP) on postharvest quality of selected cut flowers.", United Fresh 2013, San Diego Convention Center, San Diego, CA, USA, May 14-16, 2013.

Song, J. (2013). "Flavor of Apples.", The 149th NSFGA Annual Conference, Kentville, NS, Canada, January 30, 2013. (Presentation)

Yang, X.-T., Song, J., Campbell-Palmer, L., Fillmore, S.A.E., and Zhang, Z. (2013). "Evidences from Individual Studies of Ethylene and 1-MCP Treatment Prove that Volatile Biosynthesis Is Regulated by Ethylene in Apple (cv. 'Golden Delicious').", ASHS Annual Conference 2013, Palm Spring, California, USA, July 22-25, 2013.

Fan, L., Kalt, W., Doucette, C., Hughes, T., Song, J., Chen, S., Zhang, H., and Fillmore, S.A.E. (2013). "Challenge test on heat-resistant fungus, *Byssochlamys striata* inoculated in blueberry juice and subjected to heat treatments.", IAFP annual conference 2014, Charlotte, NC, USA, July 28-August 1, 2013. (Poster)

Yang, X.-T., Li, L., Song, J., Palmer, C., Pinto, D., Chisholm, K., Li, X.H., and Zhang, Z. (2013). "OFFGEL peptide pre-fractionation is essential for proteomic approaches employing quantitative stable isotope dimethyl labeling and multiple reaction monitoring (MRM) of fruit proteomic research.", 7th International Symposium on enabling technologies for life science, Toronto, ON, Canada, April 29-May 1, 2013. (Poster)

Song, J. (2013). "Utility of Ozone in the Postharvest Environment.", WSHA 109th Annual Meeting and NW Hort. Exp., Wenatchee, WA, USA, December 1-4, 2013. (Presentation)

Song, J. (2013). "Maintain and improve quality and safety of fresh fruit and vegetables: An integrated 'Omics' approach.", Department of Biology, Acadia University, Wolfville, NS, Canada, February 7, 2013. (Presentation)

Song, J. (2013). "Basic postharvest physiology of cold storage.", WSHA 109th Annual Meeting and NW Hort. Exp., Wenatchee, WA, USA, December 1-4, 2013. (Presentation)

Song, J. (2013). "Using Chlorophyll Fluorescence for the Rapid, Non-Destructive Assessment of Fruit Quality.", ASHS 2013 Workshop on Non-destructive fruit quality detection, Palm Spring, California, USA, July 22-25, 2013. (Presentation)

Fan, L., Song, J., Li, L., Hughes, T., Campbell-Palmer, L., and Li, X.H. (2013). "Postharvest Treatments to Maintain Quality and Control Diseases of Cut Flowers.", ASHS Annual Conference 2013, Palm Spring, California, USA, July 22-25, 2013.

Fan, L., Kalt, W., Doucette, C., Hughes, T., Song, J., Chen, S., Zhang, H., and Fillmore, S.A.E. (2013). "Characterization of heat-resistant fungus, *Byssochlamys striata* inoculated in blueberry juice and subjected to heat treatments.", IAFP annual conference 2014, Charlotte, NC, USA, July 28-August 1, 2013. (Poster)

2012

Yang, X.-T., Li, L., Song, J., Campbell-Palmer, L., Hong, X., and Zhang, Z.Q. (2012). "Application of OFFGEL and dimethylation labeling as quantitative proteomic analysis procedure to investigate protein changes in fruit during ripening and in response to postharvest treatment.", 109th Annual Conference of the American Society for Horticultural Science (ASHS), InterContinental Miami Hotel, Miami, FL, USA, July 31-August 3, 2012, Published in: *HortScience* 47(9), S169. (Abstract)

Fan, L., Song, J., Hughes, T., Doucette, C., and Campbell-Palmer, L. (2012). "Effect of 1-methylcyclopropene (1-MCP) and antimicrobial agent treatments on postharvest quality of selected cut flowers.", 109th Annual Conference of the American Society for Horticultural Science (ASHS), InterContinental Miami Hotel, Miami, FL, USA, July 31-August 3, 2012, Published in: *HortScience* 47(9), S354. (Abstract)

Fan, L., Song, J., Hughes, T., Doucette, C., and Campbell-Palmer, L. (2012). "Application of chlorophyll fluorescence (CF) technology to monitor postharvest quality of cut flowers during storage and after 1-MCP treatment.", 7th International Postharvest Symposium (IPS 2012), Putra World Trade Centre, Kuala Lumpur, Malaysia, June 25-29, 2012.

Fomey, C.F., Fan, L., Song, J., and Jordan, M.A. (2012). "Impact of Heat Treatments on the Volatile Composition of Apples.", United Fresh 2012, Dallas Convention Center, Dallas, TX, USA, May 1-23, 2012. (Poster)

Song, J. (2012). "Unraveling fruit ripening, senescence and redox-antioxidant system by employing quantitative proteomic investigations using stable isotope labeling by peptide dimethylation and multi reaction monitoring (MRM).", Gordon Research Conference on Plant Senescence: Epigenetic, Genetic, and Signaling Processes in Senescence, Stonehill college, Easton, MA, USA, July 8-12, 2012.

Song, J., Tsao, R., Yang, R., and Campbell-Palmer, L. (2012). "Effect of 1-MCP treatment on polyphenolics and antioxidants compounds in apple fruit during ripening.", 109th Annual Conference of the American Society for Horticultural Science (ASHS), InterContinental Miami Hotel, Miami, FL, USA, July 31-August 3, 2012, Published in: *HortScience* 47(9), S264. (Abstract)

Song, J. and Fan, L. (2012). "Post-harvest treatments (1-MCP and antimicrobials) to maintain quality and control diseases of fresh-cut flowers.", Research and Innovation Forum, Canadian Ornamental Science Cluster, Mississauga, ON, Canada, December 5, 2012. (Presentation)

Fan, L., Yang, E., Song, J., Jiang, Y.M., Doucette, C., and Fillmore, S.A.E. (2012). "Optimizing growth condition for bacteriocinogenic lactic acid bacteria and bacteriocins production.", How bugs kill bugs: progress and challenges in bacteriocin research, University of Nottingham, Nottingham, UK, July 16-18, 2012. (Poster)

Fan, L., Sharpe, D., Yang, E., Doucette, C., Song, J., Truelstrup-Hansen, L., and Fillmore, S.A.E. (2012). "Antimicrobial effects of bacteriocins producing lactic acid bacteria isolated from plant origin.", How bugs kill bugs: progress and challenges in bacteriocin research, University of Nottingham, Nottingham, UK, July 16-18, 2012. (Poster)

2011

Fan, L., Sharpe, D., Yang, E., Doucette, C., Song, J., Truelstrup-Hansen, L., and Fillmore, S.A.E. (2011). "Antimicrobial effects of bacteriocins producing lactic acid bacteria isolated from plant origin.", 108th Annual Conference of the American Society for Horticultural Science (ASHS), Hilton, Waikoloa, HI, USA, September 25-28, 2011, P049.

Fan, L., Yang, E., Doucette, C., Song, J., Jiang, Y., Fillmore, S.A.E., and Walker, B.A. (2011). "Antimicrobial effect of commercial fermentation product and edible coating on fresh-cut squashes.", 108th Annual Conference of the American Society for Horticultural Science (ASHS), Hilton, Waikoloa, HI, USA, September 25-28, 2011, Published in: *HortScience* 46(9), S341. (Abstract)

Song, J., Yang, X.-T., Zhang, Z., and Campbell-Palmer, L. (2011). "Ethylene perception and biosynthesis in apple fruit is differentially controlled by ethylene during fruit ripening and senescence.", 108th Annual Conference of the American Society for Horticultural Science (ASHS), Hilton, Waikoloa, HI, USA, September 25-28, 2011, P7095.

Song, J., Yang, X.-T., Campbell-Palmer, L., and Zhang, Z. (2011). "Gene expression in relationship to volatile biosynthesis in apple fruit during ripening and senescence.", 108th Annual Conference of the American Society for Horticultural Science (ASHS), Hilton, Waikoloa, HI, USA, September 25-28, 2011, P7094.

Fomey, C.F., Fan, L., Song, J., and Jordan, M.A. (2011). "Heat stress and fruit maturity affects the volatile composition of apples during storage.", 108th Annual Conference of the American Society for Horticultural Science (ASHS), Hilton, Waikoloa, HI, USA, September 25-28, 2011, Published in: *HortScience*, 46(9), pp.S271, #222. (Poster)

Song, J., Pinto, D.M., Chisholm, K., and Campbell-Palmer, L. (2011). "Proteomic investigation on protein variations of apple fruit during ripening and senescence using triplex protein quantification technique based on stable isotope labeling by peptide dimethylation.", 5th Symposium on Enabling Technologies for Proteomics (ETP2011) conjunction with the 3rd Annual Symposium

of the Canadian National Proteomics Network (CNPN), Fairmont Banff Springs Hotel, Banff, AB, Canada, May 8-11, 2011.

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## Research Publications:

2015

Tansey, J.A., Dosdall, L.M., Soroka, J.J., and Keddie, A.B. (2015). "The influence of weather on crucifer flea beetle capture heights.", *The Canadian Entomologist*, 147(1), pp. 89-96. doi : 10.4039/tce.2014.23

Soroka, J.J., Olivier, C.Y., Grenkow, L.F., and Séguin-Swartz, G.T. (2015). "Interactions between *Camelina sativa* and Insect Pests of Canola.", *The Canadian Entomologist*, 147(2), pp. 193-214. doi : 10.4039/tce.2014.42

2014

Bahar, M.H., Soroka, J.J., Grenkow, L.A., and Dosdall, L.M. (2014). "New threshold temperatures for the development of a North American diamondback moth population and its larval parasitoid, *Diadegma insulare* (Hymenoptera: Ichneumonidae).", *Environmental Entomology*, 43(5), pp. 1443-1452. doi : 10.1603/EN14055

2013

Bahar, M.H., Hegedus, D.D., Soroka, J.J., Coutu, C., Bekkaoui, D.R., and Dosdall, L.M. (2013). "Survival and Hsp70 Gene Expression in *Plutella xylostella* and Its Larval Parasitoid *Diadegma insulare* Varied between Slowly Ramping and Abrupt Extreme Temperature Regimes", *PLoS ONE*, 8(9): Article e73901. doi : 10.1371/journal.pone.0073901

Soroka, J.J. and Grenkow, L.F. (2013). "Susceptibility of Brassicaceous Plants to Feeding by Flea Beetles, *Phyllotreta* spp. (Coleoptera: Chrysomelidae)", *Journal of Economic Entomology*, 106(6), pp. 2557-2567. doi : 10.1603/EC13102

Bahar, M.H., Soroka, J.J., Dosdall, L.M., and Olfert, O.O. (2013). "Occurrence of diamondback moth and its larval parasitoids in Saskatchewan, Canada.", *Biocontrol Science and Technology*, 23(3), pp. 724-729. doi : 10.1080/09583157.2013.790343

2012

Onyilagha, J.C., Gruber, M.Y., Hallett, R.H., Holowachuk, J., Buckner, A., and Soroka, J.J. (2012). "Constitutive flavonoids deter flea beetle insect feeding in *Camelina sativa* L.", *Biochemical Systematics and Ecology*, 42, pp. 128-133. doi : 10.1016/j.bse.2011.12.021

Soroka, J.J. and Grenkow, L.F. (2012). "When is fall feeding by flea beetles (*Phyllotreta* spp., Coleoptera: Chrysomelidae) on canola (*Brassica napus* L.) a problem?", *Canadian Journal of Plant Science*, 92(1), pp. 97-107. doi : 10.4141/CJPS2011-088

Bahar, M.H., Soroka, J.J., and Dosdall, L.M. (2012). "Constant versus fluctuating temperatures in the interactions between *Plutella xylostella* (Lepidoptera: Plutellidae) and its larval parasitoid *Diadegma insulare* (Hymenoptera: Ichneumonidae).", *Environmental Entomology*, 41(6), pp. 1653-1661. doi : 10.1603/en12156

2011

Soroka, J.J. and Otani, J.K. (2011). "Arthropods of Legume Forage Crops.", in Floate, K.D. (ed.) - *Arthropods of Canadian Grasslands. Vol. 2: Inhabitants of a Changing Landscape*, Biological Survey of Canada (BSC), Chapter 10, pp. 239-264.

Wei, S., Hannoufa, A., Soroka, J.J., Xu, N., Li, X.L., Gruber, M.Y., and Zebarjadi, A. (2011). "Enhanced  $\beta$ -ionone Emission in *Arabidopsis* Over-Expressing *AtCCD1* Reduces Feeding Damage *in vivo* by the Crucifer Flea Beetle.", *Environmental Entomology*, 40(6), pp. 1622-1630. doi : 10.1603/EN11088

Dosdall, L.M., Soroka, J.J., and Olfert, O.O. (2011). "The Diamondback Moth in Canola and Mustard: Current Pest Status and Future Prospects.", *Prairie Soils and Crops*, 4, pp. 66-76.

Soroka, J.J. and Dosdall, L.M. (2011). "Coping with Root Maggots in Prairie Canola Crops.", *Prairie Soils and Crops*, 4, pp. 24-31.

Soroka, J.J. and Elliott, R.H. (2011). "Innovative Methods for Managing Flea Beetles in Canola.", *Prairie Soils and Crops*, 4, pp. 1-7.

Soroka, J.J., Holowachuk, J., Gruber, M.Y., and Grenkow, L.F. (2011). "Feeding by Flea Beetles (Coleoptera: Chrysomelidae: *Phyllotreta* spp.) Is Decreased on Canola (*Brassica napus*) Seedlings with Increased Trichome Density.", *Journal of Economic Entomology*, 104(1), pp. 125-136. doi: 10.1603/EC10151

## Other Science Related Publications:

2015

Elliott, R.H., Mann, L.W., Olivier, C.Y., Olfert, O.O., and Soroka, J.J. (2015). "Evaluation of new technologies and management practices for flea beetles and leafhoppers in canola.", Invited webinar presentations to Canola Council of Canada agronomists, Saskatoon, Canada, April 10 and 24, 2015. (Presentation)

Philip, H., Svendsen, E., Olfert, O.O., Olivier, C.Y., Cárcamo, H.A., Soroka, J.J., Otani, J.K., and Wist, T. (2015). *Field Crop and Forage Pests and their Natural Enemies in Western Canada – Identification and Management Field Guide*. (Report)

Elliott, R.H., Mann, L.W., Olivier, C.Y., Olfert, O.O., and Soroka, J.J. (2015). "Evaluation of new technologies and management practices for flea beetles and leafhoppers in canola. Industry Update. Saskatoon. February 9, 2015." (Technology transfer)

2014

Soroka, J.J., Andreassen, L.D., Olfert, O.O., and Weiss, R.M. (2014). "Distribution of swede midge on the Prairies.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014.

Otani, J.K., Soroka, J.J., and Olfert, O.O. (2014). "Swede midge in Emerging issues session – CanoLAB 2014.", Organized by the Canola Council of Canada & Alberta Canola Producers Commission, Olds, AB, Canada, February 19-21, 2014. (Presentation)

Olfert, O.O., Cárcamo, H.A., Elliott, R.H., Gan, Y.T., McLaren, D.L., Olivier, C.Y., Otani, J.K., Peng, G., and Soroka, J.J. (2014). Detection, surveillance and management of weed, insect and disease pests that threaten the economic viability of crop production and the environmental health of prairie agro-ecosystems. Annual Report to Canola Science Cluster (4 pages). (Report)

2013

Bahar, M.H., Olivier, C.Y., Bekkaoui, D.R., Hegedus, D.L., and Soroka, J.J. (2013). "Detection, quantification and within-plant distribution of Aster yellows phytoplasmas through digital PCR (ddPCR).", 32nd new phytologist symposium, Universidad Católica, Puerto Madero Campus, Buenos Aires, Argentina, November 20-22, 2013, pp. 53.

Munir, S., Dosedall, L.M., Soroka, J.J., Olfert, O.O., and Andrahennadi, R. (2013). "Diamondback moth, *Plutella xylostella* (L.) (Lepidoptera: Plutellidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Wallingford, UK.

2012

Bahar, M.H., Soroka, J.J., Hegedus, D.D., and Dosedall, L.M. (2012). "Thermal tolerance and HSP70 gene expression in DBM and *Diadegma insulare*.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #7. (Abstract)

Munir, S., Dosedall, L.M., Soroka, J.J., and Olfert, O.O. (2012). "Impact of water-stressed host plant on oviposition choices of diamondback moth, *Plutella xylostella*.", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #136. (Abstract)

Soroka, J.J., Otani, J.K., Gavloski, J.E., and Elliott, R.H. (2012). "The biology and control of flea beetles in Western Canadian canola crops: Is a species shift in progress?", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #180. (Abstract)

Soroka, J.J. (2012). "Flea beetles in western Canada: Is a species shift in progress?", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, Abstract 180.

Bahar, M.H., Soroka, J.J., Dosedall, L.M., and Olfert, O.O. (2012). "Survival and development of diamondback moth and its parasitoid *Diadegma insulare* under various short-term high extreme temperature regimes.", Entomological Society of America (ESA) 60th Annual Meeting, Knoxville Convention Centre, Knoxville, TN, USA, November 11-14, 2012, #1024.

Elliott, R.H., Soroka, J.J., and Mann, L.W. (2012). "Lab bioassays to evaluate the effect of temperature and soil moisture on the toxicity of seed treatments to crucifer and striped flea beetles.", Prairie Pest Monitoring Network, Saskatoon, SK, Canada, March 2012. (Presentation)

Soroka, J.J. (2012). "Innovative methods of managing flea beetles in canola.", Top Crop Manager (Western edition)(November), pp. 76-78.

Soroka, J.J. and Elliott, R.H. (2012). "Innovative methods of managing flea beetles in canola.", Top Crop Manager (Western edition), 2012(November), pp. 76-78.

Bassendowski, K.A., Soroka, J.J., and Gossen, B.D. (2012). "Foliar disease severity on alfalfa in Saskatchewan, 2012.", Canadian Plant Disease Survey, 93, pp. 142.

Soroka, J.J., Elliott, R.H., Otani, J.K., and Gavloski, J.E. (2012). "Changing flea beetle species – what you see isn't what you had but does it matter?", Saskatchewan Ministry of Agriculture Agronomy Update 2012, Saskatoon, SK, Canada, December 14, 2012. (Presentation)

## 2011

Gruber, M.Y. and Soroka, J.J. (2011). "Hairy Canola Meets the Crucifer Flea Beetle.", published by Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC).

Elliott, R.H., Mann, L.W., and Soroka, J.J. (2011). "Factors influencing flea beetle damage and the efficacy of neonicotinoid seed treatments.", Prairie Pest Monitoring Network Annual Meeting, Saskatoon, SK, Canada, March 10, 2011.

Olivier, C.Y., Ghani, S., Galka, B., Séguin-Swartz, G.T., and Soroka, J.J. (2011). "Investigation of the use of Burkholderia phytofirmans strain PsJN for flea beetle control in canola.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, Abstract P 303, pp. 477.

Soroka, J.J. (2011). "Estimating flea beetle damage in canola.", published by Canola Council of Canada. (Factsheet)

Olfert, O.O., Weiss, R.M., and Soroka, J.J. (2011). "Modeling Tools Provide Advance Warnings of Potential Distribution of Diamondback Moth and Crop Risk Associated with the Number of Generations.", OECD Workshop on Integrated Pest Management (IPM): Technology and Information, Berlin, Germany, October 16-19, 2011.

Olfert, O.O., Weiss, R.M., Soroka, J.J., and Dossall, L.M. (2011). "Modeling Tools Provide Advance Warnings of Potential Distribution of Diamondback Moth and Crop Risk Associated with the Number of Generations.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, Abstract P 304, pp. 478. (Abstract)

Soroka, J.J., Otani, J.K., and Cárcamo, H.A. (2011). "Survey to detect potential flea beetle (Coleoptera: Chrysomelidae) species composition shift in Canadian oilseed rape fields.", 13th International Rapeseed Congress, Prague, Czech Republic, June 5-9, 2011, Abstract P 290, pp. 465.

Soroka, J.J. (2011). "National Forage Pest Report 2010.", Annual Meeting 2011 Canadian Forum on Forages and Grasslands, Saskatoon, SK, Canada, December 13-14, 2011.

Soroka, J.J. (2011). "Research Report.", Annual Meeting 2011 Western Forum on Crop Pests, Delta Grand Okanagan Resort & Conference Centre, Kelowna, BC, Canada, October 16-18, 2011.

Soroka, J.J. (2011). "Alfalfa insect survey 2010 and survey needs 2011.", Saskatchewan Ministry of Agriculture Forage Specialists and Senior Managers, Saskatoon, SK, Canada, April 6, 2011. (Presentation)

Soroka, J.J. (2011). "Insect pests of alfalfa hay - what China doesn't want to see.", Canadian Food Inspection Agency alfalfa hay pest training session, Lethbridge, AB, Canada, June 27, 2011. (Presentation)

Soroka, J.J. (2011). "What's seeding my crop? Research on insects in oilseed rape on the Canadian prairies.", Plant Protection Institute, Hungarian Academy of Sciences, Budapest, Hungary, June 9, 2011. (Presentation)

Soroka, J.J. (2011). "Impact of crop rotation on insect pests.", Saskatchewan Ministry of Agriculture Agronomy Research Update 2011, Saskatoon, SK, Canada, December 8, 2011. (Presentation)

Soroka, J.J. and Dossall, L.M. (2011). "Coping with root maggots in prairie canola - a research review.", Top Crop Manager (Western edition), 2011(November), pp. 24-26.

Soroka, J.J. and Goerzen, D.W. (2011). "Alfalfa Seed Insect Pest Management.", Saskatchewan Seed Producers' Association Newsletter, 24(2), pp. 7-14.

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## Research Publications:

2016

Haddad, L.E., Roy, J.-P., Khalil, G.E., St-Gelais, D., Champagne, C.P., Labrie, S., and Moineau, S. (2016). "Efficacy of two Staphylococcus aureus phage cocktails in cheese production.", *International Journal of Food Microbiology*, 217, pp. 7-13. doi : 10.1016/j.ijfoodmicro.2015.10.001

2015

Demers-Mathieu, V., Audy, J., Laurin, E., Fliss, I., and St-Gelais, D. (2015). "Impact of commercial mesophilic and thermophilic starters on the growth of new probiotic isolates.", *International Dairy Journal*, 45, pp. 31-40. doi : 10.1016/j.idairyj.2015.01.014

Stratulat, I., Britten, M., Salmieri, S., Fustier, P., St-Gelais, D., Champagne, C.P., and Lacroix, M. (2015). "Enrichment of cheese with vitamin D3 and vegetable omega-3.", *Journal of Functional Foods*, 13, pp. 300-307. doi : 10.1016/j.jff.2015.01.004

Thibaudeau, E., Roy, D., and St-Gelais, D. (2015). "Production of brine-salted Mozzarella cheese with different ratios of NaCl/KCl.", *International Dairy Journal*, 40, pp. 54-61. doi : 10.1016/j.idairyj.2014.07.013

2014

Amine, K.M., Champagne, C.P., Raymond, Y., St-Gelais, D., Britten, M., Fustier, P., Salmieri, S., and Lacroix, M. (2014). "Survival of microencapsulated *Bifidobacterium longum* in Cheddar cheese during production and storage.", *Food Control*, 37(1), pp. 193-199. doi : 10.1016/j.foodcont.2013.09.030

Haddad, L.E., Abdallah, N.B., Plante, P.-L., Dumaresq, J., Katsarava, R., Labrie, S., Corbeil, J., St-Gelais, D., and Moineau, S. (2014). "Improving the Safety of *Staphylococcus aureus* Polyvalent Phages by Their Production on a *Staphylococcus xylosum* Strain.", *PLoS ONE*, 9(7 (e102600)). doi : 10.1371/journal.pone.0102600

Lessard, M.-H., Viel, C., Boyle, B., St-Gelais, D., and Labrie, S. (2014). "Metatranscriptome analysis of fungal strains *Penicillium camemberti* and *Geotrichum candidum* reveal cheese matrix breakdown and potential development of sensory properties of ripened Camembert-type cheese.", *BMC Genomics*, 15(1: Article number 235), pp. 1-13. doi : 10.1186/1471-2164-15-235

Stratulat, I., Britten, M., Salmieri, S., Fustier, P., St-Gelais, D., Champagne, C.P., and Lacroix, M. (2014). "Enrichment of cheese with bioactive lipophilic compounds.", *Journal of Functional Foods*, 6(1), pp. 48-59. doi : 10.1016/j.jff.2013.11.023

Amine, K.M., Champagne, C.P., Salmieri, S., Britten, M., St-Gelais, D., Fustier, P., and Lacroix, M. (2014). "Effect of palmitoylated alginate microencapsulation on viability of *Bifidobacterium longum* during freeze-drying", *Food Science & Technology (London)*, 56(1), pp. 111-117. doi : 10.1016/j.lwt.2013.11.003

2013

Giroux, H.J., Constantineau, S., Fustier, P., Champagne, C.P., St-Gelais, D., Lacroix, M., and Britten, M. (2013). "Cheese fortification using water-in-oil-in-water double emulsions as carrier for water soluble nutrients.", *International Dairy Journal*, 29(2), pp. 107-114. doi : 10.1016/j.idairyj.2012.10.009

Gardner-Fortiera, C., St-Gelais, D., Champagne, C.P., and Vuilleumard, J.-C. (2013). "Determination of optimal conditions for  $\gamma$ -aminobutyric acid production by *Lactococcus lactis* ssp. *Lactis*", *International Dairy Journal*, 32(2), pp. 136-143. doi : 10.1016/j.idairyj.2013.03.013

Lacroix, N., St-Gelais, D., Champagne, C.P., and Vuilleumard, J.-C. (2013). "Gamma-aminobutyric acid-producing abilities of lactococcal strains isolated from old-style cheese starters.", *Dairy Science & Technology*, 93(3), pp. 315-327. doi : 10.1007/s13594-013-0127-4

Gentès, M.-C., St-Gelais, D., and Turgeon, S.L. (2013). "Exopolysaccharide-milk protein interactions in a dairy model system simulating yoghurt conditions.", *Dairy Science & Technology*, 93(3), pp. 255-271. doi : 10.1007/s13594-013-0121-x

Pouliot-Mathieu, K., Gardner-Fortiera, C., Lemieux, S., St-Gelais, D., Champagne, C.P., and Vuilleumard, J.-C. (2013). "Effect of cheese containing gamma-aminobutyric acid-producing lactic acid bacteria on blood pressure in men.", *PharmaNutrition*, 1(4), pp. 141-148. doi : 10.1016/j.phanu.2013.06.003

Stratulat, I., Britten, M., Salmieri, S., St-Gelais, D., Champagne, C.P., Fustier, P., and Lacroix, M. (2013). "Encapsulation of coenzyme Q10 in a simple emulsion-based nutraceutical formulation and application in cheese manufacturing", *Food Chemistry*, 141(3), pp. 2707-2712. doi: 10.1016/j.foodchem.2013.05.057

Giroux, H.J., De Grandpré, G., Fustier, P., Champagne, C.P., St-Gelais, D., Lacroix, M., and Britten, M. (2013). "Production and characterization of Cheddar-type cheese enriched with green tea extract.", *Dairy Science & Technology*, 93(3), pp. 241-254. doi : 10.1007/s13594-013-0119-4

## 2012

Lavoie, K., Touchette, M., St-Gelais, D., and Labrie, S (2012). "Characterization of the fungal microflora in raw milk and specialty cheeses of the province of Quebec.", *Dairy Science & Technology*, 92(5), pp. 455-468. doi : 10.1007/s13594-011-0051-4

Lessard, M.-H., Bélanger, G., St-Gelais, D., and Labrie, S (2012). "The Composition of Camembert Cheese-Ripening Cultures Modulates both Mycelial Growth and Appearance.", *Applied and Environmental Microbiology*, 78(6), pp. 1813-1819. doi : 10.1128/AEM.06645-11

## 2011

Han, J., Britten, M., St-Gelais, D., Champagne, C.P., Fustier, P., Salmieri, S., and Lacroix, M. (2011). "Polyphenolic compounds as functional ingredients in cheese.", *Food Chemistry*, 124(4), pp. 1589-1594. doi : 10.1016/j.foodchem.2010.08.021

Fortin, M.-H., Champagne, C.P., St-Gelais, D., Britten, M., Fustier, P., and Lacroix, M. (2011). "Viability of *Bifidobacterium longum* in cheddar cheese curd during manufacture and storage: Effect of microencapsulation and point of inoculation.", *Dairy Science & Technology*, 91(5), pp. 599-614. doi : 10.1007/s13594-011-0034-5

Gentès, M.-C., St-Gelais, D., and Turgeon, S.L. (2011). "Gel formation and rheological properties of fermented milk with in situ exopolysaccharide production by lactic acid bacteria.", *Dairy Science & Technology*, 91(5), pp. 645-661. doi : 10.1007/s13594-011-0039-0

Fortin, M.-H., Champagne, C.P., St-Gelais, D., Britten, M., Fustier, P., and Lacroix, M. (2011). "Effect of time of inoculation, starter addition, oxygen level and salting on the viability of probiotic cultures during Cheddar cheese production.", *International Dairy Journal*, 21(2), pp. 75-82. doi : 10.1016/j.idairyj.2010.09.007

Han, J., Britten, M., St-Gelais, D., Champagne, C.P., Fustier, P., Salmieri, S., and Lacroix, M. (2011). "Effect of polyphenolic ingredients on physical characteristics of cheese.", *Food Research International*, 44(1), pp. 494-497. doi : 10.1016/j.foodres.2010.10.026

Azarnia, S., Lee, B.-H., St-Gelais, D., Kilcawley, K.N., and Noroozi, E. (2011). "Effect of free and encapsulated recombinant aminopeptidase on proteolytic indices and sensory characteristics of Cheddar cheese.", *Food Science and Technology - LWT*, 44(2), pp. 570-575. doi : 10.1016/j.lwt.2010.08.022

## Other Science Related Publications:

### 2015

Guénard Lampron, V., Grabowski, S., Bélanger, G., Des Marchais, L.-P., Villeneuve, S., St-Gelais, D., and Turgeon, S.L. (2015). "Conception et mise en œuvre d'un banc d'essai à l'échelle pilote pour étudier l'effet des opérations de production sur les propriétés du yogourt brassé.", *Colloque STELA 2015, Hôtel Le Concorde, Québec, Canada, June 1-2, 2015. (Poster)*

Lussier, N., St-Gelais, D., Villeneuve, S., and Turgeon, S.L. (2015). "Rôle de la teneur en matières grasses et du type de brassage sur l'évolution des propriétés rhéologiques du yogourt.", *Colloque STELA 2015, Hôtel Le Concorde, Québec, Canada, June 1-2, 2015. (Poster)*

### 2011

Turgeon, S.L. and St-Gelais, D. (2011). "EPS-Producing Starters in Dairy Fermented Products: Tool or Challenge?", *Colloque bisannuel du STELA la recherche laitière 2011, Hôtel Palace Royal, Québec City, QC, Canada, May 30-31, 2011.*

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## Research Publications:

2015

Lowery, D.T., Vickers, P.M., Bittner, L.A., Stobbs, L.W., and Footitt, R.G. (2015). "Aphid transmission of the Ontario isolate of plum pox virus.", *Journal of Economic Entomology*, 108(5), pp. 2168-2173. doi : 10.1093/jeetov172

Wang, A.M., Tian, L.-N., Brown, D.C.W., Svircev, A.M., Stobbs, L.W., and Sanfaçon, H. (2015). "Generation of efficient resistance to Plum pox virus (PPV) in *Nicotiana benthamiana* and *Prunus domestica* expressing triple-intron-spanned double-hairpin RNAs simultaneously targeting 5' and 3' conserved genomic regions of PPV.", *Acta Horticulturae (ISHS)*, 1063, pp. 77-84.

Stobbs, L.W., Lowery, D.T., Samara, R., Greig, N., Vickers, P.M., and Bittner, L.A. (2015). "Development of a detached leaf procedure for the evaluation of seasonal susceptibility of peach to Plum pox virus infection by the green peach aphid (*Myzus persicae* (Sulzer)).", *Canadian Journal of Plant Pathology*, 37(2), pp. 230-236. doi : 10.1080/07060661.2015.1035753

James, D., Sanderson, D.J., Varga, A., Greig, N., and Stobbs, L.W. (2015). "Analysis of the genetic diversity and relationships of selected Canadian isolates of Plum pox virus.", *Acta Horticulturae (ISHS)*, 1063, pp. 33-40.

Kim, W.-S., Haj-Ahmad, Y., Stobbs, L.W., and Greig, N. (2015). "Evaluation of viroid extraction methods and application of a one-step reverse transcription real-time polymerase chain reaction assay (RT-qPCR) for the rapid detection of *Chrysanthemum stunt viroid* (CSVd) infection.", *Canadian Journal of Plant Pathology*, 37(2), pp. 221-229. doi : 10.1080/07060661.2015.1012742

2014

Stobbs, L.W. and Greig, N. (2014). "First report of bumblebee (*Bombus impatiens* Cresson) transmission of Pepino mosaic virus between tomato (*Solanum lycopersicum* L.) and perennial climbing nightshade (*Solanum dulcamara* L.).", *Canadian Journal of Plant Pathology*, 36(4), pp. 529-533. doi : 10.1080/07060661.2014.954625

Stobbs, L.W., Lowery, D.T., Samara, R., Vickers, P.M., Bittner, L.A., and Greig, N. (2014). "Influence of horticultural oil (Superior-70) on Plum pox virus (PPV) detection in treated and untreated PPV-infected peach (*Prunus persicae* L.) leaves.", *Canadian Journal of Plant Pathology*, 36(4), pp. 523-528. doi : 10.1080/07060661.2014.954624

Saguez, J., Olivier, C.Y., Hamilton, A., Lowery, D.T., Stobbs, L.W., Lasnier, J., Galka, B., Chen, X., Mauffette, Y., and Vincent, C. (2014). "Diversity and abundance of leafhoppers in Canadian vineyards.", *Journal of Insect Science*, 14(1: Article 73), pp. 20 pages. doi : 10.1093/jis/14.1.73

Olivier, C.Y., Saguez, J., Stobbs, L.W., Lowery, D.T., Galka, B., Whybourne, K.J., Bittner, L.A., Chen, X., and Vincent, C. (2014). "Occurrence of phytoplasmas in leafhoppers and cultivated grapevines in Canada.", *Agriculture, Ecosystems and Environment*, 195, pp. 91-97. doi : 10.1016/j.agee.2014.05.008

## Other Science Related Publications:

2015

Saguez, J., Olivier, C.Y., Lasnier, J., Hamilton, A., Stobbs, L.W., and Vincent, C. (2015). *Biology and integrated management of leafhoppers and phytoplasma diseases in vineyards of eastern Canada*. Technical Bulletin A59-32/2015E-PDF, Agriculture and Agri-Food Canada, 67 p.

2014

Olivier, C.Y., Stobbs, L.W., Lasnier, J., Saguez, J., and Vincent, C. (2014). "Phytoplasma diseases in Ontario vineyards: Review and future projects.", Ontario Pest Management Conference, University of Guelph, Guelph, ON, Canada, November 13, 2014.

2013

Stobbs, L.W., Hunter, D.M., Samara, R., Lowery, T., and Sanfaçon, H. (2013). "Progress in Epidemiological Research on Plum Pox Virus.", *The Tender Fruit Grape Vine (for Commercial Fruit Growers)*, 17(5), pp. 5-6. (Newsletter)



## 2012

Olivier, C.Y., Saguez, J., Galka, B., Stobbs, L.W., Lowery, D.T., and Vincent, C. (2012). "Prevalence of phytoplasma diseases in Canadian vineyards.", 24th International Congress of Entomology (ICE 2012) and International Organization for Biological Control (IOBC) Global Symposium, Daegu, South Korea, August 19-25, 2012, PS4TH066. (Poster)

Lowery, D.T., Stobbs, L.W., Vickers, P.M., Bittner, L.A., and Greig, N. (2012). "Factors Affecting the Detection, Transmission and Management of Plum Pox Virus.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012. (Presentation)

## 2011

Olivier, C.Y., Galka, B., Johnson, R., Green, M., Vincent, C., Saguez, J., Stobbs, L.W., and Greig, N. (2011). "Potential BN vectors in Canadian vineyards and their feeding behaviour on grapevines.", 2nd European Bois Noir Workshop, Castelbrando, Cison Di Valmarini, TV, Italy, February 27-March 1, 2011, pp. 111. (Poster)

Olivier, C.Y., Galka, B., Vincent, C., Saguez, J., and Stobbs, L.W. (2011). "Biodiversity of Aster Yellow phytoplasma strains in *Macrostes quadrilineatus* in Canada, based on the 16Sr gene sequencing.", Joint Annual Meeting of the Entomological Society of Canada and Acadian Entomological Society, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011, pp. 76. (Presentation)

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## Research Publications:

2014

Ebadian, M., Sowlati, T., Sokhansanj, S., Smith, L.T., and Stumborg, M. (2014). "Development of an integrated tactical and operational planning model for supply of feedstock to a commercial-scale bioethanol plant.", *Biofuels, Bioproducts and Biorefining*, 8(2), pp. 171-188. doi: 10.1002/bbb.1446

2013

Ebadian, M., Sowlati, T., Sokhansanj, S., Townley-Smith, L., and Stumborg, M. (2013). "Modeling and analysing storage systems in agricultural biomass supply chain for cellulosic ethanol production.", *Applied Energy*, 102(February 2013), pp. 840-849. doi: 10.1016/j.apenergy.2012.08.049

2012

Mupondwa, E.K., Li, X., Tabil, L.G., Phani, A., Sokhansanj, S., Stumborg, M., Gruber, M.Y., and Laberge, S. (2012). "Technoeconomic analysis of wheat straw densification in the Canadian Prairie Province of Manitoba.", *Bioresource Technology*, 110, pp. 355-363. doi: 10.1016/j.biortech.2012.01.100

2011

Ebadian, M., Sowlati, T., Sokhansanj, S., Stumborg, M., and Townley-Smith, L. (2011). "A new simulation model for multi-agricultural biomass logistics system in bioenergy production.", *Biosystems Engineering*, 110(3), pp. 280-290. doi: 10.1016/j.biosystemseng.2011.08.008

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## Research Publications:

2016

Khan, M., Subramaniam, R., and Desveaux, D. (2016). "Of Guards, Decoys, Baits and Traps: Pathogen Perception in Plants by Type III Effector Sensors.", *Current Opinion in Microbiology*, 29, pp. 49-55. doi : 10.1016/j.mib.2015.10.006

2015

Subramaniam, R., Narayanan, S., Walkowiak, S., Wang, L., Joshi, M., Rocheleau, H., Ouellet, T., and Harris, L.J. (2015). "Leucine metabolism regulates TRI6 expression and affects deoxynivalenol production and virulence in *Fusarium graminearum*.", *Molecular Microbiology*, 98(4), pp. 760-769. doi : 10.1111/mmi.13155

Walkowiak, S., Bonner, C., Wang, L., Blackwell, B.A., Rowland, O., and Subramaniam, R. (2015). "Intraspecies interaction of *Fusarium graminearum* contributes to reduced toxin production and virulence.", *Molecular Plant-Microbe Interactions*, 28(11), pp. 1256-1267. doi : 10.1094/MPMI-06-15-0120-R

Carballo-Arce, A.F., Ta, C.A.K., Rocha, L.S.G., Liu, R., Harmsen, I., Mogg, C., Otárola-Rojas, M., Garcia, M., Sanchez-Vindas, P., Poveda, L., Subramaniam, R., Smith, M.L., Kaplan, M.A.C., Figueiredo, M.R., Durst, T., and Amason, J.T. (2015). "Antimicrobial activities of Marcgraviaceae species and isolation of a naphthoquinone from *Marcgravia nervosa* (Marcgraviaceae).", *Botany*, 93(7), pp. 413-424. doi : 10.1139/cjb-2015-0038

2014

Walkowiak, S. and Subramaniam, R. (2014). "A nitrogen responsive gene affects virulence in *Fusarium graminearum*.", *Canadian Journal of Plant Pathology*, 36(2), pp. 224-234. doi : 10.1080/07060661.2014.905495

Wang, L., Mogg, C., Walkowiak, S., Joshi, M., and Subramaniam, R. (2014). "Characterization of NADPH Oxidase genes NoxA and NoxB in *Fusarium graminearum*", *Canadian Journal of Plant Pathology*, 36(1), pp. 12-21. doi : 10.1080/07060661.2013.868370

Ravensdale, M., Rocheleau, H.J., Wang, L., Nasmith, C.G., Ouellet, T., and Subramaniam, R. (2014). "Components of priming-induced resistance to fusarium head blight in wheat revealed by two distinct mutants of *Fusarium graminearum*.", *Molecular Plant Pathology*, 15(9), pp. 948-956. doi : 10.1111/mpp.12145

Lysøe, E., Harris, L.J., Walkowiak, S., Subramaniam, R., Divon, H.H., Riiser, E.S., Llorens, C., Gabaldón, T., Kistler, H.C., Jonkers, W., Kolseth, A.-K., Nielsen, K.F., Thrane, U., and Frandsen, R.J.N. (2014). "The genome of the generalist plant pathogen *Fusarium avenaceum* is enriched with genes involved in redox, signaling and secondary metabolism.", *PLoS ONE*, 9(11: e112703). doi : 10.1371/journal.pone.0112703

Lumba, S., Toh, S., Handfield, L-F., Swan, M., Liu, R., Youn, J-Y., Cutler, S.R., Subramaniam, R., Provar, N.J., Moses, A., Desveaux, D., and McCourt, P. (2014). "A Mesoscale Abscisic Acid Hormone Interactome Reveals a Dynamic Signaling Landscape in *Arabidopsis*.", *Developmental Cell*, 29(3), pp. 360-372. doi : 10.1016/j.devcel.2014.04.004

Hurley, B., Subramaniam, R., Guttman, D.S., and Desveaux, D. (2014). "Proteomics of effector-triggered immunity (ETI) in plants.", *Virulence*, 5(7), pp. 752-760. doi : 10.4161/viru.36329

Murmu, J., Wilton, M., Allard, G.C., Pandeya, R.S., Desveaux, D., Singh, J., and Subramaniam, R. (2014). "Arabidopsis GOLDEN2-LIKE (GLK) transcription factors activate jasmonic (JA)-dependent disease susceptibility to the biotrophic pathogen *Hyaloperonospora arabidopsidis*, as well as JA-independent plant immunity against the necrotrophic pathogen *Botrytis cinerea*.", *Molecular Plant Pathology*, 15(2), pp. 174-184. doi : 10.1111/mpp.12077

2013

Subramaniam, R. and Rampitsch, C. (2013). "Towards Systems Biology of Mycotoxin Regulation.", *Toxins*. doi : 10.3390/toxins50x000x

Harris, L.J., Ouellet, T., and Subramaniam, R. (2013). "Applying proteomics to investigate the interactions between pathogenic *Fusarium* species and their hosts.", in Brown, D.W. and Proctor, R.H. (eds.) - *Fusarium: Genomics, Molecular and Cellular Biology*, Caister Academic Press, Chapter 5.

Rampitsch, C., Day, J., Subramaniam, R., and Walkowiak, S. (2013). "Comparative secretome analysis of *Fusarium graminearum* and two of its non-pathogenic mutants upon deoxynivalenol induction in vitro.", *Proteomics*, 13(12-13), pp. 1913-1921. doi: 10.1002/pmic.201200446

2012

Rampitsch, C., Tinker, N.A., Subramaniam, R., Barkow-Oesterreicher, S., and Laczko, E. (2012). "Phosphoproteome profile of *Fusarium graminearum* grown in vitro under nonlimiting conditions.", *Proteomics*, 12(7), pp. 1002-1005. doi : 10.1002/pmic.201100065

Balcerzak, M., Harris, L.J., Subramaniam, R., and Ouellet, T. (2012). "The feruloyl esterase gene family of *Fusarium graminearum* is differentially regulated by aromatic compounds and hosts.", *Fungal Biology*, 116(4), pp. 478-488. doi : 10.1016/j.funbio.2012.01.007

2011

Rampitsch, C., Leung, W.W.Y., Blackwell, B.A., and Subramaniam, R. (2011). "MAP kinase Mgv1: a potential shared control point of butenolide and deoxynivalenol biosynthesis in *Fusarium graminearum*.", *Plant Breeding and Seed Science*, 54, pp. 81-88.

Schreiber, K.J., Nasmith, C.G., Allard, G.C., Singh, J., Subramaniam, R., and Desveaux, D. (2011). "Found in Translation: High-Throughput Chemical Screening in *Arabidopsis thaliana* Identifies Small Molecules That Reduce *Fusarium* Head Blight Disease in Wheat.", *Molecular Plant-Microbe Interactions*, 24(6), pp. 640-648. doi: 10.1094/MPMI-09-10-0210

Nasmith, C.G., Walkowiak, S., Wang, L., Leung, W.W.Y., Gong, Y., Johnston, A., Harris, L.J., Guttman, D.S., and Subramaniam, R. (2011). "Tri6 Is a Global Transcription Regulator in the Phytopathogen *Fusarium graminearum*.", *PLoS Pathogens*, 7(9, Article No. e1002266). doi : 10.1371/journal.ppat.1002266

## Other Science Related Publications:

2015

Ouellet, T., Rocheleau, H., and Subramaniam, R. (2015). Gene expression in wheat heads treated with the mutant tri6 $\Delta$  of *Fusarium graminearum*, which produces a priming-induced resistance to fusarium head blight. GEO accession #GSE69437, deposited in the Gene Expression Omnibus (GEO) of the public database NCBI.

Ravensdale, M., Wang, L., Rocheleau, H., Ouellet, T., and Subramaniam, R. (2015). Gene expression during priming-induced resistance to fusarium head blight in wheat as revealed by two distinct mutants of *Fusarium graminearum*. GEO accession #GSE55653, deposited in the Gene Expression Omnibus (GEO) of the public database NCBI.

Eranthodi, A., Subramaniam, R., Ouellet, T., Rampitsch, C., Schultz, E.A., and Foroud, N.A. (2015). "Towards the identification and characterization of pathogen-associated molecular patterns from the *Fusarium graminearum* secretome.", 1st Lethbridge Research Centre Graduate Student Symposium, Lethbridge, AB, Canada, November 26, 2015.

Subramaniam, R., Wang, L., and Ouellet, T. (2015). Gene expression in wheat heads treated with the mutant noxAB $\Delta$  of *Fusarium graminearum*, which produces a priming-induced resistance to fusarium head blight. GEO accession #GSE69490, deposited in the Gene Expression Omnibus (GEO) of the public database NCBI.

Eranthodi, A., Subramaniam, R., Ouellet, T., Rampitsch, C., Schultz, E.A., and Foroud, N.A. (2015). "Fusarium graminearum mutant screening towards identification of pathogen-associated molecular patterns in the *Fusarium* head blight-wheat interaction.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015, Oral Presentation.

Eranthodi, A., Subramaniam, R., Rampitsch, C., Ouellet, T., Schultz, E.A., and Foroud, N.A. (2015). "Generation of *Fusarium graminearum* mutants to screen candidate pathogen-associated molecular patterns.", National Fusarium Head Blight Forum, St. Louis, MO, USA, December 6-8, 2015. (Poster)

2013

Rampitsch, C., Subramaniam, R., Joshi, M., and Fan, T. (2013). "Using redox-proteomics to identify targets of NADPH oxidase-generated reactive oxygen species in *Fusarium graminearum*.", 12th European Fusarium Seminar, Bordeaux, France, Oral presentation. (Abstract)

Rampitsch, C., Day, J., Subramaniam, R., and Walkowiak, S. (2013). "Comparative secretome analysis of *Fusarium graminearum* and two of its non-pathogenic mutants under nitrogen-limitation in vitro.", FHB Satellite Meeting to 27th Fungal Genetics Conference, Asilomar, CA, USA, Oral presentation. (Abstract)

2012

Joshi, M., Subramaniam, R., and Rampitsch, C. (2012). "Identifying targets of NADPH oxidase-mediated redox signalling in *Fusarium graminearum* using proteomics approaches.", 11th European conference on fungal genetics (ECFG11), Philipps-Universität, Marburg, Germany, March 30-April 2, 2012. (Presentation)

2011

Mogg, C., Smith, M.L., and Subramaniam, R. (2011). "Chemical genomics: Discovery of novel fungicides and their targets in the phytopathogen *Fusarium graminearum*.", Canadian Society of Plant Physiologists Eastern Regional Meeting & Plant Development Workshop / Congrès de la Société Canadienne de Physiologie Végétale & Congrès de Développement Végétale (Congrès Régional de l'Est), Carleton University, Ottawa, ON, Canada, December 2-3, 2011, P9, pp. 34. (Poster)

Subramaniam, R., Nasmith, C.G., Ouellet, T., Wang, L., and Rocheleau, H.J. (2011). "Novel strategies to combat fusarium head blight.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 64.

Joshi, M., Subramaniam, R., and Rampitsch, C. (2011). "Identifying targets of NADPH oxidase-mediated redox signalling in *Fusarium graminearum* using an LC-MS approach.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 97.

Allard, G.C., Subramaniam, R., Ouellet, T., Harris, L.J., and Singh, J. (2011). "Rapid screening of Arabidopsis mutants to identify transporter genes for resistance to *Fusarium graminearum*.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 100.

Rampitsch, C., Subramaniam, R., Hoehn, B., Djuric-Ciganovic, S., and Fan, T. (2011). "Phosphoproteomics approach to understand signalling during the *Fusarium graminearum*-wheat interaction.", 12th International Symposium on Plant Protein Phosphorylation, Tübingen, Germany, September 14-16, 2011. (Poster)

Murmu, J., Singh, J., Wilton, M., Allard, G.C., Kirkham, C., Pandeya, R.S., Desveaux, D., and Subramaniam, R. (2011). "GLK transcription factors - an integral component of plant defense in Arabidopsis.", Canadian Society of Plant Physiologists Eastern Regional Meeting & Plant Development Workshop / Congrès de la Société Canadienne de Physiologie Végétale & Congrès de Développement Végétale (Congrès Régional de l'Est), Carleton University, Ottawa, ON, Canada, December 2-3, 2011, CS-2, pp. 20.

Wilton, M., Subramaniam, R., Felsensteiner, C., and Desveaux, D. (2011). "Dissecting the plant-pathogen interface.", Canadian Society of Plant Physiologists Eastern Regional Meeting & Plant Development Workshop / Congrès de la Société Canadienne de Physiologie Végétale & Congrès de Développement Végétale (Congrès Régional de l'Est), Carleton University, Ottawa, ON, Canada, December 2-3, 2011, P29, pp. 44. (Poster)

Robideau, G.P., Subramaniam, R., and Lévesque, C.A. (2011). "Inoculation of cucumber seedlings with purified *Pythium flagellar* protein: Effect on seedling growth and response to subsequent attack by *Pythium aphanidermatum* zoospores.", 4th International Biofumigation & Biopesticides Symposium, Sheraton Cavalier Hotel, Saskatoon, SK, Canada, October 18-21, 2011, Book 15.

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## Research Publications:

2015

Renaud, J.B., Kelman, M.J., Qi, T., Seifert, K.A., and Sumarah, M.W. (2015). "Production filtering with rapid polarity switching for the detection of all fumonisins and AAL-toxins.", *Rapid Communications in Mass Spectrometry (RCM)*, 29(22), pp. 2131-2139. doi : 10.1002/rcm.7374

Khan, A.H., Topp, E., Scott, A., Sumarah, M.W., Macfie, S. M., and Ray, M.B. (2015). "Biodegradation of benzalkonium chlorides singly and in mixtures by a *Pseudomonas* sp. Isolated from returned activated sludge/", *Journal of Hazardous Materials*, 299, pp. 595-602. doi : 10.1016/j.jhazmat.2015.07.073

Kelman, M.J., Renaud, J.B., Seifert, K.A., Mack, J., Sivagnanam, K., Yeung, K.K.-C., and Sumarah, M.W. (2015). "Identification of six new *Alternaria* sulfoconjugated metabolites by high-resolution neutral loss filtering.", *Rapid Communications in Mass Spectrometry (RCM)*, 29(19), pp. 1805-1810. doi : 10.1002/rcm.7286

Khabbaz, S.E., Zhang, L., Cáceres, L.A., Sumarah, M.W., Wang, A.M., and Abbasi, P.A. (2015). "Characterization of antagonistic *Bacillus* and *Pseudomonas* strains for biocontrol potential and suppression of damping-off and root rot diseases.", *Annals of Applied Biology*, 166(3), pp. 456-471. doi : 10.1111/aab.12196

Cáceres, L.A., McDowell, T.W., Scott, I.M., Hannoufa, A., McGarvey, B.D., Tian, L.-N., Yeung, K.K.-C., and Sumarah, M.W. (2015). "In vivo extraction of volatile organic compounds (VOCs) from Micro-Tom tomato flowers with multiple solid phase microextraction (SPME) fibers.", *Canadian Journal of Chemistry*, 93(2), pp. 143-150. doi : 10.1139/cjc-2014-0269

Sumarah, M.W., Walker, A.K., Seifert, K.A., Todorov, A., and Miller, J.D. (2015). "Screening of Fungal Endophytes Isolated from Eastern White Pine Needles.", in Jetter, R. (ed.) - *The Formation, Structure and Activity of Phytochemicals: Volume 45 of the series Recent Advances in Phytochemistry*, Springer, Chapter 8, pp. 195-206.

2014

Miller, J.D., Schaafsma, A.W., Bhatnagar, D., Bondy, G.S., Carbone, I., Harris, L.J., Harrison, G., Munkvold, G.P., Oswald, I.P., Pestka, J.P., Sharpe, L., Sumarah, M.W., Tittlemier, S.A., and Zhou, T. (2014). "Mycotoxins that affect the North American Agriculture sector: state of the art and directions for the future.", *World Mycotoxin Journal*, 7(1), pp. 63-82. doi : 10.3920/WMJ2013.1624

Richardson, S.N., Walker, A.K., Nsiama, T.K., McFarlane, J., Sumarah, M.W., Ibrahim, A., and Miller, J.D. (2014). "Griseofulvin-producing *Xylaria* endophytes of *Pinus strobus* and *Vaccinium angustifolium*: Evidence for a conifer-understorey species endophyte ecology.", *Fungal Ecology*, 11, pp. 107-113. doi : 10.1016/j.funeco.2014.05.004

Ibrahim, A.A., Sørensen, D., Jenkins, H.A., McCarry, B.E., and Sumarah, M.W. (2014). "New diplosporin and agistatine derivatives produced by the fungal endophyte *Xylaria* sp. isolated from *Vitis labrusca*.", *Phytochemistry Letters*, 9(1), pp. 179-183.

2013

McMullin, D.R., Sumarah, M.W., and Miller, J.D. (2013). "Chaetoglobosins and azaphilones produced by Canadian strains of *Chaetomium globosum* isolated from the indoor environment.", *Mycotoxin Research*, 29(1), pp. 47-54. doi : 10.1007/s12550-012-0144-9

Tellenbach, C., Sumarah, M.W., Grünig, C.R., and Miller, J.D. (2013). "Inhibition of *Phytophthora* species by secondary metabolites produced by the dark septate endophyte *Phialocephala europaea*.", *Fungal Ecology*, 6(1), pp. 12-18. doi : 10.1016/j.funeco.2012.10.003

Topp, E., Chapman, R.A., Devers-Lamrani, M., Hartmann, A., Marti, R., Martin-Laurent, F., Sabourin, L., Scott, A., and Sumarah, M.W. (2013). "Accelerated Biodegradation of Veterinary Antibiotics in Agricultural Soil following Long-Term Exposure, and Isolation of a Sulfamethazine-degrading *Microbacterium* sp.", *Journal of Environmental Quality*, 42(1), pp. 173-178. doi : 10.2134/jeq2012.0162

Li, H., Sumarah, M.W., and Topp, E. (2013). "Persistence and dissipation pathways of the antidepressant sertraline in agricultural soils.", *Science of the Total Environment*, 452-453, pp. 296-301. doi : 10.1016/j.scitotenv.2013.02.080

Li, H., Sumarah, M.W., and Topp, E. (2013). "Persistence of the tricyclic antidepressant drugs amitriptyline and nortriptyline in agriculture soils.", *Environmental Toxicology and Chemistry*, 32(3), pp. 509-516. doi : 10.1002/etc.2112

Baines, D.D.S., Sumarah, M.W., Kuldau, G., Juba, J., Mazza, A., and Masson, L. (2013). "Aflatoxin, Fumonisin and Shiga Toxin - Producing *Escherichia coli* Infections in Calves and the Effectiveness of Celmanax®/Dairyman's Choice™ Applications to Eliminate Morbidity and Mortality Losses.", *Toxins*, 5(10), pp. 1872-1895. doi : 10.3390/toxins5101872

## 2012

McMullin, D.R., Sumarah, M.W., Blackwell, B.A., and Miller, J.D. (2012). "New azaphilones from *Chaetomium globosum* isolated from the built environment.", *Tetrahedron Letters*, 54(6), pp. 568-572. doi : 10.1016/j.tetlet.2012.11.084

Topp, E., Sumarah, M.W., and Sabourin, L. (2012). "The antihistamine diphenhydramine is extremely persistent in agricultural soil.", *Science of the Total Environment*, 439(15 November 2012), pp. 136-140. doi : 10.1016/j.scitotenv.2012.09.033

Trimble, L.A., Sumarah, M.W., Blackwell, B.A., Wrona, M.D., and Miller, J.D. (2012). "Characterization of (16R) and (16S)-hydroxyroquefortine C; diastereomeric metabolites from *Penicillium crustosum* DAOM 215343.", *Tetrahedron Letters*, 53(8), pp. 956-958. doi : 10.1016/j.tetlet.2011.12.052

## 2011

Sumarah, M.W., Kesting, J.R., Sørensen, D., and Miller, J.D. (2011). "Antifungal metabolites from fungal endophytes of *Pinus strobus*.", *Phytochemistry*, 72(14-15), pp. 1833-1837. doi : 10.1016/j.phytochem.2011.05.003

Baines, D.D.S., Erb, S.L., Turkington, T.K., Kuldau, G., Juba, J., Sumarah, M.W., Mazza, A., and Masson, E. (2011). "Characterization of Haemorrhagic Enteritis in Dairy Goats and the Effectiveness of Probiotic and Prebiotic Applications in Alleviating Morbidity and Production Losses.", *Fungal Genomics & Biology*, 1:1. doi : 10.4172/fgb.1000102

Baines, D.D.S., Erb, S.L., Sumarah, M.W., Lowe, R.M.S., Turkington, T.K., Sabau, E., Kuldau, G., Juba, J., Masson, L., Mazza, A., Roberts, R. (2011). "A prebiotic, Celmanax™, decreases *Escherichia coli* O157:H7 colonization of bovine cells and feed-associated cytotoxicity in vitro.", *BMC Research Notes*, 4:110. doi : 10.1186/1756-0500-4-110

## Other Science Related Publications:

### 2014

Challa, S., Scott, I.M., Cáceres, L.A., Sumarah, M.W., Tian, L.-N., and Hannoufa, A. (2014). "Natural Plant Volatiles: A Sustainable Pest Control Strategy.", Eastern Regional Meeting of the Canadian Society of Plant Biologists, Guelph, ON, Canada, November 28-29, 2014, Oral presentation.

Scott, I.M., Cáceres, L.A., Challa, S., Hannoufa, A., Sumarah, M.W., Tian, L.-N., Shipp, L., and Shipp, J.L. (2014). "Deterring tomato pests by manipulating the flower volatiles.", Joint Annual Meeting of the Entomological Societies of Canada and Saskatchewan. Symposium: Arthropod "omics" – Impact on Management, Saskatoon, Canada, September 26-October 1, 2014, Platform presentation.

Cáceres, L.A., McGarvey, B.D., Yeung, K.K.-C., Hannoufa, A., Sumarah, M.W., Benitez, X., and Scott, I.M. (2014). "Insect repellent and attractant activities of Brassicaceae apocarotenoid volatiles  $\alpha$ - $\beta$ - and dihydro- $\beta$ -ionone.", Annual Meeting of the Entomological Society of Ontario, Toronto, ON, Canada, October 3-5, 2014, Platform presentation.

Sumarah, M.W., Qi, T., Miller, J.D., and Seifert, K.A. (2014). "Study of black Aspergilli from Canadian vineyards and the associated risk of ochratoxin A and fumonisin contamination of wine.", 8th Conference of the World Mycotoxin Forum, Vienna, Austria, November 2014. (Poster)

### 2012

Niu, W., Gijzen, M., Sumarah, M.W., and McGarvey, B.D. (2012). "Metabolism of the Soybean-Fungus Host-Pathogen Interaction - A Plant Metabolomics Study.", *Pharmaceutical Biology*, 50(11), pp. 1371-1372. (Abstract)

Cáceres, L.A., McGarvey, B.D., Scott, I.M., Sumarah, M.W., and Hannoufa, A. (2012). "Apocarotenoid emission study in wild type and transgenic *Arabidopsis* plants over-expressing CCD-1 and their feeding effects against cabbage loopers.", 51st Phytochemical Society of North America (PSNA) Annual Meeting, University of Western Ontario, London, ON, Canada, August 11-15, 2012.

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## Research Publications:

2015

Wang, A.M., Tian, L.-N., Brown, D.C.W., Svircev, A.M., Stobbs, L.W., and Sanfaçon, H. (2015). "Generation of efficient resistance to Plum pox virus (PPV) in *Nicotiana benthamiana* and *Prunus domestica* expressing triple-intron-spanned double-hairpin RNAs simultaneously targeting 5' and 3' conserved genomic regions of PPV.", *Acta Horticulturae (ISHS)*, 1063, pp. 77-84.

Wittmann, J., Klumpp, J., Moreno Switt, A.I., Yagubi, A.I., Ackermann, H.-W., Wiedmann, M., Svircev, A.M., Nash, J.H.E., and Kropinski, A.M. (2015). "Taxonomic reassessment of N4-like viruses using comparative genomics and proteomics suggests a new subfamily - "Enquartavirinae".", *Archives of Virology*, 160(12), pp. 3053-3062. doi : 10.1007/s00705-015-2609-6

Roach, D.R., Sjaarda, D.R., Sjaarda, C.P., Juarez Ayala, C., Howcroft, B., Castle, A.J., and Svircev, A.M. (2015). "Absence of lysogeny in wild populations of *Erwinia amylovora* and *Pantoea agglomerans*.", *Microbial Biotechnology*, 8(3), pp. 510-518. doi : 10.1111/1751-7915.12253

Soliman, S.S.M., Li, X.-Z., Shao, S., Behar, M., Svircev, A.M., Tsao, R., Tsao, R., and Zhou, T. (2015). "Potential mycotoxin contamination risks of apple products associated with fungal flora of apple core.", *Food Control*, 47, pp. 585-591. doi : 10.1016/j.foodcont.2014.07.060

2014

Yagubi, A.I., Castle, A.J., Kropinski, A.M., Banks, T.W., and Svircev, A.M. (2014). "Complete genome sequence of *Erwinia amylovora* bacteriophage vB\_EamM\_Ea35-70.", *Genome Announcements*, 2(4): e00413-14. doi : 10.1128/genomeA.00413-14

Svircev, A.M., Boyetchko, S.M., and Castle, A.J. (2014). "The biopesticide innovation chain: A template for development of microbial agents from discovery to registration.", *Acta Horticulturae (ISHS)*, 1056, pp. 43-46.

Yagubi, A.I., Castle, A.J., and Svircev, A.M. (2014). "Sequence analysis of CRISPR arrays of *Erwinia amylovora* isolates from Canada.", *Acta Horticulturae (ISHS)*, 1056, pp. 149-153.

2013

Svircev, A.M., Boulé, J., Sholberg, P.L., and Castle, A.J. (2013). "*Erwinia amylovora* (Burk.) Winslow et al., Fire Blight (Enterobacteriaceae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Wallingford, UK, Chapter 61.

Roach, D.R., Sjaarda, D.R., Castle, A.J., and Svircev, A.M. (2013). "Host Exopolysaccharide Quantity and Composition Impacts Bacteriophage Pathogenesis of *Erwinia amylovora*.", *Applied and Environmental Microbiology*, 79(10), pp. 3249-3256. doi : 10.1128/AEM.00067-13

Wang, X., Kohalmi, S.E., Svircev, A.M., Wang, A.M., Sanfaçon, H., and Tian, L.-N. (2013). "Silencing of the Host Factor eIF(iso)4E Gene Confers Plum Pox Virus Resistance in Plum.", *PLoS ONE*, 8(1), Article No. e50627. doi : 10.1371/journal.pone.0050627

Traquair, J.A. and Svircev, A.M. (2013). "*Taphrina deformans* (Berk.) Tul., Peach Leaf Curl (Taphrinaceae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2011-2012*, CABI Publishing, Wallingford, UK, Chapter 69.

2012

Jayasankar, S., El-Sharkawy, I., El Kayal, W., Prasath, D., Fernández, H., Bouzayen, M., and Svircev, A.M. (2012). "Identification and genetic characterization of a gibberellin 2-oxidase gene that control tree stature and reproductive growth in plum.", *Journal of Experimental Botany*, 63(3), pp. 1225-1239. doi : 10.1093/jxb/err345

2011

Meerja, F.A., Wang, X., Whybourne, K.J., Svircev, A.M., and Tian, L.-N. (2011). "Optimization of in vitro regeneration in European Plum.", *Acta Horticulturae (ISHS)*, 899, pp. 145-152.



Phillion, V., Svircev, A.M., Toussaint, V., and Stockwell, V.O. (2011). "Antagonistic interaction between the biocontrol agent BlightBan C9-1 and the plant defense elicitor actigard.", *Acta Horticulturae* (ISHS), 896, pp. 437-440.

Roach, D.R., Sjaarda, D.R., Castle, A.J., and Svircev, A.M. (2011). "Bacteriophages as biopesticides: Role of bacterial exopolysaccharides.", *Acta Horticulturae* (ISHS), 896, pp. 449-456.

Boulé, J., Sholberg, P.L., Lehman, S.M., O'Gorman, D.T., and Svircev, A.M. (2011). "Isolation and characterization of eight bacteriophages infecting *Erwinia amylovora* and their potential as biological control agents in British Columbia, Canada.", *Canadian Journal of Plant Pathology*, 33(3), pp. 308-317. doi: 10.1080/07060661.2011.588250

## Other Science Related Publications:

### 2013

Tian, L.-N., Wang, X., Svircev, A.M., Wang, A.M., Sanfaçon, H., Brown, D.C.W., Kohalmi, S.E., and Lu, M. (2013). "Development of Plum pox virus resistance in plum grown in Canada via plant biotechnology.", 2nd International Symposium on Plum Pox Virus, Olomouc, Czech Republic, September 3-6, 2013.

Boyetchko, S.M. and Svircev, A.M. (2013). "A Novel Approach for Developing Microbial Biopesticides.", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 5.

Wang, A.M., Elhiti, M., Wang, H., Li, Y., Tian, L.-N., Svircev, A.M., Sanfaçon, H., and Brown, D.C.W. (2013). "Development of genetic resistance to Plum pox virus in Canada.", 2nd International Symposium on Plum Pox Virus, Olomouc, Czech Republic, September 3-6, 2013.

### 2012

Tian, L.-N., Wang, X., Kohalmi, S.E., Svircev, A.M., Wang, A.M., Sanfaçon, H., Brown, D.C.W., and Schneider, K.E. (2012). "Control of the expression of the host factor eIF(iso)4E gene for Plum Pox Virus resistance.", Joint Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012. (Presentation)

Boyetchko, S.M. and Svircev, A.M. (2012). "Biopesticide Research at AAFC: How We Structure Biopesticide Development from a Research Perspective.", Annual meeting of CropLife Canada – regulators and senior managers, Saskatoon, SK, Canada, January 12, 2012. (Presentation)

Boyetchko, S.M. and Svircev, A.M. (2012). "Biopesticide Development at AAFC – Update.", Annual meeting of CropLife Canada – technical, Saskatoon, SK, Canada, January 26, 2012. (Presentation)

Boyetchko, S.M., Zhou, T., Audy, P., and Svircev, A.M. (2012). "Evaluation of promising bacterial strains for biological control of post-harvest and storage decay pathogens on fruits and vegetables.", 4th Joint Saskatchewan-Alberta Plant Pathology Conference, Lloydminster, SK, Canada, November 5-7, 2012.

Boyetchko, S.M., Zhou, T., Audy, P., and Svircev, A.M. (2012). "Evaluation of promising bacterial strains for biological control of post-harvest and storage decay pathogens on fruits and vegetables.", 4th Joint Saskatchewan-Alberta Plant Pathology Conference: Mapping and cloning of clubroot resistance genes in Brassica species, Lloydminster, SK, Canada, November 5-7, 2012.

Boyetchko, S.M., Zhou, T., Audy, P., and Svircev, A.M. (2012). "Assessment of bacterial strains for biological control of pathogens causing post-harvest and storage decay of fruits and vegetables.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, *Can. J. Plant Pathol.* 35(1):103-104.

### 2011

Svircev, A.M., Lehman, S.M., Sholberg, P.L., Roach, D.R., and Castle, A.J. (2011). "Phage Biopesticides and Soil Bacteria: Multilayered and Complex Interactions.", in Witzany, G. (ed.) - *Soil Biology. Vol. 23. Biocommunication in Soil Microorganisms*, Springer, Chapter 8, pp. 215-235.

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## Research Publications:

2016

Miri, M., Janakirama, P., Held, M., Ross, L.M., and Szczyglowski, K. (2016). "Into the Root: How Cytokinin Controls Rhizobial Infection.", *Trends in Plant Science*. doi: 10.1016/j.tplants.2015.09.003

2014

Held, M., Hou, H., Miri, M., Huynh, C., Ross, L.M., Hossain, M.S., Sato, S., Tabata, S., Perry, J., Wang, T.L., and Szczyglowski, K. (2014). "Lotus japonicus Cytokinin Receptors Work Partially Redundantly to Mediate Nodule Formation.", *Plant Cell*, 26, pp. 678-694. doi: 10.1105/tpc.113.119362

Yoon, H.J., Hossain, M.S., Held, M., Hou, H., Kehl, M., Thomas, A., Sato, S., Tabata, S., Andersen, S.U., Stougaard, J., Ross, L.M., and Szczyglowski, K. (2014). "Lotus japonicus SUNERGOS1 encodes a predicted subunit A of a DNA topoisomerase VI that is required for nodule differentiation and accommodation of rhizobial infection.", *Plant Journal*, 78(5), pp. 811-821. doi: 10.1111/tpj.12520

2013

Suzaki, T., Kim, C.S., Takeda, N., Szczyglowski, K., and Kawaguchi, M. (2013). "TRICOT encodes an AMP1-related carboxypeptidase that regulates root nodule development and shoot apical meristem maintenance in Lotus japonicus.", *Development*, 140, pp. 353-361. doi: 10.1242/dev.089631

2012

Hossain, M.S., Liao, J., James, E.K., Sato, S., Tabata, S., Jurkiewicz, A., Madsen, L.H., Stougaard, J., Ross, L.M., and Szczyglowski, K. (2012). "Lotus japonicus ARPC1 is required for rhizobial infection.", *Plant Physiology*, 160(2), pp. 917-928. doi: 10.1104/pp.112.202572

Liao, J., Singh, S., Hossain, M.S., Andersen, S.U., Ross, L.M., Bonetta, D., Zhou, Y.-H., Sato, S., Tabata, S., Stougaard, J., Szczyglowski, K., and Parniske, M. (2012). "Negative regulation of CCaMK is essential for symbiotic infection.", *Plant Journal*, 72(4), pp. 572-584. doi: 10.1111/j.1365-313X.2012.05098.x

2011

Kosuta, S., Held, M., Hossain, M.S., Morieri, G., MacGillivray, A., Johansen, C., Antolin-Llovera, M., Parniske, M., Oldroyd, G.E.D., Downie, J.A., Karas, B.J., and Szczyglowski, K. (2011). "Lotus japonicus symRK-14 uncouples the cortical and epidermal symbiotic program.", *Plant Journal*, 67(5), pp. 929-940. doi: 10.1111/j.1365-313X.2011.04645.x

## Other Science Related Publications:

2012

Kim, C.S., Held, M., Suzaki, T., Karas, B.J., Sato, S., Tabata, T., Kawaguchi, M., and Szczyglowski, K. (2012). "Lotus japonicus ARPC1 and HAR1 act synergistically to regulate root architecture.", 15th International Congress on Molecular Plant-Microbe Interactions (MPMI), Kyoto International Conference Center, Kyoto, Japan, July 29-August 2, 2012.

Suzaki, T., Kim, C.S., Takeda, N., Szczyglowski, K., and Kawaguchi, M. (2012). "Identification of a common regulator involved both in nodulation and shoot apical meristem maintenance in Lotus japonicus.", 15th International Congress on Molecular Plant-Microbe Interactions (MPMI), Kyoto International Conference Center, Kyoto, Japan, July 29-August 2, 2012.

Yoon, H.J., Hossain, M.S., Ross, L.M., Held, M., Kehl, M., Sato, S., Tabata, S., and Szczyglowski, K. (2012). "SUNERGOS1, a Lotus japonicus gene required for proper accommodation of rhizobial infection.", Canadian Society of Plant Biologists Meeting (CSPB 2012), University of Alberta Campus, Edmonton, AB, Canada, June 25-27, 2012.

Yoon, H.J., Hossain, M.S., Ross, L.M., Held, M., Kehl, M., Sato, S., Tabata, T., and Szczyglowski, K. (2012). "Lotus japonicus SUNERGOS1, a gene required for proper accommodation of bacterial infection.", Plant Biology 2012, Austin, TX, USA, July 20-24, 2012.

Liao, J., Singh, S., Hossain, M.S., Andersen, S.U., Ross, L.M., Sato, S., Tabata, S., Stougaard, J., Parniske, M., and Szczyglowski, K. (2012). "Negative regulation of CCaMK is essential for symbiotic infection in *L. japonicus*.", VI international Congress on Legume Genetics and Genomics (ICLGG), Hyderabad, India, October 2-7, 2012.

2011

Kim, C.S., Held, M., Karas, B.J., Sato, S., Tabata, S., Hossain, M.S., and Szczyglowski, K. (2011). "HAR1 and LjAMP1 Dependent Regulation of Root Architecture and Symbiosis in *Lotus Japonicus*.", 8th Canadian Plant Genomics Workshop, Niagara Falls, ON, Canada, August 22-25, 2011.

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## Research Publications:

2015

de Almeida, M.R., de Bastiani, D., Gaeta, M.L., de Araújo Mariath, J.E., de Costa, F., Retallick, J., Nolan, L., Tai, H.H., Strömviik, M.V., and Fett-Neto, A.G. (2015). "Comparative transcriptional analysis provides new insights into the molecular basis of adventitious rooting recalcitrance in Eucalyptus.", *Plant Science*, 239, pp. 155-165. doi : 10.1016/j.plantsci.2015.07.022

Tai, H.H. and Zebarth, B.J. (2015). "Effect of Time of Day of Sampling on Potato Foliar Gene Expression Used to Assess Crop Nitrogen Status.", *American Journal of Potato Research*, 92(2), pp. 284-293. doi : 10.1007/s12230-015-9429-9

2014

Tai, H.H., Worrall, K., Pelletier, Y., De Koeyer, D.L., and Calhoun, L.A. (2014). "Comparative metabolite profiling of solanum tuberosum against six wild solanum species with Colorado potato beetle resistance.", *Journal of Agricultural and Food Chemistry*, 62(36), pp. 9043-9055. doi : 10.1021/jf502508y

2013

Tai, H.H., Goyer, C., and Murphy, A.M. (2013). "Potato MYB and bHLH transcription factors associated with anthocyanin intensity and common scab resistance.", *Botany*, 91(10), pp. 722-730. doi : 10.1139/cjb-2012-0025

Tai, H.H., Goyer, C., Platt, H.W., De Koeyer, D.L., Murphy, A.M., Uribe, P., and Halterman, D. (2013). "Decreased defense gene expression in tolerance versus resistance to *Verticillium dahliae* in potato.", *Functional and Integrative Genomics*, 13(3), pp. 367-378. doi : 10.1007/s10142-013-0329-0

Scanlon, M.G. and Tai, H.H. (2013). "Potato Utilization in Canada.", *Canadian Food Insights*, 1(2), pp. 36-39.

2012

Zebarth, B.J., Tai, H.H., Luo, S., Millard, P., De Koeyer, D.L., Li, X.-Q., and Xiong, X. (2012). "Effect of Nitrogen Form on Gene Expression in Leaf Tissue of Greenhouse Grown Potatoes During Three Stages of Growth.", *American Journal of Potato Research*, 89(4), pp. 315-327. doi : 10.1007/s12230-012-9255-2

Ji, X.-H., Rivers, L., Zielinski, Z., Xu, M., MacDougall, E., Stephen, J., Zhang, S.C., Wang, Y., Chapman, R.G., Keddy, P., Robertson, G.S., Kirby, C.W., Embleton, J., Worrall, K., Murphy, A.M., De Koeyer, D.L., Tai, H.H., Yu, L., Charter, E., and Zhang, J.-Z. (2012). "Quantitative analysis of phenolic components and glycoalkaloids from 20 potato clones and in vitro evaluation of antioxidant, cholesterol uptake, and neuroprotective activities.", *Food Chemistry*, 133(4), pp. 1177-1187. doi : 10.1016/j.foodchem.2011.08.065

2011

Luo, S., Tai, H.H., Zebarth, B.J., Li, X.-Q., Millard, P., De Koeyer, D.L., and Xiong, X. (2011). "Sample Collection Protocol Effects on Quantification of Gene Expression in Potato Leaf Tissue.", *Plant Molecular Biology Reporter*, 29(2), pp. 369-378. doi : 10.1007/s11105-010-0239-4

Hu, X., Nie, X., Song, Y., Xiong, X., and Tai, H.H. (2011). "Ethylene is involved but plays a limited role in Tomato chlorotic dwarf viroid-induced symptom development in tomato.", *Agricultural Sciences in China*, 10(4), pp. 544-552. doi : 10.1016/S1671-2927(11)60035-7

Zebarth, B.J., Tai, H.H., Luo, S., Millard, P., De Koeyer, D.L., Li, X.-Q., and Xiong, X. (2011). "Differential gene expression as an indicator of nitrogen sufficiency in field-grown potato plants.", *Plant and Soil*, 345(1), pp. 387-400. doi : 10.1007/s11104-011-0793-z

## Other Science Related Publications:

2015

Paudel, J.R., Davidson, C., Campbell, L., Clark, C., Nolan, L., Song, J., Murphy, A.M., Itkin, M., Aharoni, A., and Tai, H.H. (2015). "Reduced Steroidal Glycoalkaloid Levels Affects Solanum tuberosum resistance against Pests and Diseases."

2014

Tai, H.H., De Koeyer, D.L., Goyer, C., Nolan, L., Davidson, C., Lague, M., Murphy, A.M., Sonderkær, M., Hedegaard, S., Halterman, D., and Lehman Neilsen, K. (2014). "Expression QTL analysis of genetic variation in potato responses to Verticillium wilt.", 11th Solanaceae Conference, Porto Seguro, Brazil, November 2-6, 2014. (Abstract)

Tai, H.H., De Koeyer, D.L., Goyer, C., Nolan, L., Davidson, C.G., Sønderkær, M., Hedegaard, S., Lehman Neilsen, K., Lague, M., Murphy, A.M., Uribe, P., and Halterman, D. (2014). "Genetic analysis of tolerance and resistance to Verticillium dahliae.", 98th Annual Meeting of the Potato Association of America (PAA), The Davenport Hotel, Spokane, WA, USA, July 27-31, 2014. (Abstract)

Zebarth, B.J., Tai, H.H., Luo, S., De Koeyer, D.L., and Li, X.-Q. (2014). "Gene expression-based diagnostics: A new way to optimize crop fertilizer nitrogen management?", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014. (Abstract)

2013

Goyer, C., Tai, H.H., Gustafson, V., De Koeyer, D.L., and Rothwell, C. (2013). "Analysis of gene expression of two potato cultivars during common scab infection using microarrays.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013.

Tai, H.H., Worrall, K., Pelletier, Y., De Koeyer, D.L., and Calhoun, L.A. (2013). "Metabolites from CPB-resistant wild Solanum species.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013.

Tai, H.H., De Koeyer, D.L., Goyer, C., Sønderkær, M., Hedegaard, S., Nolan, L., Lague, M., Murphy, A.M., and Nielsen, K.L. (2013). "Analysis of genetic variation in gene expression associated with Verticillium dahliae infection in potato.", 10th Solanaceae Conference, Beijing, China, October 13-17, 2013.

Tai, H.H., Goyer, C., and Murphy, A.M. (2013). "Potato MYB and bHLH transcription factors associated with anthocyanin intensity and common scab resistance.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013.

Li, X.-Q., Haroon, M., Luo, S., Bizimungu, B., Xiong, X., Zebarth, B.J., and Tai, H.H. (2013). "In vitro and field testing of drought tolerance of potato clones.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013.

Zebarth, B.J., Tai, H.H., Luo, S., Cambouris, A.N., and Mohr, R.M. (2013). "Next generation diagnostics: A new way to optimize crop fertilizer nitrogen management?", 6th International Nitrogen Conference, Kampala, Uganda, November 18-22, 2013.

Tai, H.H., Goyer, C., Platt, H.W., De Koeyer, D.L., Murphy, A.M., Uribe, P., and Halterman, D. (2013). "Decreased defense gene expression in a potato clone with tolerance to Verticillium dahliae.", 9th Canadian Plant Genomics Workshop, Halifax, NS, Canada, August 12-15, 2013.

2012

Banik, P., Tai, H.H., and Tanino, K.K. (2012). "Drought stress history, acclimation and recovery in potato genotypes.", Can. Soc. Hort. Sci. Annual meetings, Saskatoon, SK, Canada.

Banik, P., Tai, H.H., and Tanino, K.K. (2012). "Resistance of potato genotypes to drought stress.", Potato Association of America Annual meetings, Denver, Colorado, USA.

Tai, H.H., Worrall, K., De Koeyer, D.L., Pelletier, Y., and Calhoun, L.A. (2012). "Metabolomics and transcriptomics of Colorado Potato Beetle resistance in wild Solanum species.", 9th Solanaceae Conference (SOL 2012), University of Neuchâtel, Neuchâtel, Switzerland, August 25-30, 2012, P65, pp. 207. (Poster)

Tai, H.H., Worrall, K., De Koeyer, D.L., Pelletier, Y., and Calhoun, L.A. (2012). "Comparative gene expression profiling of diploid potato parents with variation in susceptibility to verticillium wilt and eqtl mapping of the progeny.", 9th Solanaceae Conference (SOL 2012), University of Neuchâtel, Neuchâtel, Switzerland, August 25-30, 2012, Oral presentation, pp. 91.

Tai, H.H., Goyer, C., De Koeyer, D.L., Murphy, A.M., De Jong, H., and Platt, H.W. (2012). "Comparative Transcriptome Profiling of Foliage from Two Diploid Potato Clones with Variation in Response to Verticillium Infection.", 96th Annual Meeting of the Potato Association of America (PAA), Crowne Plaza Denver International Airport, Denver, CO, USA, August 12-16, 2012, Oral presentation, Abst. 90.

Tai, H.H., Zebarth, B.J., Luo, S., Li, X.-Q., Millard, P., De Koeyer, D.L., and Xiong, X. (2012). "Development of gene expression indicators for nitrogen sufficiency in potato plants.", Potato Association of America Annual meetings, Denver, Colorado, USA.

Mosquera, T., Kushalappa, A.C., Del Castillo, S., Cuéllar, D., Navia, S., Perilla, L., Restrepo, P., Rodríguez, E., Sarmiento, F., Kubow, S., Oxhorn, P., DeKoeyer, D., Tai, H.H., Bonierbale, M., and Zum-Felde, T. (2012). "Improving potato production for increased food security of indigenous communities in Colombia.", Plant Biology Congress.

## 2011

Tai, H.H., Pelletier, Y., Worrall, K., Calhoun, L.A., and De Koeyer, D.L. (2011). "Metabolomics of Colorado Potato Beetle resistance in potato.", Palmerston North Plant Biology Meeting, Palmerston North, New Zealand, June 23, 2011.

Coffin, R.H., Coffin, J., Tai, H.H., Zebarth, B.J., Lazarovits, G., Thompson, B., MacDonald, E., Beaton, B.W., MacLeaod, J., and Swallow, G. (2011). "All you want to know about lime but were scared to ask", 19th Annual Northeast Potato Technology Forum, Crowne Plaza Fredericton Lord Beaverbrook Hotel, Fredericton, NB, Canada, March 16-17, 2011.

Worrall, K., Tai, H.H., Pelletier, Y., Calhoun, L.A., and De Koeyer, D.L. (2011). "Comparative metabolic profiling of *S. Tuberosum* and CPB-resistant *Solanum* species.", 19th Annual Northeast Potato Technology Forum, Crowne Plaza Fredericton Lord Beaverbrook Hotel, Fredericton, NB, Canada, March 16-17, 2011, pp. 21. (Abstract)

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## Research Publications:

2015

Barret, M., Gagnon, N., Morissette, B., Kalmokoff, M.L., Topp, E., Brooks, S.P.J., Matias, F., Neufeld, J.D., and Talbot, G. (2015). "Phylogenetic identification of methanogens assimilating acetate-derived carbon in dairy and swine manures.", *Systematic and Applied Microbiology*, 38(1), pp. 56-66. doi: 10.1016/j.syapm.2014.11.006

Masse, L., Puig-Bargues, J., Mondor, M., Deschênes, L., and Talbot, G. (2015). "Efficiency of EDTA, SDS and NaOH solutions to clean RO membranes processing swine wastewater.", *Separation Science and Technology*, 50(16), pp. 2509-2517. doi: 10.1080/01496395.2015.1062395

Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Cloutier, M., Tambong, J.T., Xu, R., Topp, E., Arts, M.T., Chao, J., Adam, Z., Lévesque, C.A., Lapen, D.R., Villemur, R., Talbot, G., and Khan, I.U.H. (2015). "Arcobacter lanthieri sp. nov., isolated from pig and dairy cattle manure.", *International Journal of Systematic and Evolutionary Microbiology (IJSEM)*. doi: 10.1099/ijse.0.000318

Chiquette, J., Lagrost, J., Girard, C.L., Talbot, G., Li, S., Plaizier, J.C., and Hindrichsen, I.K. (2015). "Efficacy of the direct-fed microbial *Enterococcus faecium* alone or in combination with *Saccharomyces cerevisiae* or *Lactococcus lactis* during induced subacute ruminal acidosis.", *Journal of Dairy Science (JDS)*, 98(1), pp. 190-203. doi: 10.3168/jds.2014-8219

Bissonnette, N., Jiang, X-R., Matte, J.J., Talbot, G., Guay, F., Gong, J., Wang, Q., Bontempo, V., and Lessard, M. (2015). "Effect of a post-weaning diet supplemented with gut health-enhancing feed additives on ileum transcriptome activity and serum cytokines in piglets challenged with lipopolysaccharides (LPS).", *Journal of Dairy Science (JDS)*, 98(Suppl. 2), pp. 659. (Abstract)

2014

Adam, Z., Whiteduck-Leveillee, K., Cloutier, M., Tambong, J.T., Chen, W., Lewis, C.T., Lévesque, C.A., Topp, E., Lapen, D.R., Talbot, G., and Khan, I.U.H. (2014). "Draft genome sequences of three Arcobacter strains of pig and dairy cattle manure origin.", *Genome Announcements*, 2(3:e00377-14). doi: 10.1128/genomeA.00377-14

Adam, Z., Whiteduck-Leveillee, K., Cloutier, M., Chen, W., Lewis, C.T., Lévesque, C.A., Topp, E., Lapen, D.R., Tambong, J.T., Talbot, G., and Khan, I.U.H. (2014). "Draft genome sequences of two Arcobacter strains isolated from human feces.", *Genome Announcements*, 2(2:e00113-14). doi: 10.1128/genomeA.00113-14

Adam, Z., Whiteduck-Leveillee, K., Cloutier, M., Chen, W., Lewis, C.T., Lévesque, C.A., Topp, E., Lapen, D.R., Tambong, J.T., Talbot, G., and Khan, I.U.H. (2014). "Draft genome sequence of Arcobacter cibarius Strain LMG21996{SUP}T{/SUP} isolated from broiler carcasses.", *Genome Announcements*, 2(1), pp. e00034-14. doi: 10.1128/genomeA.00034-14

Masse, L., Mondor, M., Talbot, G., Deschênes, L., Drolet, H., Gagnon, N., St-Germain, F., and Puig-Bargues, J. (2014). "Fouling of reverse osmosis membranes processing swine wastewater pretreated by mechanical separation and aerobic biofiltration.", *Separation Science and Technology*, 49(9), pp. 1298-1308. doi: 10.1080/01496395.2014.881880

Masse, L., Mondor, M., Puig-Bargues, J., Deschênes, L., and Talbot, G. (2014). "The efficiency of various chemical solutions to clean reverse osmosis membranes processing swine wastewater.", *Water Quality Research Journal of Canada*, 49(4), pp. 295-306. doi: 10.2166/wqrjc.2014.008

2013

Barret, M., Gagnon, N., Kalmokoff, M.L., Topp, E., Verastegui, Y., Brooks, S.P.J., Matias, F., Neufeld, J.D., and Talbot, G. (2013). "Identification of Methanoculleus spp. As active methanogens during anoxic incubations of swine manure storage tank samples.", *Applied and Environmental Microbiology*, 79(2), pp. 424-433. doi: 10.1128/AEM.02268-12

Barret, M., Gagnon, N., Topp, E., Masse, L., Massé, D.I., and Talbot, G. (2013). "Physico-chemical characteristics and methanogen communities in swine and dairy manure storage tanks: Spatio-temporal variations and impact on methanogenic activity.", *Water Research*, 47(2), pp. 737-746. doi: 10.1016/j.watres.2012.10.047

2012

Barret, M., Gagnon, N., Morissette, B., Topp, E., Kalmokoff, M.L., Brooks, S.P.J., Matias, F., Massé, D.I., Masse, L., and Talbot, G. (2012). "Methanoculleus spp. as a biomarker of methanogenic activity in swine manure storage tanks.", *FEMS Microbiology Ecology*, 80(2), pp. 427-440. doi : 10.1111/j.1574-6941.2012.01308.x

2011

Xia, Y., Massé, D.I., McAllister, T.A., Beaulieu, C., Talbot, G., Kong, Y., and Seviour, R. (2011). "In situ identification of keratin-hydrolyzing organisms in swine manure inoculated anaerobic digesters.", *FEMS Microbiology Ecology*, 78(3), pp. 451-462. doi : 10.1111/j.1574-6941.2011.01188.x

Gagnon, N., Barret, M., Topp, E., Kalmokoff, M.L., Massé, D.I., Masse, L., and Talbot, G. (2011). "A novel fingerprinting technology to assess the diversity of methanogens.", *FEMS Microbiology Letters*, 325(2), pp. 115-122. doi : 10.1111/j.1574-6968.2011.02418.x

Massé, D.I., Talbot, G., and Gilbert, Y. (2011). "On farm biogas production: A method to reduce GHG emissions and develop more sustainable livestock operations.", *Animal Feed Science and Technology*, 166-167, pp. 436-445. doi : 10.1016/j.anifeedsci.2011.04.075

## Other Science Related Publications :

2015

Gil, M., Faucitano, L., Talbot, G., Devillers, N., and Saucier, L. (2015). "Influence of preslaughter feed withdrawal time applied at the abattoir on carcass microbial quality.", *Meat Science*, 99, pp. 143. doi : 10.1016/j.meatsci.2014.07.016 (Abstract)

Ibeagha-Awemu, E.M., Beaudoin, F., Chiquette, J., Talbot, G., Bissonnette, N., and Lessard, M. (2015). "Probiotics administration enhances calves' lymphoproliferation responses to vaccination during the early weeks of growth.", 2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council, Ottawa, Canada, May 6-8, 2015.

Bissonnette, N., Jiang, X-R., Matte, J.J., Talbot, G., Guay, F., Gong, J., Wang, Q., Bontempo, V., and Lessard, M. (2015). "Effect of a post-weaning diet supplemented with gut health-enhancing feed additives on ileum transcriptome activity and serum cytokines in piglets challenged with lipopolysaccharides (LPS)", *ADSA-ASAS JAM (Joint Annual Meeting) 2015*, Orlando, Florida, USA, July 12-16, 2015, 2-15, Poster Session.

Fomenky, B., Beaudoin, F., Chiquette, J., Talbot, G., Bissonnette, N., Chouinard, P.Y., Lessard, M., and Ibeagha-Awemu, E.M. (2015). "Amélioration du développement immunitaire chez les veaux laitiers par les probiotiques.", *Symposium sur les bovins laitiers 2015*, Drummondville, QC, Canada, Octobre 29, 2015.

Ibeagha-Awemu, E.M., Dudemaine, P.-L., Chiquette, J., Talbot, G., and Bissonnette, N. (2015). "Involvement of microRNAs in calves' intestinal growth and development and probable modulatory role of *Saccharomyces cerevisiae*.", *Symposium on Gut Health in Production of Food Animals*, Kansas City, Missouri, USA, November 9-11, 2015. (Poster)

Gil, M., Faucitano, L., Talbot, G., Devillers, N., Guay, F., and Saucier, L. (2015). "Pre-slaughter strategies to improve pork carcass microbial quality.", *Meat Science*, 99, pp. 153. doi : 10.1016/j.meatsci.2014.07.006 (Abstract)

2014

Morissette, B., Lessard, M., Yergeau, E., Lapointe, J., Guay, F., Bissonnette, N., Matte, J.J., Letellier, A., Quessy, S., Bergeron, N., Beaulieu, C., and Talbot, G. (2014). "Influence of Feed Additives as an Alternative to Antibiotics on Gut Microbiota of Weaned Piglets Infected with *Salmonella Typhimurium*.", 114th General Meeting of the American Society for Microbiology, Boston, Massachusetts, USA, May 17-20, 2014.

Gil, M., Faucitano, L., Talbot, G., Devillers, N., and Saucier, L. (2014). "Influence of preslaughter feed withdrawal applied either at the farm or at the abattoir on carcass microbial quality.", *Canadian Meat Council's 94th Annual Conference*, Toronto, ON, Canada, May 7-9, 2014.

Saucier, L., Faucitano, L., Devillers, N., Talbot, G., and Guay, F. (2014). *Des stratégies pour l'amélioration de la qualité de la viande de porc*. Final report submitted to MAPAQ, 16 p. (Report)

Barret, M., Auffret, M., Gagnon, N., Topp, E., Masse, L., Massé, D.I., and Talbot, G. (2014). "Influence of seasonal temperature variation on methanogen communities and methanogenesis in manure storage tanks.", *XVth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014)*, July 27 - August 1, 2014, Montréal, Québec, Canada. (Poster)

Lo Verso, L., Lessard, M.-H., Talbot, G., Subirade, M., and Fliss, I. (2014). "Isolation and selection of strains from pig gastrointestinal tract for probiotic use.", *7e Symposium Swine and Poultry Infectious Disease Research Center of the Faculté de Médecine Vétérinaire de l'Université de Montréal*, Saint-Hyacinthe, QC, Canada, June 3-4, 2014. (Poster)



Lessard, M.-H., Bergeron, N., Deschène, K., Matte, J.J., Guay, F., Bissonnette, N., Talbot, G., Quessy, S., and Letellier, A. (2014). "Influence of Salmonella infection and diets supplemented with gut health-enhancing feed additives on expression of intestinal genes involved in immune response of pigs.", 7<sup>ième</sup> Symposium du CRIPA, Hyacinthe, Québec, Canada, 3-4 juin 2014. (Abstract)

Morissette, B., Lessard, M.-H., Yergeau, E., Lapointe, J., Guay, F., Bissonnette, N., Matte, J.J., Letellier, A., Quessy, S., Bergeron, N., Beaulieu, C., and Talbot, G. (2014). "Influence of Feed Additives as an Alternative to Antibiotics on Gut Microbiota of Weaned Piglets Infected with Salmonella Typhimurium.", 114<sup>th</sup> General Meeting of the American Society for Microbiology, Boston, Massachusetts, USA, May 17-20, 2014. (Abstract)

Ko, K., Ying, X., Ng, A., Rempel, H., McCormick, L., Gagnon, N., Auffret, M., Talbot, G., and Diarra, M.S. (2014). "Antibiotic resistance and pathogenic bacteria from dairy cow manure.", Guelph Food Safety Seminar Series - Food Safety: Compliance to Commitment (GFSS 11<sup>th</sup> Annual Symposium), Guelph, Ontario, Canada, October 22, 2014, Award winner. (Poster)

Khan, I.U.H., Cloutier, M., Topp, E., Lapen, D.R., Lévesque, C.A., Edge, T.A., Tambong, J.T., Talbot, G., and Wilkes, G.A. (2014). "Quantitative Detection and Identification of Arcobacter, Campylobacter and Helicobacter Species in a Canadian Agricultural Watershed.", XVI<sup>th</sup> International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada, July 27-August 1, 2014.

Gil, M., Faucitano, L., Talbot, G., Devillers, N., Guay, F., Gosselin, A., Desjardins, Y., and Saucier, L. (2014). "Pre-slaughter strategies to improve the microbial quality of pork carcasses.", International Union of Microbiological Societies Congress (IUMS 2014), Montréal, QC, Canada, July 27-August 1, 2014.

## 2013

Morissette, B., Lessard, M., Guay, F., Matte, J.J., Gong, J., Wang, Q., Beaulieu, C., and Talbot, G. (2013). "Prebiotics, probiotic, nutraceuticals and functional food as feed additives that modulate the gut microbiota of weanling piglets challenged with E. coli lipopolysaccharides.", 63<sup>rd</sup> Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013, Abstract AE56. (Abstract)

Léveillé, K., Laprade, N., Léveillé, W.J., Topp, E., Lapen, D.R., Tambong, J.T., Talbot, G., Wilkes, G.A., and Khan, I.U.H. (2013). "Antimicrobial resistance profiling of Arcobacter butzleri isolates from faecal sources and an agricultural watershed.", 63<sup>rd</sup> Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013, Abstract AE87.

Masse, L., Puig-Bargues, J., Mondor, M., Deschènes, L., and Talbot, G. (2013). "The efficiency of EDTA+SDS solutions to clean RO membranes processing swine wastewater.", 7<sup>th</sup> IWA Specialised Membrane Technology Conference and Exhibition for Water and Wastewater Treatment and Reuse, Westin Harbour Castle, Toronto, Toronto, Canada, August 25-29, Session 08C Abstract #401.

Talbot, G. (2013). "Influence of growth rate, probiotics, nutraceuticals and functional food on intestinal microbiota of suckling and weanling piglets.", 6<sup>th</sup> Symposium of Swine and Poultry Infectious Diseases Research Center. Congrès de l'ACFAS Colloque 227 – Le microbiote animal : une question d'équilibre., Université Laval, Québec, QC, Canada, May 8-9, 2013, Invited speaker.

Gil, M., Faucitano, L., Talbot, G., Devillers, N., and Saucier, L. (2013). "Stratégies pré-abattage pour améliorer la qualité microbiologique des carcasses de porc.", Congrès de bactériologie intégrative: symbiose & pathogenèse (BiSP), Québec, QC, Canada, novembre 28-29, 2013.

Talbot, G. and Lessard, M. (2013). "Influence of growth rate, probiotics, nutraceuticals and functional food on intestinal microbiota of suckling and weanling piglets.", 6<sup>th</sup> Symposium of Swine and Poultry Infectious Diseases Research Center. Congrès de l'ACFAS Colloque 227 – Le microbiote animal : une question d'équilibre., Université Laval, Québec, QC, Canada, May 8-9, 2013.

Léveillé, W.J., Kaneza, C.A., Léveillé, K., Talbot, G., Topp, E., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Optimization of a genus-specific PCR assay and restriction fragment length polymorphism (RFLP) analysis for rapid detection.", 63<sup>rd</sup> Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013, Abstract AE88.

Léveillé, W.J., Kaneza, C.A., Léveillé, K., Talbot, G., Topp, E., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Optimization of multiplex PCR assays for the detection of virulence genes in Arcobacter species isolated from fecal samples.", 63<sup>rd</sup> Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013, Abstract AE86.

Abdelbasset, A., Lo Verso, L., Fliss, I., Lessard, M., Talbot, G., and Subirade, M. (2013). "Protection of probiotic bacteria in a symbiotic matrix.", 6<sup>th</sup> Symposium of Swine and Poultry Infectious Diseases Research Center. Congrès de l'ACFAS Colloque 227 – Le microbiote animal : une question d'équilibre., Université Laval, Québec, QC, Canada, May 8-9, 2013. (Poster)

Lo Verso, L., Lessard, M., Talbot, G., Subirade, M., and Fliss, I. (2013). "Isolation and antibacterial activity of potential probiotic bacteria from pig gastrointestinal tract.", 6<sup>th</sup> Symposium of Swine and Poultry Infectious Diseases Research Center. Congrès de l'ACFAS Colloque 227 – Le microbiote animal : une question d'équilibre., Université Laval, Québec, QC, Canada, May 8-9, 2013, pp. 45. (Poster)

Talbot, G., Barret, M., Gagnon, N., and Topp, E. (2013). "Use of specific methanogen inhibitors and molecular analyses to elucidate biochemical pathways of methanogenesis in swine manure.", 63rd Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013. (Abstract)

Chiquette, J., Lagrost, J., Girard, C.L., Talbot, G., Li, S., and Plaizier, K. (2013). "Combination of Bacterial and Yeast Probiotics for Lactating Cows Submitted To a Sub-Acute Rumen Acidosis Challenge.", WCDS Advances in Dairy Technology, Canada, Volume 25, page 381. (Abstract)

Morissette, B., Lessard, M., Guay, F., Matte, J.J., Gong, J., Wang, Q., Beaulieu, C., and Talbot, G. (2013). "Prebiotics, probiotic, nutraceuticals and functional food as feed additives that modulate gut microbiota of weanling piglets.", 6th Symposium of Swine and Poultry Infectious Diseases Research Center. Congrès de l'ACFAS Colloque 227 – Le microbiote animal : une question d'équilibre., Université Laval, Québec, QC, Canada, May 8-9, 2013, pp. 46. (Poster)

## 2012

Talbot, G., Morissette, B., and Lessard, M. (2012). "The impact of piglet weight gain on the intestinal microbiota during lactation.", Canadian Society of Microbiologists (CSM) 62nd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Vancouver, BC, Canada, June 20-23, 2012, Abstract II057. (Poster)

Chiquette, J., Lagrost, J., Girard, C.L., Li, S., Plaizier, J.C., and Talbot, G. (2012). "Combination of bacterial and yeast probiotics: a step forward to unravel their mode of action.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, Published in: J. Anim. Sci. 90, Suppl. 3; J. Dairy Sci. 95, Suppl. 2, pp. 73, M323. (Abstract)

Talbot, G., Barret, M., Gagnon, N., Kalmokoff, M.L., Topp, E., and Neufeld, J.D. (2012). "Methanoculleus spp. Are major contributors to methane emissions in swine and dairy manure storage tanks.", Canadian Society of Microbiologists (CSM) 62nd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Vancouver, BC, Canada, June 20-23, 2012, Abstract AE076.

Morissette, B., Lessard, M., and Talbot, G. (2012). "Is there a link between piglet's weight gain and its intestinal bacteria?", 2ème symposium du Centre de Recherche et de Développement sur le Bovin Laitier et le Porc / 2nd Annual DSRDC/CRDBLP Symposium on Animal Production, Sherbrooke, QC, Canada, November 28, 2012.

## 2011

Barret, M., Neufeld, J.D., Gagnon, N., Kalmokoff, M.L., Topp, E., Verastegui, Y., and Talbot, G. (2011). "Identification of the active methanogens in swine manure storage tanks by DNA Stable Isotope Probing.", 1er Symposium du Centre de recherche et de développement sur le bovin laitier et le porc: Parlons science au CRDBLP! / 1st Symposium of the Dairy and Swine Research and Development Centre: Let's Talk Science at the DSRDC!, Sherbrooke, QC, Canada, June 7, 2011.

Talbot, G., Barret, M., Massé, D.I., Masse, L., Kalmokoff, M.L., and Topp, E. (2011). "Methanogenesis in dairy and swine production.", 1er Symposium du Centre de recherche et de développement sur le bovin laitier et le porc: Parlons science au CRDBLP! / 1st Symposium of the Dairy and Swine Research and Development Centre: Let's Talk Science at the DSRDC!, Sherbrooke, QC, Canada, June 7, 2011.

Barret, M., Neufeld, J.D., Gagnon, N., Kalmokoff, M.L., Topp, E., Verastegui, Y., and Talbot, G. (2011). "Active methanogens in swine manure storage tanks revealed by stable isotope probing.", Canadian Society of Microbiologists (CSM) 61st Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Memorial University of Newfoundland, St. John's, NL, Canada, June 20-23, 2011, Abstract AE74. (Abstract)

Brousseau, J.P., Beaudoin, F., Lauzon, K., Talbot, G., Roy, D., and Lessard, M. (2011). "Effets de *Pediococcus acidilactici* et *Saccharomyces cerevisiae* boulardii sur le microbiote de l'iléon et du côlon chez le porcelet sevré.", 4e Symposium Annuel du Centre de Recherche en Infectiologie Porcine (CRIP), Université de Montréal, Saint-Hyacinthe, QC, Canada, May 30-31, 2011. (Abstract)

Barret, M., Gagnon, N., Morissette, B., Topp, E., Massé, D.I., Masse, L., and Talbot, G. (2011). "Methanogenesis in Swine Manure Storage Tanks: Towards the Identification of the Active Microorganisms.", 111th General Meeting of American Society for Microbiology (ASM2011), New Orleans, LA, USA, May 21-24, 2011.

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## Research Publications:

2015

Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Cloutier, M., Tambong, J.T., Xu, R., Topp, E., Arts, M.T., Chao, J., Adam, Z., Lévesque, C.A., Lapen, D.R., Villemur, R., and Khan, I.U.H. (2015). "Identification, characterization and description of *Arcobacter faecis* sp. Nov., isolated from a human waste septic tank.", *Systematic and Applied Microbiology*. doi : 10.1016/j.syapm.2015.12.002

Nejjari, M., Xu, R., and Tambong, J.T. (2015). "Detection, identification and differentiation of corn pathogen *Pantoea stewartii* subspecies by membrane-based multi-gene oligonucleotide array.", *Jurnal Teknologi*, 77(24), pp. 123-129. doi : 10.11113/jt.v77.6719

Tambong, J.T. (2015). "Specific identification and detection of *Pantoea stewartii* subsp. *stewartii* using a membrane-based multi-gene oligonucleotide array.", *Canadian Journal of Plant Pathology*. doi: 10.1080/07060661.2015.1113442

Xu, R., Falardeau, J., Tyler, J.A., and Tambong, J.T. (2015). "HybProbes-based real-time PCR assay for specific identification of *Streptomyces scabies* and *Streptomyces europaescabiei*, the potato common scab pathogen.", *Letters in Applied Microbiology*. doi : 10.1111/lam.12522

Yuan, K., Cullis, J., Lévesque, C.A., Tambong, J.T., Chen, W., Lewis, C.T., De Boer, S.H., and Li, X. (2015). "Draft genome sequences of *Ralstonia solanacearum* race 3 biovar 2 strains with different temperature adaptations.", *Genome Announcements*, 3(4: e00815-15), pp. 1-2. doi : 10.1128/genomeA.00815-15

Tambong, J.T., Xu, R., Adam, Z., Cott, M., Rose, K., Reid, L.M., Daayf, F., Brière, S.C., and Bilodeau, G.J. (2015). "Draft genome sequence of *Clavibacter michiganensis* subsp. *nebraskensis* strain DOAB 397, isolated from an infected field corn plant in Manitoba, Canada.", *Genome Announcements*, 3(4: e00768-15), pp. 1-2. doi: 10.1128/genomeA.00768-15

Adam, Z., Chen, Q., Xu, R., Diange, A.E., Bromfield, E.S.P., and Tambong, J.T. (2015). "Draft Genome Sequence of *Pseudomonas* Strain 2-36, an In Vitro Antagonist of *Rhizoctonia solani* and *Gaeumannomyces graminis*.", *Genome Announcements*, 3(1: e01534-14). doi : 10.1128/genomeA.01534-14

Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Cloutier, M., Tambong, J.T., Xu, R., Topp, E., Arts, M.T., Chao, J., Adam, Z., Lévesque, C.A., Lapen, D.R., Villemur, R., Talbot, G., and Khan, I.U.H. (2015). "*Arcobacter lanthieri* sp. nov., isolated from pig and dairy cattle manure.", *International Journal of Systematic and Evolutionary Microbiology (IJSEM)*. doi: 10.1099/ijs.0.000318

2014

Yu, X.-M., Cloutier, S., Tambong, J.T., and Bromfield, E.S.P. (2014). "*Bradyrhizobium ottawaense* sp. Nov., a symbiotic nitrogen fixing bacterium from root-nodules of soybeans in Eastern Canada.", *International Journal of Systematic and Evolutionary Microbiology (IJSEM)*, 64(Pt. 9), pp. 3202-3207. doi : 10.1099/ijs.0.065540-0

Adam, Z., Tambong, J.T., Chen, Q., Lewis, C.T., Lévesque, C.A., and Xu, R. (2014). "Draft Genome Sequence of *Pseudomonas* sp. 2-92, a biological control strain isolated from a field plot under long-term mineral fertilization.", *Genome Announcements*, 2(1: e01121-13). doi: 10.1128/genomeA.01121-13

Adam, Z., Whiteduck-Leveillee, K., Cloutier, M., Chen, W., Lewis, C.T., Lévesque, C.A., Topp, E., Lapen, D.R., Tambong, J.T., Talbot, G., and Khan, I.U.H. (2014). "Draft genome sequence of *Arcobacter cibarius* Strain LMG21996{SUP}T{/SUP} isolated from broiler carcasses.", *Genome Announcements*, 2(1), pp. e00034-14. doi: 10.1128/genomeA.00034-14

Tambong, J.T., Xu, R., Sadiku, A., Chen, Q., and Yu, Q. (2014). "Molecular detection and analysis of a novel metalloprotease gene of entomopathogenic *Serratia marcescens* strains in infected *Galleria mellonella*.", *Canadian Journal of Microbiology*, 60(4), pp. 203-209. doi: 10.1139/cjm-2013-0864

Adam, Z., Whiteduck-Leveillee, K., Cloutier, M., Chen, W., Lewis, C.T., Lévesque, C.A., Topp, E., Lapen, D.R., Tambong, J.T., Talbot, G., and Khan, I.U.H. (2014). "Draft genome sequences of two *Arcobacter* strains isolated from human feces.", *Genome Announcements*, 2(2 e00113-14). doi: 10.1128/genomeA.00113-14

Adam, Z., Whiteduck-Leveillee, K., Cloutier, M., Tambong, J.T., Chen, W., Lewis, C.T., Lévesque, C.A., Topp, E., Lapen, D.R., Talbot, G., and Khan, I.U.H. (2014). "Draft genome sequences of three *Arcobacter* strains of pig and dairy cattle manure origin.", *Genome Announcements*, 2(3:e00377-14). doi : 10.1128/genomeA.00377-14

Yuan, K., Adam, Z., Tambong, J.T., Lévesque, C.A., Chen, W., Lewis, C.T., De Boer, S.H., and Li, X. (2014). "Draft Genome Sequence of *Pectobacterium wasabiae* Strain CFIA1002.", *Genome Announcements*, 2(3): e00214-14. doi : 10.1128/genomeA.00214-14

Tambong, J.T., Xu, R., Kaneza, C.A., and Nshogozabahizi, J.C. (2014). "An In-depth Analysis of a Multilocus Phylogeny Identifies *leuS* As a Reliable Phylogenetic Marker for the Genus *Pantoea*.", *Evolutionary Bioinformatics*, 10, pp. 115-125. doi : 10.4137/EBO.S15738

Adam, Z., Tambong, J.T., Lewis, C.T., Lévesque, C.A., Chen, W., Bromfield, E.S.P., Khan, I.U.H., and Xu, R. (2014). "Draft Genome Sequence of *Pantoea ananatis* Strain LMG 2665T, a Bacterial Pathogen of Pineapple Fruitlets.", *Genome Announcements*, 2(3): e00489-14. doi : 10.1128/genomeA.00489-14

## 2013

Tambong, J.T. (2013). "Phylogeny of Bacteria Isolated from *Rhabditis* sp. (Nematoda) and Identification of Novel Entomopathogenic *Serratia marcescens* Strains.", *Current Microbiology*, 66(2), pp. 138-144. doi : 10.1007/s00284-012-0250-0

Tambong, J.T. and Xu, R. (2013). "Culture-Independent Analysis of *Pseudomonas* Community Structures in Fertilized and Unfertilized Agricultural Soils.", *Annals of Microbiology*, 63(1), pp. 323-333. doi : 10.1007/s13213-012-0477-9

## 2012

Tang, J., Bromfield, E.S.P., Rodrigue, N., Cloutier, S., and Tambong, J.T. (2012). "Microevolution of symbiotic Bradyrhizobium populations associated with soybeans in east North America.", *Ecology and Evolution*, 2(12), pp. 2943-2961. doi : 10.1002/ece3.404

## 2011

Gómez-Alpízar, L., Saalau, E., Picado, I., Tambong, J.T., and Saborío, F. (2011). "A PCR-RFLP assay for identification and detection of *Pythium myriotylum*, causal agent of the cocoyam root rot disease.", *Letters in Applied Microbiology*, 52(3), pp. 185-192. doi : 10.1111/j.1472-765X.2010.02998.x

Xu, R. and Tambong, J.T. (2011). "A TaqMan real-time PCR assay targeting the cytochrome *o* ubiquinol oxidase subunit II gene for detection of several pathogens of *Pseudomonas syringae*.", *Canadian Journal of Plant Pathology*, 33(3), pp. 318-331. doi : 10.1080/07060661.2011.600335

Chen, Q., Qi, P.-F., Xu, R., Tambong, J.T., Djama, Z.R., and Li, W. (2011). "Comparison of Three Typing Methods for Evaluating the Diversity of *Pseudomonas fluorescens* in the Rhizosphere.", *Journal of Plant Sciences*, 6(2), pp. 52-65. doi : 10.3923/jps.2011.52.65

## Other Science Related Publications:

### 2015

Lévesque, C.A., Chen, W., Hambleton, S., Seifert, K.A., Adam, Z., Bilodeau, G.J., Cullis, J., Demeke, T., Dumonceaux, T.J., Gagnon, M., Graefenhan, T., Kawchuk, L.M., Khan, I.U.H., Lewis, C.T., Li, X., Links, M.G., Mimeo, B., Rott, M., Tambong, J.T., Topp, E., Yu, Q., and Yuan, K. (2015). Project CRTI 09-462RD - Next generation sequencing, direct detection and genotyping of fungi, bacteria and nematodes in the agri-food system. DRDC-RDDC-2015-C148. Final Close-Out Report. (Report)

### 2014

Khan, I.U.H., Cloutier, M., Topp, E., Lapen, D.R., Lévesque, C.A., Edge, T.A., Tambong, J.T., Talbot, G., and Wilkes, G.A. (2014). "Quantitative Detection and Identification of *Arcobacter*, *Campylobacter* and *Helicobacter* Species in a Canadian Agricultural Watershed.", XVIth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada, July 27-August 1, 2014.

Tambong, J.T., Adam, Z., Lewis, C.T., Lévesque, C.A., Chen, W., Khan, I.U.H., Bromfield, E.S.P., and Xu, R. (2014). "Comparative genomics of *Pantoea stewartii* subspecies and development of a TaqMan Real-Time PCR assay for specific detection of *P. stewartii* subsp. *stewartii*.", 13th International Conference of Plant Pathogenic Bacteria, Shanghai, China, June 8-13, 2014, pp. 34. (Abstract)

Li, X., Yuan, K., Nie, J., Adam, Z., Tambong, J.T., Chen, W., Lewis, C.T., De Boer, S.H., and Lévesque, C.A. (2014). "Comparative Genomics Approaches for Detection and Identification of *Ralstonia solanacearum* race 3 bv 2.", 13th International Conference of Plant Pathogenic Bacteria, Shanghai, China, June 8-13, 2014, Oral presentation. (Abstract)

Yuan, K., Li, X., Adam, Z., Tambong, J.T., Lévesque, C.A., Chen, W., Lewis, C.T., and De Boer, S.H. (2014). "Comparative genomics for re-classification of *Pectobacterium wasabiae*.", 3rd International Workshop on *Erwinia*, Shanghai, China, June 8-13, 2014, pp. 27-28. (Abstract)

Yuan, K., Li, X., Adam, Z., Tambong, J.T., Lévesque, C.A., Chen, W., Lewis, C.T., and De Boer, S.H. (2014). "Draft genome sequence of *Pectobacterium wasabiae* strain CFIA1002.", 3rd International Workshop on *Erwinia*, Shanghai, China, June 8-13, 2014.

## 2013

Léveillé, W.J., Kaneza, C.A., Léveillé, K., Talbot, G., Topp, E., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Optimization of a genus-specific PCR assay and restriction fragment length polymorphism (RFLP) analysis for rapid detection.", 63rd Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013, Abstract AE88.

Khan, I.U.H., Cloutier, M., Edge, T.A., Schellhorn, H.E., Gupta, R.S., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Wilkes, G.A., Nowak, E.K., and Hill, S. (2013). "A comparative study on the prevalence of thermophilic *Campylobacter* spp. in agricultural and recreational waters.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.

Whiteduck-Leveillee, J., Whiteduck-Leveillee, K., Kaneza, C.A., Cloutier, M., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Multiplex PCR assay for the detection and identification of virulent genes in *Arcobacter* species.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.

Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Kaneza, C.A., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Development of genus-specific PCR assay for rapid identification of *Arcobacter* species: Optimization of PCR Primers and Conditions, and Restriction Pattern Analysis.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.

Kaneza, C.A., Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Identification and detection of *Arcobacter* spp. from water and fecal matter using genus- and species-specific PCR assays.", La Cité Collégiale, Ottawa, ON, Canada, April 26, 2013. (Poster)

Kaneza, C.A., Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Identification and detection of *Arcobacter* spp. From water and fecal matter using genus- and species-specific PCR assays.", La Cité Collégiale, Ottawa, ON, Canada, April 26, 2013.

Laprade, N., Whiteduck-Leveillee, J., Whiteduck-Leveillee, K., Cloutier, M., Tambong, J.T., Topp, E., Lapen, D.R., Wilkes, G.A., and Khan, I.U.H. (2013). "Detection of virulence, toxin and tet(O) resistant genes in thermophilic *Campylobacter* species using multiplex PCR assays.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.

Whiteduck-Leveillee, K., Laprade, N., Whiteduck-Leveillee, J., Topp, E., Kaneza, C.A., Lapen, D.R., Tambong, J.T., Guylaine, T., Wilkes, G.A., and Khan, I.U.H. (2013). "Antimicrobial resistance profiling of *Arcobacter butzleri* isolated from a Canadian agricultural watershed.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.

Léveillé, K., Laprade, N., Léveillé, W.J., Topp, E., Lapen, D.R., Tambong, J.T., Talbot, G., Wilkes, G.A., and Khan, I.U.H. (2013). "Antimicrobial resistance profiling of *Arcobacter butzleri* isolates from faecal sources and an agricultural watershed.", 63rd Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013, Abstract AE87.

Léveillé, W.J., Kaneza, C.A., Léveillé, K., Talbot, G., Topp, E., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Optimization of multiplex PCR assays for the detection of virulence genes in *Arcobacter* species isolated from fecal samples.", 63rd Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013, Abstract AE86.

## 2011

Kaneza, C.A., Tambong, J.T., and Xu, R. (2011). "L'Étude de la Phylogénie Moléculaire des souches de *Pantoea stewartii*", COOP training, La Cité Collégiale, Ottawa, ON, Canada, September 2011. (Presentation)

Tambong, J.T. and Xu, R. (2011). "Specificity and Sensitivity of a TaqMan real-time PCR assay for detection of several pathovars of *Pseudomonas* spp.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

Tambong, J.T. (2011). "Molecular Phylogeny: Methods and a case study of the genus *Pseudomonas*", La Cité Collégiale, Ottawa, ON, Canada, March 22, 2011. (Presentation)

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## Research Publications:

2015

Wang, Y.T., O'Halloran, I.P., Zhang, T.Q., Hu, Q.C., and Tan, C.S. (2015). "Phosphorus Sorption Parameters of Soils and Their Relationships with Soil Test Phosphorus.", *Soil Science Society of America Journal*, 79(2), pp. 672-680. doi : 10.2136/sssaj2014.07.0307

Wang, Y.T., Zhang, T.Q., O'Halloran, I.P., Tan, C.S., and Hu, Q.C. (2015). "Predicting environmental soil phosphorus limits for dissolved reactive phosphorus loss.", *Soil Use and Management*, pp. 1-9. doi: 10.1111/sum.12238

Zheng, Z.M., Zhang, T.Q., Kessel, C., Tan, C.S., O'Halloran, I.P., Wang, Y.T., Speranzini, D., and Van Eerd, L.L. (2015). "Approximating Phosphorus Leaching from Agricultural Organic Soils by Soil Testing.", *Journal of Environmental Quality*, 44(6), pp. 1871-1882. doi: 10.2134/jeq2015.05.0211

Hao, X.J., Zhang, T.Q., Tan, C.S., Welacky, T.W., Wang, Y.T., Lawrey, J.D., and Hong, J.P. (2015). "Crop yield and phosphorus uptake as affected by phosphorus-based swine manure application under long-term corn-soybean rotation.", *Nutrient Cycling in Agroecosystems*, 103(2), pp. 217-228. doi: 10.1007/s10705-015-9735-0

Reynolds, W.D., Drury, C.F., Tan, C.S., and Yang, X.M. (2015). "Temporal effects of food waste compost on soil physical quality and productivity.", *Canadian Journal of Soil Science*, 95(3), pp. 251-268. doi: 10.4141/CJSS-2014-114

Zhang, T.Q., Tan, C.S., Zheng, Z.M., and Drury, C.F. (2015). "Tile Drainage Phosphorus Loss with Long-Term Consistent Cropping Systems and Fertilization.", *Journal of Environmental Quality*, 44(2), pp. 503-511. doi : 10.2134/jeq2014.04.0188

Zhang, T.Q., Tan, C.S., Zheng, Z.M., Welacky, T.W., and Reynolds, W.D. (2015). "Impacts of soil conditioners and water table management on phosphorus loss in tile drainage from a clay loam soil.", *Journal of Environmental Quality*, 44(2), pp. 572-584. doi: 10.2134/jeq2014.04.0154

2014

Drury, C.F., Reynolds, W.D., Tan, C.S., McLaughlin, N.B., Yang, X.M., Calder, W., Oloya, T.O., and Yang, J.Y. (2014). "Impacts of 49-51 years of fertilization and crop rotation on growing season nitrous oxide emissions, nitrogen uptake and corn yields.", *Canadian Journal of Soil Science*, 94(3), pp. 421-433. doi: 10.4141/CJSS2013-101

Drury, C.F., Reynolds, W.D., Yang, X.M., Tan, C.S., Guo, X.-B., McKenney, D.J., and Fleming, R. (2014). "Influence of compost source on corn grain yields, nitrous oxide and carbon dioxide emissions in southwestern Ontario.", *Canadian Journal of Soil Science*, 94(3), pp. 347-355. doi: 10.4141/CJSS2013-077

Reynolds, W.D., Drury, C.F., Yang, X.M., Tan, C.S., and Yang, J.Y. (2014). "Impacts of 48 years of consistent cropping, fertilization and land management on the physical quality of a clay loam soil.", *Canadian Journal of Soil Science*, 94(3), pp. 403-419. doi: 10.4141/CJSS2013-097

Wang, Y.T., Zhang, T.Q., O'Halloran, I.P., Hu, Q.C., Tan, C.S., Speranzini, D., MacDonald, I.K., and Patterson, G. (2014). "Agronomic and Environmental Soil Phosphorus Tests for Predicting Potential Phosphorus Loss from Ontario Soils.", *Geoderma*, 241-242, pp. 51-58. doi: 10.1016/j.geoderma.2014.11.001

Yang, X.M., Reynolds, W.D., Drury, C.F., Fleming, R., Tan, C.S., Denholm, K., and Yang, J.Y. (2014). "Organic carbon and nitrogen stocks in a clay loam soil 10 years after a single compost application.", *Canadian Journal of Soil Science*, 94(3), pp. 357-363. doi: 10.4141/CJSS2013-076

Drury, C.F., Tan, C.S., Welacky, T.W., Reynolds, W.D., Zhang, T.Q., Oloya, T.O., McLaughlin, N.B., and Gaynor, J.D. (2014). "Reducing nitrate loss in tile drainage water with cover crops and water-table management systems.", *Journal of Environmental Quality*, 43(2), pp. 587-598. doi: 10.2134/jeq2012.0495

Zheng, Z.M., Zhang, T.Q., Wen, G., Kessel, C., Tan, C.S., O'Halloran, I.P., Reid, D.K., Nemeth, D., and Speranzini, D. (2014). "Soil Testing to Predict Dissolved Reactive Phosphorus Loss in Surface Runoff from Organic Soils.", *Soil Science Society of America Journal*, 78(5), pp. 1786-1796. doi: 10.2136/sssaj2014.02.0065

Wang, Y.T., Wang, Y., O'Halloran, I.P., Zhang, T.Q., Hu, Q.C., and Tan, C.S. (2014). "Langmuir equation modifications to describe phosphorus sorption in soils of Ontario, Canada.", *Soil Science*, 179(12), pp. 536-546. doi : 10.1097/SS.000000000000100

2013

Beauregard, M.S., Gauthier, M.-P., Hamel, C., Zhang, T.Q., Welacky, T.W., Tan, C.S., and St-Arnaud, M. (2013). "Various forms of organic and inorganic P fertilizers did not negatively affect soil- and root-inhabiting AM fungi in a maize-soybean rotation system.", *Mycorrhiza*, 23(2), pp. 143-154. doi: 10.1007/s00572-012-0459-6

2012

Liu, K., Zhang, T.Q., Tan, C.S., Astatkie, T., and Price, G.W. (2012). "Crop and soil nitrogen responses to phosphorus and potassium fertilization and drip irrigation under processing tomato.", *Nutrient Cycling in Agroecosystems*, 93(2), pp. 151-162. doi: 10.1007/s10705-012-9506-0

Wang, Y.T., Zhang, T.Q., O'Halloran, I.P., Tan, C.S., Hu, Q.C., and Reid, D.K. (2012). "Soil tests as risk indicators for leaching of dissolved phosphorus from agricultural soils in Ontario.", *Soil Science Society of America Journal*, 76(1), pp. 220-229. doi: 10.2136/sssaj2011.0175

2011

Zhang, T.Q., Liu, K., Tan, C.S., Warner, J.T., and Wang, Y.T. (2011). "Processing tomato nitrogen utilization and soil residual nitrogen as influenced by nitrogen and phosphorus additions with drip-fertigation.", *Soil Science Society of America Journal*, 75(2), pp. 738-745. doi: 10.2136/sssaj2009.0365

Tan, C.S. and Zhang, T.Q. (2011). "Surface runoff and sub-surface drainage phosphorus losses under regular free drainage and controlled drainage with sub-irrigation systems in southern Ontario.", *Canadian Journal of Soil Science*, 91(3), pp. 349-359. doi: 10.4141/cjss09086

Wang, Y.T., Zhang, T.Q., Hu, Q.C., O'Halloran, I.P., Tan, C.S., and Reid, D.K. (2011). "Temporal patterns of soil phosphorus release to runoff during a rainfall event as influenced by soil properties and its effects on estimating soil P losses.", *Canadian Journal of Soil Science*, 91(3), pp. 339-347. doi: 10.4141/cjss09097

Liu, H.L., Yang, J.Y., Drury, C.F., Reynolds, W.D., Tan, C.S., Bai, Y.L., He, P., Jin, J.Y., and Hoogenboom, G. (2011). "Using the DSSAT-CERES-Maize model to simulate crop yield and nitrogen cycling in fields under long-term continuous maize production.", *Nutrient Cycling in Agroecosystems*, 89(3), pp. 313-328. doi: 10.1007/s10705-010-9396-y

Liu, H.L., Yang, J.Y., Tan, C.S., Drury, C.F., Reynolds, W.D., Zhang, T.Q., Bai, Y.L., Jin, J.Y., He, P., and Hoogenboom, G. (2011). "Simulating water content, crop yield and nitrate-N loss under free and controlled tile drainage with subsurface irrigation using the DSSAT model.", *Agricultural Water Management*, 98(6), pp. 1105-1111. doi: 10.1016/j.agwat.2011.01.017

Liu, K., Tan, C.S., Zhang, T.Q., and Astatkie, T. (2011). "Responses of Fruit Yield and Quality of Processing Tomato to Drip-Irrigation and Fertilizers Phosphorus and Potassium.", *Agronomy Journal*, 103(5), pp. 1339-1345. doi: 10.2134/agronj2011.0111

Liu, K., Zhang, T.Q., and Tan, C.S. (2011). "Processing tomato phosphorus utilization and post-harvest soil profile phosphorus affected by phosphorus and potassium additions and drip irrigation.", *Canadian Journal of Soil Science*, 91(3), pp. 417-425. doi: 10.4141/cjss09098

## Other Science Related Publications:

2015

Tan, C.S., Zhang, T.Q., and Zheng, Z.M. (2015). "Impact of subsurface drainage management and organic manure and chemical fertilizer on nutrient loss.", *American Society of Agricultural and Biological Engineers Annual International Meeting 2015*, New Orleans, USA, July 26-29, 2015, pp. 818-840.

2014

Tan, C.S., Ng, H.Y.F., and Zhang, T.Q. (2014). "The influence of farm scale drainage water management on water quality under sandy and clay loam soils in southern Ontario.", *ASA, CSSA and SSSA International Annual Meeting 2014*, Long Beach, CA, USA, November 2-5, 2014.

Drury, C.F., Reynolds, W.D., Tan, C.S., McLaughlin, N.B., Yang, X.M., Calder, W., Oloya, T.O., and Yang, J.Y. (2014). "Long-Term Fertilization and Crop Rotation Impacts on Growing Season Nitrous Oxide Emissions, Nitrogen Uptake and Corn Grain Yields.", *CSSS/CGU 2014 Annual Meeting*, Banff, AB, Canada, May 4-8, 2014.

Reynolds, W.D., Drury, C.F., Yang, X.M., Tan, C.S., and Fleming, R.J. (2014). "Immediate and Long-Term Impacts of Compost on the Physical Quality and productivity of a Clay Loam Soil.", *CSSS/CGU 2014 Annual Meeting*, Banff, AB, Canada, May 4-8, 2014.

Zhang, T.Q., Tan, C.S., and Welacky, T.W. (2014). "Phosphorus draw-down strategy: a fundamental approach for reducing P loss from tile drainage.", *NCERA 217 Meeting and ADMs Task Force Meeting*, Findlay, OH, USA, April 1-3, 2014. (Presentation)

Wang, Y.T., Zhang, T.Q., Hu, Q.C., and Tan, C.S. (2014). "Extractability of manure phosphorus applied to major Ontario soils measured by various soil phosphorus test methods.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

Zhang, T.Q., Tan, C.S., and Welacky, T.W. (2014). "Crop performance and soil phosphorus losses in surface runoff and tile drainage as related to organic manure, chemical fertilizer and drainage water management.", American Society of Agricultural and Biological Engineers Annual International Meeting 2014, Montreal, Canada, July 13-16, 2014, Paper #1894486, pp. 1029-1038.

Tan, C.S., Zhang, T.Q., and Ng, H.Y.F. (2014). "Impacts of compost addition on sub-surface nitrate and phosphorus losses at the farm scale under two different tillage systems.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

Zhang, T.Q., Tan, C.S., and Welacky, T.W. (2014). "Environmental evaluation of soil phosphorus and agronomic performance with continuous draw-down on drained soils with corn and soybean rotation.", American Society of Agricultural and Biological Engineers Annual International Meeting 2014, Montreal, Canada, July 13-16, 2014, Paper #1894458, pp. 1004-1012.

Hao, X.J., Zhang, T.Q., Tan, C.S., Welacky, T.W., and Hong, J.P. (2014). "Crop yield response to phosphorus-based application of various forms of swine manure under long-term corn-soybean rotation.", 5th International Symposium on Phosphorus in Soil and Plant, Montpellier, France, August 26-29, 2014.

Zhang, T.Q., Tan, C.S., Zheng, Z.M., and Drury, C.F. (2014). "Phosphorus fate in a clay loam soil under natural and long-term ( $\geq 43$  years) managed agricultural eco-systems.", 5th International Symposium on Phosphorus in Soil and Plant, Montpellier, France, August 26-29, 2014.

Tan, C.S. and Zhang, T.Q. (2014). "Effect of tile drain depth, spacing and drain water management on phosphorus losses in corn and soybean rotation.", American Society of Agricultural and Biological Engineers Annual International Meeting 2014, Montreal, Canada, July 13-16, 2014, Paper #1888493, pp. 273-285.

Zhang, T.Q., Tan, C.S., Welacky, T.W., and Hao, X.J. (2014). "Utilization of soil legacy P, a potential strategy for sustaining crop production and reducing P loss to water resource.", Sustainable Phosphorus Summit, Montpellier, France, September 1-3, 2014.

Zhang, T.Q., Tan, C.S., and Welacky, T.W. (2014). "Phosphorus draw-down strategy: a fundamental approach for reducing P loss from tile drainage.", RDT Guelph-Harrow Nutrient Management Workshop, April 7, 2014. (Presentation)

Tan, C.S. and Zhang, T.Q. (2014). "Effect of tile drain depth and spacing on nitrogen losses under corn and soybean rotation.", RDT Guelph-Harrow Nutrient Management Workshop, April 7, 2014. (Presentation)

Zhang, T.Q. and Tan, C.S. (2014). "Drain water discharge and phosphorus losses in response to tile drain spacing and depth in Southern Ontario.", NCERA 217 Meeting and ADMs Task Force Meeting, Findlay, OH, USA, April 1-3, 2014. (Presentation)

Tan, C.S. and Zhang, T.Q. (2014). "Drain water discharge and phosphorus losses in response to tile drain spacing and depth in Southern Ontario.", NCERA 217 Meeting and ADMs Task Force Meeting, Findlay, OH, USA, April 1-3, 2014. (Presentation)

Qiao, S.Y., Prasher, S.O., Zhang, T.Q., and Tan, C.S. (2014). "Modeling water flow and phosphorus fate and transport in tile-drained clay loam soil in southern Ontario using the HYDRUS 2D/3D model.", ASABE Annual International Meeting, Kansas City, MO, USA, July 21-24, 2013, Paper #1901404.

Zhang, T.Q., Tan, C.S., Drury, C.F., and Welacky, T.W. (2014). "Phosphorus loss from yile drained agricultural lands in Canada, an Overview on Research Progress.", 20th World Congress of Soil Science, Jeju, South Korea, June 8-13, 2014.

Zhang, T.Q. and Tan, C.S. (2014). "Effect of water table management and liquid and solid cattle manures on phosphorus losses in surface and sub-surface drainage water and crop performance.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

## 2013

Zhang, T.Q. and Tan, C.S. (2013). "Agri-Water Quality Monitoring, Data Collection, and Interpretation at the Plot and Field Scales in Past 20 Years: Observations, Lessons, and Challenges.", Bi-National Workshop on Sharing Agricultural Science, Technology and Data to Improve Great Lakes Water Quality, London, Ontario, Canada, June 13-14, 2013.

Zhang, T.Q., Tan, C.S., Zheng, Z.M., and Drury, C.F. (2013). "Tile drainage phosphorus losses from agricultural soils: case studies in Canada.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013, Invited speech.

Zhang, T.Q., Hao, X.J., Tan, C.S., Welacky, T.W., and Hong, J.P. (2013). "Cumulative contributions of various forms of swine manure to soil test phosphorus in a clay loam soil under long-term corn-soybean rotation. Future Agriculture with Minimized Phosphorus Losses to Waters.", 7th International Phosphorus Workshop (IPW7), Uppsala, Sweden, September 9-13, 2013, pp. 161.



Zhang, T.Q., Tan, C.S., Welacky, T.W., and Zheng, Z.M. (2013). "Soil phosphorus losses in surface runoff and tile drainage as related to P-based addition of various forms of cattle manure and chemical fertilizer. Future Agriculture with Minimized Phosphorus Losses to Waters.", 7th International Phosphorus Workshop (IPW7), Uppsala, Sweden, September 9-13, 2013, pp. 160.

Zhang, T.Q., Tan, C.S., Welacky, T.W., Reynolds, C.K., and Drury, C.F. (2013). Phosphorus cycling in agro-eco-systems and development for risk assessment tools and BMPs to improve water quality while maximizing crop productivity. AAFC, NOI-292 Project final report. (Report)

McLaughlin, N.B., Drury, C.F., Reynolds, W.D., Yang, X., Tan, C.S., and Yang, J. (2013). "Effect of long term crop rotation and fertilization on mouldboard plough draft in a clay loam soil.", 67th Northeastern Corn Improvement Conference, Lord Elgin Hotel, Ottawa, ON, Canada, February 14-15, 2013. (Presentation)

Drury, C.F., Reynolds, W.D., Yang, X.M., Tan, C.S., and McLaughlin, N.B. (2013). "Agronomic and soil quality benefits of cover crops.", Middle West Cover Crop Council Meeting - Making Sense with Cover Crops Workshop, London, ON, Canada, February 28 - March 1, 2013. (Workshop)

Tan, C.S., Zhang, T.Q., and Welacky, T.W. (2013). "Effectiveness of Organic and Inorganic Fertilizers on Water Quality and Crop Production under Free Drainage and Water Table Control Systems.", International Interdisciplinary Conference on Land and Water Quality, The Hague, The Netherlands, June 9-13, 2013.

Zhang, T.Q., Tan, C.S., Welacky, T.W., and Reynolds, C.K. (2013). Managing Phosphorus and Water in Soils Amended with Long-term Continuous Additions of Animal Manures and Inorganic Fertilizers to Increase Crop Use Efficiency and Reduce Adverse Impacts on Water Quality In the Great Lakes Region. AAFC, Project 2588 annual report. (Report)

Tan, C.S. and Zhang, T.Q. (2013). "Effect of tile drain depth and spacing on nitrogen losses under corn and soybean rotation.", ASABE Annual International Meeting, Kansas City, MO, USA, July 21-24, 2013, 14 pages. Paper Number: 131596042.

Zhang, T.Q., Zheng, Z.M., Wen, G., Kessel, C., Tan, C.S., and O'Halloran, I.P. (2013). "Agronomic and environmental soil phosphorus testing for organic (muck) soils.", The 2nd Biennial Lake Simcoe Science Forum, October 29-30, 2013.

Herath, A., Zhang, T.Q., Tan, C.S., Hamel, C., Welacky, T.W., Parkin, G.W., Goss, M.J., and O'Halloran, I.P. (2013). "Effects of liquid, solid and compost swine manure on soil phosphorus fractions in a clay loam soil under corn-soybean rotation.", CSSS Annual Meeting, AB, Canada.

Hao, X.J., Zhang, T.Q., Tan, C.S., Welacky, T.W., and Hong, J.P. (2013). "Cumulative contributions of various forms of swine manure to soil test phosphorus in a clay loam soil under long-term corn-soybean.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013. (Poster)

Tan, C.S., Zhang, T.Q., and Welacky, T.W. (2013). "Water discharge and nitrogen loss in response to phosphorus draw down in high P soils.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013. (Poster)

Tan, C.S. and Zhang, T.Q. (2013). "Drain water discharge and nitrogen losses in response to tile drain spacing and depth in Southern Ontario.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013.

Tan, C.S. and Zhang, T.Q. (2013). "Effect of tile drain depth and spacing on phosphorus losses under corn and soybean rotation.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013. (Poster)

Tan, C.S. and Zhang, T.Q. (2013). "Terrestrial study update in Fuling watershed.", International Workshop of Innovative Monitoring and Prediction of non-point sources pollution and water quality in TGR., Beibei, Chongqing, China, August 13-17, 2013. (Presentation)

Zhang, T.Q., Tan, C.S., and Zheng, Z.M. (2013). "Development of Soil Tests as Risk Indicators for Phosphorus Losses from Agricultural Soils in Canada.", 20th International Conference on Environmental Indicators, Trier, Germany.

Zhang, T.Q., Tan, C.S., and Welacky, T.W. (2013). "Agronomic and environmental evaluation of soil phosphorus with continuous draw-down.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013. (Poster)

Zhang, T.Q., Tan, C.S., and Welacky, T.W. (2013). "Agronomic and water quality evaluation of the phosphorus draw-down approach in tile drained soils.", SERA-17 Annual Meeting, Tampa, Florida, USA, November 6-8, 2013, Invited speech.

Tan, C.S. and Zhang, T.Q. (2013). "Sustainable Agriculture-Soil-Crop-Water management Programs at Harrow Research Centre-AAFC.", Department of Earth & Environmental Science, University of Windsor, April 19, 2013. (Presentation)

Tan, C.S. and Zhang, T.Q. (2013). "Use of water table management and water recycling system to reduce the negative impacts of climate change on field crop production and water Quality.", International Interdisciplinary Conference on Land and Water Quality, The Hague, The Netherlands, June 9-13, 2013.

Zhang, T.Q. and Tan, C.S. (2013). "Nutrient cycling and management in agri-ecosystems.", Department of Earth & Environmental Science, University of Windsor, April 19, 2013. (Presentation)

Lu, C., Qi, Z., Prasher, S.O., Tan, C.S., and Zhang, T.Q. (2013). "Modeling surface runoff and subsurface drainage in a corn and soybean rotation field in southern Ontario using RZWQM2.", ASABE Annual International Meeting, Kansas City, MO, USA, July 21-24, 2013, Paper #1904432.

Herath, A., Zhang, T.Q., Tan, C.S., Hamel, C., Bittman, S., Parkin, G.W., and Goss, M.J. (2013). "Development of a soil test for prediction of long-term potential for phosphorus loss in typical Canadian soils.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013.

2012

Tan, C.S. and Zhang, T.Q. (2012). "Sustainable agriculture for the future-BMP: Environmental quality and productivity.", Canadian Science Writers Association Conference, University of Windsor, Windsor, ON, Canada, June 2-5, 2012.

Zhang, T.Q. and Tan, C.S. (2012). "Comparisons of soil phosphorus loss in tile drainage with surface runoff.", Joint meeting of the Agricultural Drainage Management Systems Task Force and North Central Extension and Research Activity 217 (Drainage Design and Management Practices to Improve Water Quality), Dundee, MI, USA, April 17-19, 2012. (Presentation)

Zhang, T.Q., Tan, C.S., Welacky, T.W., Reynolds, W.D., Drury, C.F., Yang, J.Y., O'Halloran, I.P., Hua, Y.F., Prasher, S.O., and Lin, Z. (2012). Managing phosphorus and water in soils long-term continuously added with animal manures and inorganic fertilizers to increase crop use efficiency and to reduce adverse impacts on water quality in Great Lakes region. Report to AAFC. (Report)

Zhang, T.Q., Zheng, Z.M., Wen, G., Kessel, C., Tan, C.S., O'Halloran, I.P., Reid, D.K., Nemeth, D., and Speranzini, D. (2012). Development of agronomic and environmental soil phosphorus testing methods for organic (muck) soils. Report to Environment Canada, Ontario Ministry of Agriculture, Food, and Rural Affairs, and Ontario Agriculture Federation (Lake Simcoe Clean-up Program). (Report)

Tan, C.S., Ng, H.Y.F., and Zhang, T.Q. (2012). "The effect of water table management on water quality under sandy loam and clay loam soils at the farm scale.", 2012 ASABE Annual International Meeting, Hilton Anatole Dallas, Dallas, TX, USA, July 29-August 1, 2012, Paper Number: 12-1336985. 19 pages.

Zhang, T.Q., Tan, C.S., Ma, B.-L., and Ng, H.Y.F. (2012). "Effects of Compost Addition on Soil Phosphorus and Nitrate-N Losses in Tile Drainage Water under Long-term Conventional Tillage and No-tillage.", 2012 ASABE Annual International Meeting, Hilton Anatole Dallas, Dallas, TX, USA, July 29-August 1, 2012, Paper #12-1336986. 11 pages.

Tan, C.S. and Zhang, T.Q. (2012). "Effect of water management on phosphorus transport through surface and sub-surface drainage in corn and soybean rotation.", Joint meeting of the Agricultural Drainage Management Systems Task Force and North Central Extension and Research Activity 217 (Drainage Design and Management Practices to Improve Water Quality), Dundee, MI, USA, April 17-19, 2012. (Presentation)

Tan, C.S. and Zhang, T.Q. (2012). "Effect of New Innovative Water Management System On Nutrient Losses and Crop Production", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012, 166-4. (Abstract)

Drury, C.F., Reynolds, W.D., Tan, C.S., McLaughlin, N.B., Yang, X.M., and Calder, W. (2012). "Long-Term Effects of Fertilization and Crop Rotation on Nitrous Oxide Emissions From Soils.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012, pp. 72.

Zhang, T.Q., Zheng, Z.M., Kessel, C., Tan, C.S., O'Halloran, I.P., Reid, D.K., and Speranzini, D. (2012). "Development of an Environmental soil P Test for Muck (Organic) Soils.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012, #164-13. (Abstract)

Tan, C.S., Zhang, T.Q., Welacky, T.W., and Drury, C.F. (2012). "Integration of Organic Amendments with Water Table Management Recycling System on Water Quality and Crop Production.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012, #166-11. (Abstract)

Noborio, K., Tan, C.S., Shoji, Y., and Zhang, T.Q. (2012). "Nutrient Loss Through Tile Drainage Enhanced by Soil Cracks.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012, #169-8. (Abstract)

Zhang, T.Q. and Tan, C.S. (2012). "Phosphorus loss in tile drains from clay loam soils.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012.

Qiao, S.Y., Prasher, S.O., Zhang, T.Q., and Tan, C.S. (2012). "Modeling Phosphorus Fate and Transport in Agricultural Soil Using HYDRUS-2D.", 2012 ASABE Annual International Meeting, Hilton Anatole Dallas, Dallas, TX, USA, July 29-August 1, 2012.

Hurst, E., Tan, C.S., and Zhang, T.Q. (2012). "Effect of organic amendments and water table control on greenhouse gas.", Agricultural Greenhouse Gases Program 1st Annual Meeting, Macdonald Campus of McGill University, Montréal, QC, Canada, December 10, 2012.

Zhang, T.Q., Tan, C.S., and Welacky, T.W. (2012). "Phosphorus Loss in the Tile Drains from Agricultural Lands, in Comparisons with Surface Runoff.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012, #166-9. (Abstract)

2011

Zhang, T.Q., Tan, C.S., Yang, J.Y., and Reynolds, W.D. (2011). "Soil fertility management, crop productivity and water quality: nutrient management research in AAFC.", International Workshop on Non-Point Source Pollution Control in the Three Gorges Reservoir Basin, Chongqing, China, January 8-17, 2011.

Tan, C.S. and Zhang, T.Q. (2011). "Cumulative phosphorus losses and their pathways with free drainage and controlled drainage with sub-irrigation systems.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Tan, C.S., Zhang, T.Q., and Welacky, T.W. (2011). "Mitigation of drought stress through integration of organic amendments with controlled drainage-sub-irrigation water recycling system to improve soybean productivity and water quality.", Climate Change and the Implications for Plant Science: Symposium and Workshop, University of Guelph, Guelph, ON, Canada, June 7-9, 2011.

Tan, C.S. and Zhang, T.Q. (2011). "Use of controlled drainage and sub-irrigation water recycling to reduce the negative impacts of climate change on field crop production and water quality.", Climate Change and the Implications for Plant Science: Symposium and Workshop, University of Guelph, Guelph, ON, Canada, June 7-9, 2011.

Zhang, T.Q. and Tan, C.S. (2011). "Effect of surface and sub-surface drip and fertigation on commercial scale processing tomato production on coarse and heavy textured soils.", 7th Annual Great Lakes Vegetable Working Group Meeting, Leamington, ON, Canada, March 9-10, 2011.

Tan, C.S., Zhang, T.Q., and Warner, J.T. (2011). "Effect of four levels of drip irrigation on processing tomato fruit solid and yield.", 7th Annual Great Lakes Vegetable Working Group Meeting, Leamington, ON, Canada, March 9-10, 2011.

Tan, C.S., Zhang, T.Q., and Welacky, T.W. (2011). "Comparison of organic fertilizer with solid and liquid manures vs. inorganic fertilizer on water quality and crop production under free drainage and water table control systems.", 2011 ASABE Annual International Meeting, Louisville, KY, USA, August 7-11, 2011, Vol. 6, pp. 5005-5019.

Tan, C.S. and Zhang, T.Q. (2011). "Water management practice effects on nutrient losses from surface and sub-surface tile drainage in corn and soybean rotation.", 2011 ASABE Annual International Meeting, Louisville, KY, USA, August 7-11, 2011, Vol. 4, pp. 3056-3076.

Zhang, T.Q., Tan, C.S., Zandstra, J., and Warner, J.T. (2011). "Nitrogen management for sweet corn production.", 7th Annual Great Lakes Vegetable Working Group Meeting, Leamington, ON, Canada, March 9-10, 2011.

Zhang, T.Q., Tan, C.S., Hu, Q.C., Drury, C.F., and Zheng, Z.M. (2011). "Long-term ( $\geq 45$  yrs) cumulative effects of fertilization and cropping systems on soil phosphorus forms and losses in field water discharge.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Tan, C.S. and Zhang, T.Q. (2011). "Effect of water table control on phosphorus losses from surface runoff and sub-surface tile drainage in corn and soybean rotation. Consultation on Dissolved Reactive Phosphorus Loading from Agricultural Sources.", International Joint Commission-Science Advisory Board/Heidelberg University/USDA-Natural Resources Conservation Service, Dearborn, MI, USA, July 12-13, 2011. (Presentation)

Zhang, T.Q. and Tan, C.S. (2011). "Dissolved reactive phosphorus loss in relation to various management practices. Consultation on Dissolved Reactive Phosphorus Loading from Agricultural Sources.", International Joint Commission-Science Advisory Board/Heidelberg University/USDA-Natural Resources Conservation Service, Dearborn, MI, July 12-13, 2011. (Presentation)

Reynolds, W.D., Drury, C.F., Yang, X.M., Tan, C.S., Zhang, T.Q., and Yang, J.Y. (2011). "Measuring Soil Hydraulic Properties Using a Falling-Head Borehole Permeameter.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Zhang, T.Q., Tan, C.S., Drury, C.F., MacLeod, J.A., Grimmer, M.G., Welacky, T.W., and Reynolds, W.D. (2011). Phosphorus cycling in agro-eco-systems and development for risk assessment tools and BMPs to improve water quality while maximizing crop productivity. Final Report, Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC). (Report)

Zhang, T.Q., Tan, C.S., Liu, K., and Warner, J.T. (2011). "Nutrient optimization for processing tomatoes with drip/fertigation.", 7th Annual Great Lakes Vegetable Working Group Meeting, Leamington, ON, Canada, March 9-10, 2011.

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## Research Publications:

2015

Kelly, A.C., Clear, R.M., O'Donnell, K., McCormick, S., Turkington, T.K., Tekauz, A., Gilbert, J., Kistler, H.C., Busman, M., and Ward, T.J. (2015). "Diversity of *Fusarium* head blight populations and trichothecene toxin types reveals regional differences in pathogen composition and temporal dynamics.", *Fungal Genetics and Biology*, 82, pp. 22-31. doi : 10.1016/j.fgb.2015.05.016

Akhavan, A., Turkington, T.K., Kebede, B., Tekauz, A., Kutcher, H.R., Kirkham, C.L., Xi, K., Kumar, K., Tucker, J.R., and Strelkov, S.E. (2015). "Prevalence of mating type idiomorphs in *Pyrenophora teres* f. *teres* and *P. teres* f. *maculata* populations from the Canadian prairies.", *Canadian Journal of Plant Pathology*, 37(1), pp. 52-60. doi : 10.1080/07060661.2014.995710

2014

Akhavan, A., Turkington, T.K., Kebede, B., Tekauz, A., Xi, K., Kutcher, H.R., Tucker, J.R., Kirkham, C., Kumar, K., Rennie, D.C., and Strelkov, S.E. (2014). "Genetic diversity of the spot form of the net blotch pathogen of barley (*Pyrenophora teres* f. *maculata*) on the Canadian Prairies as revealed by simple sequence repeats analysis.", *Canadian Journal of Plant Pathology*, 36, pp. 125-126. (Abstract)

Akhavan, A., Turkington, T.K., Kebede, B., Strelkov, I.S., Xi, K., Kumar, K., Tekauz, A., Kutcher, H.R., Tucker, J.R., Kirkham, C., Dunfield, K.E., and Strelkov, S.E. (2014). "Aetiology of *Pyrenophora teres* forms causing intermediate symptoms of net blotch in barley fields on the Prairies (84th Annual Meeting of the Canadian Phytopathological Society, Edmonton, AB, Canada, June 16-19, 2013).", *Canadian Journal of Plant Pathology*, 36, pp. 252-253. (Abstract)

Legge, W.G., Tucker, J.R., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Tekauz, A., Turkington, T.K., and Savard, M.E. (2014). "AAC Synergy barley.", *Canadian Journal of Plant Science*, 94(4), pp. 797-803. doi : 10.4141/cjps2013-307

2013

Mitchell Fetch, J.W., Tekauz, A., Brown, P.D., Ames, N.P., Chong, J., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Townley-Smith, L., Stadnyk, K.D., and Green, D.A. (2013). "Stride oat.", *Canadian Journal of Plant Science*. doi : 10.4141/cjps2012-325

Legge, W.G., Tucker, J.R., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Tekauz, A., Turkington, T.K., and Savard, M.E. (2013). "Major barley.", *Canadian Journal of Plant Science*, 93(2), pp. 291-297. doi : 10.4141/cjps2012-248

Legge, W.G., Tucker, J.R., Bizimungu, B., Tekauz, A., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Turkington, T.K., Martin, R.A., Choo, T.-M., Vigier, B.J., Blackwell, B.A., and Savard, M.E. (2013). "Taylor barley.", *Canadian Journal of Plant Science*, 93(5), pp. 969-977. doi : 10.4141/cjps2013-126

Legge, W.G., Tucker, J.R., Bizimungu, B., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Tekauz, A., Turkington, T.K., Savard, M.E., and Choo, T.-M. (2013). "Cerveza barley.", *Canadian Journal of Plant Science*, 93(3), pp. 557-564. doi : 10.4141/cjps2012-299

2011

Legge, W.G., Tucker, J.R., Bizimungu, B., Tekauz, A., Noll, J.S., Fetch Jr., T.G., Menzies, J.G., Haber, S.M., Savard, M.E., Vigier, B.J., Choo, T.-M., Martin, R.A., Turkington, T.K., Rosnagel, B.G., and Harvey, B.L. (2011). "Norman barley.", *Canadian Journal of Plant Science*, 91(6), pp. 1105-1113. doi : 10.4141/cjps2010-020

Kumar, K., Xi, K., Tekauz, A., Turkington, T.K., Helm, J.H., and Tewari, J.P. (2011). "Evaluation of a detached leaf assay to measure *Fusarium* head blight resistance components in barley.", *Canadian Journal of Plant Pathology*, 33(3), pp. 364-374. doi : 10.1080/07060661.2011.590820

Turkington, T.K., Tekauz, A., Xi, K., and Kutcher, H.R. (2011). "Foliar diseases of barley: Don't rely on a Single Strategy from the Disease Management Toolbox.", *Prairie Soils and Crops*, 4, pp. 142-150.

Tekauz, A. and Gilbert, J. (2011). "Strategies for management of *Fusarium* head blight (FHB) in cereals.", *Prairie Soils and Crops*, 4, pp. 97-104.

## Other Science Related Publications:

2015

Akhavan, A., Turkington, T.K., Askarian, H., Legge, W.G., Tekauz, A., Tucker, J.R., and Strelkov, S.E. (2015). "Ability of *Pyrenophora teres* pathotype to overcome net blotch resistance in Canadian barley genotypes.", *Canadian Journal of Plant Pathology*. (Abstract)

2014

Akhavan, A., Turkington, T.K., Kebede, B., Tekauz, A., Xi, K., Kutcher, H.R., Tucker, J.R., Kirkham, C., and Strelkov, S.E. (2014). "Comparative genetic diversity of *Pyrenophora teres* f. *teres* and *P. teres* f. *maculata* populations on the Canadian Prairies.", 1st International Workshop on Barley Leaf Diseases, Salsomaggiore Terme, Italy, June 3-6, 2014, pp. 12. (Abstract)

Akhavan, A., Turkington, T.K., Askarian, H., Tekauz, A., Xi, K., Kutcher, H.R., Tucker, J.R., Kirkham, C., Kumar, K., and Strelkov, S.E. (2014). "Pathogenic diversity in *Pyrenophora teres* f. *teres* (net form net blotch of barley) populations from the Canadian Prairies.", 1st International Workshop on Barley Leaf Diseases, Salsomaggiore Terme, Italy, June 3-6, 2014, pp. 57. (Abstract)

Legge, W.G., Tucker, J.R., Banik, M., Tekauz, A., Martin, R.A., Choo, T.-M., Blackwell, B.A., and Savard, M.E. (2014). "Development of TR10214 two-row malting barley with low deoxynivalenol accumulation.", 21st North American Barley Research Workshop, Minneapolis, Minnesota, USA, June 29- July 2, 2014. (Poster)

2013

Akhavan, A., Turkington, T.K., Kebede, B., Strelkov, I.S., Xi, K., Kumar, K., Tekauz, A., Kutcher, H.R., Tucker, J.R., Kirkham, C., Dunfield, K.E., and Strelkov, S.E. (2013). "Etiology of *Pyrenophora teres* forms causing intermediate symptoms of net blotch in barley fields on the Prairies.", 84th Annual Meeting of the Canadian Phytopathological Society, Edmonton, AB, Canada, June 16-19, 2013, Received 2013 Canadian Phytopathological Society Best Student Poster Presentation Award. (Poster)

Akhavan, A., Turkington, T.K., Strelkov, I.S., Xi, K., Kumar, K., Tekauz, A., Kutcher, H.R., Tucker, J.R., Kirkham, C., Dunfield, K.E., and Strelkov, S.E. (2013). "Occurrence of forms and mating type idiomorphs in western Canadian *Pyrenophora teres* (net blotch of barley) populations.", 84th Annual Meeting of the Canadian Phytopathological Society, Edmonton, AB, Canada, June 16-19, 2013, Received 2013 Canadian Phytopathological Society Graduate Student Travel Award.

Akhavan, A., Turkington, T.K., Kebede, B., Tekauz, A., Xi, K., Kutcher, H.R., Tucker, J.R., Kirkham, C., Kumar, K., Rennie, D.C., and Strelkov, S.E. (2013). "Genetic diversity of the spot form of the net blotch pathogen of barley (*Pyrenophora teres* f. *maculata*) on the Canadian Prairies as revealed by simple sequence repeats analysis.", 34th Annual Meeting of the Plant Pathology Society of Alberta, Brooks, AB, Canada, November 4-6, 2013, Received 2013 Plant Pathology Society of Alberta Best Student Poster Presentation Award. (Poster)

Akhavan, A., Turkington, T.K., Kebede, B., Tekauz, A., Xi, K., Kutcher, H.R., Tucker, J.R., Kirkham, C., Kumar, K., Rennie, D.C., and Strelkov, S.E. (2013). "Assessing the nature and variability of the barley net blotch pathogen on the Canadian Prairies and the ability to adapt to host resistance and fungicides.", 2nd Annual General Meeting of the Alberta Barley Commission, Banff, AB, Canada, December 4-6, 2013, Received 2013 Alberta Barley Commission 2nd Place Student Poster Competition. (Poster)

Akhavan, A., Turkington, T.K., Kebede, B., Tekauz, A., Xi, K., Kutcher, H.R., Tucker, J.R., Kirkham, C., Kumar, K., Rennie, D.C., and Strelkov, S.E. (2013). "Genetic structure of *Pyrenophora teres* f. *teres* (net form net blotch of barley) populations from the Canadian Prairies as revealed by simple sequence repeats analysis.", 34th Annual Meeting of the Plant Pathology Society of Alberta, Brooks, AB, Canada, November 4-6, 2013, oral presentation.

2012

Gardner, K.M., Wight, C.P., Mitchell Fetch, J.W., Yan, W., Ames, N.P., Rossnagel, B.G., Herrmann, M., Molnar, S.J., Frégeau-Reid, J.A., Miller, S.S., Fetch Jr., T.G., Chong, J., Martin, R.A., Tekauz, A., Haber, S.M., Savard, M.E., and Tinker, N.A. (2012). "Prospects of whole genome selection in oat using high throughput genetic markers.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

Tekauz, A., Stulzer, M., Beyene, M., Harris, A., and Le-Ba, N. (2012). "Fusarium head blight of winter wheat - Manitoba 2011.", *Canadian Plant Disease Survey*, 92, pp. 111-112.

Tekauz, A., Stulzer, M., Beyene, M., Dupriez, M., Harris, A., and Le-Ba, N. (2012). "Fusarium Head blight of Barley - Manitoba 2011.", *Canadian Plant Disease Survey*, 92, pp. 67-68.

Tekauz, A., Stulzer, M., Beyene, M., Dupriez, M., Harris, A., and Le-Ba, N. (2012). "Barley leaf spot diseases in 2011 in Manitoba.", *Canadian Plant Disease Survey*, 92, pp. 69-70.

Tekauz, A., Stulzer, M., Beyene, M., Dupriez, M., and Harris, A. (2012). "Fusarium head blight of oat - Manitoba 2011.", *Canadian Plant Disease Survey*, 92, pp. 90-91.

- Tekauz, A., Kutcher, H.R., Gilbert, J., Beyene, M., Stulzer, M., Kleiber, F., Ghazvini, H., and Hajjipour, Z. (2012). "Leaf spot diseases of Manitoba and Saskatchewan oat in 2011.", *Canadian Plant Disease Survey*, 92, pp. 92-93.
- Gilbert, J., Tekauz, A., Slusarenko, K., Wolfe, C., Unrau, T., Kucas, L., Stulzer, M., and Beyene, M. (2012). "2011 Survey of Fusarium head blight of spring wheat in Manitoba.", *Canadian Plant Disease Survey*, 92, pp. 106.
- Gilbert, J., Tekauz, A., Slusarenko, K., LeClerc, C.E., Kucas, L., Stulzer, M., and Beyene, M. (2012). "2011 Survey for leaf spot diseases of spring wheat in Manitoba.", *Canadian Plant Disease Survey*, 92, pp. 108.
- Tekauz, A., Stulzer, M., Beyene, M., Harris, A., and Le-Ba, N. (2012). "Leaf spot diseases of winter wheat in Manitoba in 2011.", *Canadian Plant Disease Survey*, 92, pp. 113-114.

## 2011

- Tekauz, A., Stulzer, M., and Beyene, M. (2011). "Relationships among components of FHB in Manitoba winter wheats sampled mid-season and at maturity.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 85.
- Tekauz, A. and Higgins, V. (2011). "In memoriam Z. A. Patric.", *Canadian Journal of Plant Pathology*, 33(1), pp. 1-2.
- Tekauz, A., Stulzer, M., Beyene, M., Kleiber, F., Ghazvini, H., and Hajjipour, Z. (2011). "Monitoring Fusarium head blight of barley in Manitoba in 2010.", *Canadian Plant Disease Survey*, 91, pp. 62-63.
- Tekauz, A., Stulzer, M., Beyene, M., Kleiber, F., Ghazvini, H., and Hajjipour, Z. (2011). "Leaf spot diseases detected in Manitoba barley crops in 2010.", *Canadian Plant Disease Survey*, 91, pp. 64-65.
- Tekauz, A., Gilbert, J., Stulzer, M., Beyene, M., Kleiber, F., Ghazvini, H., Kaethler, R., and Hajjipour, Z. (2011). "Monitoring Fusarium Head Blight of oat in Manitoba in 2010.", *Canadian Plant Disease Survey*, 91, pp. 84-85.
- Tekauz, A., Kutcher, H.R., Gilbert, J., Beyene, M., Stulzer, M., Kleiber, F., Ghazvini, H., and Hajjipour, Z. (2011). "Leaf spot diseases in Manitoba and Saskatchewan oat in 2010.", *Canadian Plant Disease Survey*, 91, pp. 86-87.
- Gilbert, J., Tekauz, A., Kaethler, R., Slusarenko, K., LeClerc, C.E., Grant, R., Kucas, L., Stulzer, M., and Beyene, M. (2011). "2010 Survey of Fusarium head blight of spring wheat in Manitoba.", *Canadian Plant Disease Survey*, 91, pp. 95.
- Tekauz, A., Stulzer, M., Beyene, M., Ghazvini, H., and Kleiber, F. (2011). "Monitoring Fusarium head blight in winter wheat, Manitoba 2010.", *Canadian Plant Disease Survey*, 91, pp. 96-97.
- Gilbert, J., Tekauz, A., Kaethler, R., LeClerc, C.E., Slusarenko, K., Grant, R., Kucas, L., Stulzer, M., and Beyene, M. (2011). "2010 Survey for leaf spot diseases of spring wheat in Manitoba.", *Canadian Plant Disease Survey*, 91, pp. 99-100.
- Beattie, A.D., Zhang, X.M., Yajima, W., Dokken-Bouchard, F.L., Tekauz, A., Mitchell Fetch, J.W., Martin, R.A., Yan, W., Scoles, G.J., and Rosnagel, B.G. (2011). "Real-time quantitative PCR in oat FHB resistance breeding.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 67.
- Tekauz, A. and Gilbert, J. (2011). "Pathogen variability and FHB development in Manitoba cereal crops, 2001-2010.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 103.
- Legge, W.G., Tucker, J.R., Tekauz, A., Martin, R.A., Choo, T.-M., Blackwell, B.A., and Savard, M.E. (2011). "Development of two-row malting barley with improved fusarium head blight resistance at Agriculture and Agri-Food Canada's Brandon Research Centre.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, Published in: Gilbert, J. and Tekauz, A. (Eds.), *Proceedings of the 7th Canadian Workshop on Fusarium Head Blight*, pp. 105.
- Tekauz, A., Stulzer, M., Beyene, M., Ghazvini, H., and Kleiber, F. (2011). "Winter wheat leaf spot diseases in Manitoba in 2010.", *Canadian Plant Disease Survey*, 91, pp. 101-102.

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## Research Publications:

2015

Rohrmann, G.F., Erlandson, M.A., and Theilmann, D.A. (2015). "Genome sequence of an alphabaculovirus isolated from the oak looper, *Lambdina fiscellaria*, contains a putative 2-kbp transposable element encoding a transposase and the FLYWCH domain-containing protein.", *Genome Announcements*, 3(3: e00186-15), pp. 1-2. doi : 10.1128/genomeA.00186-15

2014

Rohrmann, G.F., Erlandson, M.A., and Theilmann, D.A. (2014). "The genome of an Alphabaculovirus isolated from *Choristoneura murinana*.", *Genome Announcements*, 2(1: e01135-13). doi : 10.1128/genomeA.01135-13

Donly, B.C., Theilmann, D.A., Hegedus, D.D., Baldwin, D., and Erlandson, M.A. (2014). "Mamestra configurata nucleopolyhedrovirus-A transcriptome from infected host midgut.", *Virus Genes*, 48(1), pp. 174-183. doi : 10.1007/s11262-013-0986-z

Sokal, N., Nie, Y.C., Willis, L.G., Yamagishi, J., Blissard, G.W., Rheault, M., and Theilmann, D.A. (2014). "Defining the roles of the baculovirus regulatory proteins IE0 and IE1 in genome replication and early gene transactivation.", *Virology*, 468-470, pp. 160-171. doi : 10.1016/j.virol.2014.07.044

2013

Rohrmann, G.F., Erlandson, M.A., and Theilmann, D.A. (2013). "The genome of a baculovirus isolated from *Hemileuca* sp. Encodes a serpin ortholog.", *Virus Genes*, 47(2), pp. 357-364. doi : 10.1007/s11262-013-0951-x

2012

Nie, Y.C., Fang, M.G., Erlandson, M.A., and Theilmann, D.A. (2012). "Analysis of the *Autographa californica* Multiple Nucleopolyhedrovirus Overlapping Gene Pair Ief3 and ac68 Reveals that AC68 Is a Per Os Infectivity Factor and that LEF3 Is Critical, but Not Essential, for Virus Replication.", *Journal of Virology*, 86(7), pp. 3985-3994. doi : 10.1128/JVI.06849-11

Peng, K., van Lent, J.W.M., Boeren, S., Fang, M.G., Theilmann, D.A., Erlandson, M.A., Vlak, J.M., and van Oers, M.M. (2012). "Characterization of novel components of the baculovirus per os infectivity factor (PIF) complex.", *Journal of Virology*, 86(9), pp. 4981-4988. doi : 10.1128/JVI.06801-11

Toprak, U., Harris, S., Baldwin, D., Theilmann, D.A., Gillott, C., Hegedus, D.D., and Erlandson, M.A. (2012). "The role of enhancin in *Mamestra configurata* nucleopolyhedrovirus virulence: Selective degradation of host peritrophic matrix proteins.", *Journal of General Virology*, 93(4), pp. 744-753. doi : 10.1099/vir.0.038117-0

Dickison, V.L., Willis, L.G., Sokal, N., and Theilmann, D.A. (2012). "Deletion of AcMNPV ac146 eliminates the production of budded virus.", *Virology*, 431(1-2), pp. 29-39. doi : 10.1016/j.virol.2012.05.002

2011

Nie, Y.C., Theilmann, D.A., Fang, M.G. (2011). "*Autographa californica* multiple nucleopolyhedrovirus core gene ac92 (p33) is required for efficient budded virus production.", *Virology*, 409(1), pp. 38-45. doi : 10.1016/j.virol.2010.09.023

De Jong, J.D., Theilmann, D.A., Arif, B.M., and Krell, P.J. (2011). "Immediate-early protein ME53 forms foci and colocalizes with GP64 and the major capsid protein VP39 at the cell membranes of *autographa californica* multiple nucleopolyhedrovirus-infected cells.", *Journal of Virology*, 85(19), pp. 9696-9707. doi : 10.1128/JVI.00833-11

## Other Science Related Publications:

## 2015

Javed, M.A., Harris, S., Theilmann, D.A., Erlandson, M.A., and Hegedus, D.D. (2015). "AcMNPV infection process in *Trichoplusia ni* midgut.", 48th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Vancouver, B.C., Canada, August 9-13, 2015. (Poster)

Harrison, R.L., Theilmann, D.A., and Erlandson, M.A. (2015). "Genome sequence analysis of a two alphabaculoviruses and a betabaculovirus from armyworms of the genus *Mythimna*.", 48th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Vancouver, B.C., Canada, August 9-13, 2015. (Poster)

Erlandson, M.A., Harris, S., Sieminska, E.A., Baldwin, D., Hegedus, D.D., and Theilmann, D.A. (2015). "Inhibition of *Cotesia vanessae* development in *Trichoplusia ni* larvae infected with alphabaculoviruses from *Mamestra configurata*.", 48th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Vancouver, B.C., Canada, August 9-13, 2015, Oral Presentation.

Theilmann, D.A., Willis, L.G., Weis, M.M., Donly, B.C., Hegedus, D.D., and Erlandson, M.A. (2015). "Analysis of occlusion derived virus infection in tissue culture using gene knockout viruses of the per os infectivity factors and GP64.", 48th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Vancouver, B.C., Canada, August 9-13, 2015, Oral Presentation.

## 2014

Baldwin, D., Theilmann, D.A., Vlak, J.M., and Erlandson, M.A. (2014). "Genomic variation of *Mamestra configurata* nucleopolyhedroviruses from noctuid host species across Holarctic regions.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014. (Poster)

Harris, S., Sieminska, E., Theilmann, D.A., Hegedus, D.D., and Erlandson, M.A. (2014). "Interaction between baculovirus infection and *Cotesia* parasitism in *Trichoplusia ni* larvae.", 2014 Joint Annual Meeting of Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon SK, Canada, September 28-October 1, 2014. (Poster)

Erlandson, M.A., Donly, B.C., Theilmann, D.A., Hegedus, D.D., Coutu, C., and Baldwin, D. (2014). "*Mamestra configurata* nucleopolyhedrovirus-A transcriptome from infected host midgut.", 47th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Johannes Gutenberg University, Mainz, Germany, August 3-7, 2014, oral presentation, pp. 80.

Erlandson, M.A., Theilmann, D.A., Hegedus, D.L., Donly, T., Garipey, T.D., and Olfert, O.O. (2014). *Bertha* armyworm (*Mamestra configurata*): Genomics, population dynamics and biodiversity of pest and pathogens. Annual Project Report to AAFC-Genomics. (Report)

Erlandson, M.A., Donly, B.C., Theilmann, D.A., Hegedus, D.D., Coutu, C., and Baldwin, D. (2014). "*Mamestra configurata* nucleopolyhedrovirus-A transcriptome from infected host midgut.", 47th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Mainz, Germany, August 3-7, 2014, Oral Presentation.

Biswas, S., Blissard, G.W., and Theilmann, D.A. (2014). "Analysis of *Autographa californica* multiple nucleopolyhedrovirus (AcMNPV) AC141 (EXON0) interaction with the lepidopteran *Trichoplusia ni* (*T. ni*) kinesin-1.", XVIth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada, July 27-August 1, 2014, oral presentation, pp. 392.

Biswas, S., Blissard, G.W., and Theilmann, D.A. (2014). "Investigations into the role of *Autographa californica* multiple nucleopolyhedrovirus (AcMNPV) AC141 (EXON0) and *Trichoplusia ni* kinesin-1 in budded virus nucleocapsid egress.", 47th Annual Meeting of the Society for Invertebrate Pathology and International Congress on Invertebrate Pathology and Microbial Control, Johannes Gutenberg University, Mainz, Germany, August 3-7, 2014, pp. 44.

## 2012

Peng, K., van Lent, J.W.M., Boeren, S., Theilmann, D.A., Erlandson, M.A., Vlak, J.M., and van Oers, M.M. (2012). "Characterization of novel components of the baculovirus per os infectivity factor (PIF) complex.", 45th Annual Meeting of the Society for Invertebrate Pathology: 2012 International Congress on Invertebrate Pathology and Microbial Control, Centro de Convenciones UCA, Puerto Madero, Buenos Aires, Argentina, August 5-9, 2012, pp. 127.

Maghodia, A.B., Fang, M.G., Theilmann, D.A., and Erlandson, M.A. (2012). "A group II alphabaculovirus core gene, *MacoNPV*-A pif-5 (odv-e56), cannot repair the essential per os infectivity function of the AcMNPV-pif5 knockout virus in *Trichoplusia ni* larvae.", 45th Annual Meeting of the Society for Invertebrate Pathology: 2012 International Congress on Invertebrate Pathology and Microbial Control, Centro de Convenciones UCA, Puerto Madero, Buenos Aires, Argentina, August 5-9, 2012, pp. 127.



2011

Noakes, A.L., Gillott, C., Hegedus, D.D., Theilmann, D.A., and Erlandson, M.A. (2011). "Mamestra configurata nucleopolyhedrovirus (MacoNPV): potential chitin-binding proteins and their role in oral infectivity.", 44th Annual Meeting of the Society for Invertebrate Pathology, Halifax, NS, Canada, August 7-11, 2011.

Nie, Y., Fang, M.G., Erlandson, M.A., and Theilmann, D.A. (2011). "Deletion analysis of the AcMNPV gene ac67 (lef-3) encoding the single stranded DNA binding protein and the core gene ac68 shows that LEF-3 is not essential for virus replication.", 30th Annual Meeting of American Society for Virology, University of Minnesota, Minneapolis, MN, USA, July 16-20, 2011.

Erlandson, M.A., Maghodia, A.B., Cossentine, J.E., Lowery, D.T., and Theilmann, D.A. (2011). "Genome structure of a nucleopolyhedrovirus infecting *Abagrotis reedi*, a cutworm pest of vineyards.", 44th Annual Meeting of the Society for Invertebrate Pathology, Halifax, NS, Canada, August 7-11, 2011. (Poster)

# Thistlewood, Howard M.A., MPM, Ph.D.

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## Research Publications:

2014

Maxwell, S.A., Thistlewood, H.M.A., and Keyghobadi, N. (2014). "Population genetic structure of the western cherry fruit fly *Rhagoletis indifferens* (Diptera: Tephritidae) in British Columbia, Canada", *Agricultural and Forest Entomology*, 16(1), pp. 33-44. doi : 10.1111/afe.12029

2013

Thistlewood, H.M.A., Gibson, G.A.P., Gillespie, D.R., and Fitzpatrick, S.M. (2013). "*Drosophila suzukii* (Matsumura), Spotted Wing *Drosophila* (Diptera: Drosophilidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Chapter 21, pp. 152-155.

Thistlewood, H.M.A., Bostanian, N.J., and Hardman, J.M. (2013). "European Red Mite, *Panonychus ulmi* (Koch), (Acari: Tetranychidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Wallingford, UK, Chapter 34, pp. 238-243.

2012

Sullivan, T.P., Sullivan, D.S., and Thistlewood, H.M.A. (2012). "Abundance and diversity of small mammals in response to various linear habitats in semiarid agricultural landscapes.", *Journal of Arid Environments*, 83, pp. 54-61. doi : 10.1016/j.jaridenv.2012.03.003

Lefebvre, M., Bostanian, N.J., Mauffette, Y., Racette, G., Thistlewood, H.M.A., and Hardman, J.M. (2012). "Laboratory-Based Toxicological Assessments of New Insecticides on Mortality and Fecundity of *Neoseiulus fallacis* (Acari: Phytoseiidae).", *Journal of Economic Entomology*, 105(3), pp. 866-871. doi: 10.1603/EC11260

Gonçalves, F.M., Rodrigues, M.C., Pereira, J.A., Thistlewood, H.M.A., and Torres, L.M. (2012). "Natural mortality of immature stages of *Bactrocera oleae* (Diptera: Tephritidae) in traditional olive groves from north-eastern Portugal.", *Biocontrol Science and Technology*, 22(7), pp. 837-854. doi: 10.1080/09583157.2012.691959

2011

Maxwell, S.A., Thistlewood, H.M.A., and Keyghobadi, N. (2011). "Analysis of single-copy, nuclear microsatellite markers from flies collected on sticky traps.", *Journal of Applied Entomology*, 135(8), pp. 641-646. doi: 10.1111/j.1439-0418.2010.01578.x

Lefebvre, M., Bostanian, N.J., Thistlewood, H.M.A., Mauffette, Y., and Racette, G. (2011). "A laboratory assessment of the toxic attributes of six 'reduced risk insecticides' on *Galendromus occidentalis* (Acari: Phytoseiidae).", *Chemosphere*, 84(1), pp. 25-30. doi: 10.1016/j.chemosphere.2011.02.090

Cossentine, J.E., Jaronski, S.T., Thistlewood, H.M.A., and Yee, W.L. (2011). "Impact of *Metarhizium brunneum* (Hymenozoa: Clavicipitaceae) on pre-imaginal *Rhagoletis indifferens* (Diptera: Tephritidae) within and on the surface of orchard soil.", *Biocontrol Science and Technology*, 21(12), pp. 1501-1505. doi: 10.1080/09583157.2011.625397

## Other Science Related Publications:

2015

Dreves, A.J., Lee, J., Brewer, L.J., Isaacs, R., Loeb, G., and Thistlewood, H.M.A. (2015). "Noncrop Host Plants of Spotted Wing *Drosophila* in North America, EM 9113 (<https://catalog.extension.oregonstate.edu/em9113>).", published by Oregon State University, 3 pages.

2014

Thistlewood, H.M.A. (2014). "Movement of Cherry fruit flies (*Rhagoletis* species): what is it and why do we care?", Workshop on "Can we predict infestation of a cherry orchard by cherry fruit fly?", USDA Yakima Agricultural Research Lab., Yakima, WA, USA, May 2014, Invited presentation.

Thistlewood, H.M.A., Acheampong, S., and Rozema, B. (2014). Seasonal timing of infestation of sweet cherries and non-crop plants by *Drosophila suzukii* (Diptera: Drosophilidae) in and around fruit orchards of British Columbia, 2010-2013 - Minutes of the Western Committee on Crop Pests, October 2014, Canmore, Alberta. (Report)

Thistlewood, H.M.A., Rozema, B., and Acheampong, S. (2014). "Seasonal timing of infestation of sweet cherries and non-crop plants by *Drosophila suzukii* (Diptera: Drosophilidae) in and around sweet cherry orchards of British Columbia, 2010-2013.", Entomology 2014: 62nd Annual Meeting of the Entomological Society of America, Portland, OR, USA, November 16-19, 2014, Report #0585; Presentation. (Abstract)

Thistlewood, H.M.A., Rozema, B., and Acheampong, S. (2014). "Seasonal timing of infestation of sweet cherries and non-crop plants by *Drosophila suzukii* (Diptera: Drosophilidae) in and around fruit orchards of British Columbia, 2010-2013", International Organisation for Biological Control WPRS Working Group on Integrated Plant Protection in Fruit Crops, Vienna, Austria, October 2014.

Thistlewood, H.M.A. (2014). Pilot Project to establish Market Access for BC Cherries to China – Verification of the 'Brown Sugar Test'. Report to BC Cherry Association, 2014 (February), pp. 2. (Report)

## 2013

Carlos, C., Goncalves, F., Sousa, S., Nobrega, M., Manso, J., Costa, J.M., Gaspar, C., Domingos, J., Silva, L.C., Fernandes, D., Val, M.C., Franco, J., Thistlewood, H.M.A., and Torres, L.M. (2013). "Success of mating disruption technique against the European grapevine moth, *Lobesia botrana*: a case study in the Douro Wine Region (Portugal).", International Organisation for Biological Control / WPRS Working Group on Integrated Protection and Production in Viticulture, Ascona, Switzerland, October 2013, pp. 6.

Acheampong, S., Leaming, C., Thistlewood, H.M.A., Holder, D., Thurston, M., Krahn, G., and Rozema, B. (2013). "Demonstrating good stewardship when confronted by a serious invasive pest, Spotted Wing *Drosophila* (*Drosophila suzukii*) in BC interior valleys. Final Report.", Cherry Notes: Newsletter of the Okanagan Kootenay Cherry Growers Association, 2013 (January), pp. 4-5. (Newsletter)

Acheampong, S., Thistlewood, H.M.A., Leaming, C., Holder, D., Thurston, M., Rozema, B., and Krahn, G. (2013). "Spotted Wing *Drosophila* in the Southern Interior Valleys of British Columbia (2010-2012).", Ontario Fruit & Vegetable Conference, Niagara Falls, ON, Canada. (Abstract)

## 2012

Acheampong, S., Thistlewood, H.M.A., Leaming, C., Holder, D., Krahn, G., and Thurston, M. (2012). "Spotted Wing *Drosophila* (SWD) Update.", Cherry Notes: Newsletter of the Okanagan Kootenay Cherry Growers Association, 2012 (March).

Acheampong, S., Thistlewood, H.M.A., Leaming, C., Holder, D., Krahn, G., and Thurston, M. (2012). "Spotted Wing *Drosophila* (SWD) 2012 Report.", Cherry Notes: Newsletter of the Okanagan Kootenay Cherry Growers Association, 2012 (December). (Newsletter)

Thistlewood, H.M.A., Acheampong, S., Leaming, C., Holder, D., Krahn, G., and Thurston, M. (2012). "Spotted Wing *Drosophila* in the southern interior valleys of British Columbia.", 86th Annual Orchard Pests and Disease Management Conference, Portland, OR, USA, pp. 50. (Abstract)

Thistlewood, H.M.A., Acheampong, S., Leaming, C., Holder, D., Krahn, G., and Thurston, M. (2012). "Spotted Wing *Drosophila* in the southern interior valleys of British Columbia, 2009-12.", Entomological Society of B.C. Annual Conference, Summerland, BC, Canada.

Carlos, C., Afonso, S., Crespi, A., Aranha, J., Thistlewood, H.M.A., and Torres, L.M. (2012). "Biodiversity of plants and arthropods in key ecological structures of vineyards of the Alto Douro region.", International Organisation for Biological Control / WPRS Working Group on Functional Biodiversity, Lleida, Spain, May 2012, pp. 4.

Brown, P.H., Shearer, P.W., Thistlewood, H.M.A., and Miller, J.C. (2012). "Pachycrepoideus vindemniae: A potential biological control agent of spotted wing *Drosophila*, *Drosophila suzukii*.", Entomological Society of America (ESA) 60th Annual Meeting, Knoxville Convention Centre, Knoxville, TN, USA, November 11-14, 2012, #0908.

Acheampong, S., Leaming, C., Thistlewood, H.M.A., Holder, D., Thurston, M., Krahn, G., and Rozema, B. (2012). "Spotted Wing *Drosophila* (SWD) flies are up and about, be vigilant!", Cherry Notes: Newsletter of the Okanagan Kootenay Cherry Growers Association, 2012 (June), pp. 7-8. (Newsletter)

Thistlewood, H.M.A. (2012). New applications of spatial analysis for pest management and sustained biodiversity on regional landscapes in high-value crops in Canada and Portugal. OECD Fellowship Summary Report. (Report)

Thistlewood, H.M.A., Shearer, P.W., Van Steenwyk, R., Walton, V., and Acheampong, S. (2012). "*Drosophila suzukii* (Matsumura) (Diptera: Drosophilidae), a new pest of stone fruits in western North America.", in De Cristofaro, A., Di Palma, A., Escudero-Colomar, L.A., Ioriatti, C., and Molinari, F. (eds.) - Proceedings of the workshop on "Sustainable protection of fruit crops in the Mediterranean area" at Vico del Gargano (Italy), September 12-17, 2010. Bulletin of the IOBC/WPRS Vol. 74, IOBC/WPRS Dijon, France, pp. 133-137.

2011

Thistlewood, H.M.A. (2011). "Uso de Spintor Isco [GF-120@NF Naturalyte®] na proteção contra tefritídeos na região ocidental da América do Norte.", 9th Encontro Nacional de Proteção Integrada, Viseu, Portugal.

Thistlewood, H.M.A. (2011). "Uso de Spintor Isco [GF-120@NF Naturalyte®] na proteção contra tefritídeos na região ocidental da América do Norte.", 3rd Coloquio Nacional de Horticultura Biológica, Braga, Portugal.

Acheampong, S., Thistlewood, H.M.A., Thurston, M., Leaming, C., Holder, D., Edwards, L.M., Richardson, T., and Sinclair, B.J. (2011). "Drosophila suzukii, A New Invasive Pest of Stone Fruit and Grapes in British Columbia.", 85th Orchard Pest and Disease Management Conference, Portland, OR, USA.

Thistlewood, H.M.A., Acheampong, S., Thurston, M., Leaming, C., Holder, D., Edwards, L.M., and Sinclair, B.J. (2011). "Drosophila suzukii, a new pest of stone fruits and grapes in British Columbia.", Entomological Societies of British Columbia and Canada Joint Annual Meeting, Vancouver, BC, Canada.

Acheampong, S., Thistlewood, H.M.A., Leaming, C., Holder, D., Krahn, G., and Thurston, M. (2011). "Spotted Wing Drosophila (SWD) in the southern Interior of B.C.", Cherry Notes: Newsletter of the Okanagan Kootenay Cherry Growers Association, 2011 (December), pp. 2-7.

Acheampong, S., Leaming, C., Thistlewood, H.M.A., Thurston, M., and Holder, D. (2011). "Spotted Wing Drosophila (SWD) Update.", Cherry Notes: Newsletter of the Okanagan Kootenay Cherry Growers Association, 2011 (June), pp. 9-10.

Thistlewood, H.M.A., Acheampong, S., Leaming, C., Thurston, M., Holder, D., and Sinclair, B.J. (2011). "Spotted Wing Drosophila: first results on non-crop host plants and natural enemies in the B.C. interior.", Special Meeting for all interior fruit soft fruit and grape growers in Oliver, BC Ministry of Agriculture, Food & Fisheries, Victoria, BC, Canada, 2011. (Presentation)

Thistlewood, H.M.A., Acheampong, S., Leaming, C., Thurston, M., Holder, D., and Sinclair, B.J. (2011). "Spotted Wing Drosophila: first results on non-crop host plants and natural enemies in the B.C. interior.", Special Meeting for all interior fruit soft fruit and grape growers in Summerland, BC Ministry of Agriculture, Food & Fisheries, Victoria, BC, Canada, 2011. (Presentation)

Thistlewood, H.M.A., Acheampong, S., Leaming, C., Thurston, M., Holder, D., and Sinclair, B.J. (2011). "Spotted Wing Drosophila: first results on non-crop host plants and natural enemies in the B.C. interior.", Special Meeting for all interior fruit soft fruit and grape growers in Kelowna, BC Ministry of Agriculture, Food & Fisheries, Victoria, BC, Canada, 2011. (Presentation)

Thistlewood, H.M.A. (2011). "Drosophila suzukii, a new pest of fruits and table grapes in interior valleys of British Columbia, 2010 – 2011.", Seminar, Superior Institute of Agriculture, Technical University of Lisbon, Lisbon, Portugal. (Presentation)

Thistlewood, H.M.A., Acheampong, S., Leaming, C., Thurston, M., Holder, D., and Sinclair, B.J. (2011). "Spotted Wing Drosophila: first results on non-crop host plants and natural enemies in the B.C. interior.", Special Meeting for all interior fruit soft fruit and grape growers in Cawston, BC Ministry of Agriculture, Food & Fisheries, Victoria, BC, Canada, 2011. (Presentation)

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## Research Publications:

2015

Zhang, P., Hiebert, C.W., McIntosh, R.A., McCallum, B.D., Thomas, J.B., Hoxha, S., Singh, D., and Bansal, U. (2015). "The relationship of leaf rust resistance gene Lr13 and hybrid necrosis gene Ne2m on wheat chromosome 2BS.", *Theoretical and Applied Genetics (TAG)*, pp. 1-9. doi : 10.1007/s00122-015-2642-6

Singh, A.K., Clarke, J.M., Knox, R.E., DePauw, R.M., Wise, I.L., Thomas, J.B., McCaig, T.N., Cuthbert, R.D., Clarke, F.R., and Fernandez, M.R. (2015). "AAC Marchwell durum wheat.", *Canadian Journal of Plant Science*, 95(1), pp. 189-195. doi : 10.4141/cjps-2014-223

2014

McCallum, B.D. and Thomas, J.B. (2014). "Lr34 is the Key to the Durable Leaf Rust Resistance in the Canadian cultivar Pasqua.", *Borlaug Global Rust Initiative Technical Workshop*, Obregon, México.

Hiebert, C.W., McCallum, B.D., and Thomas, J.B. (2014). "Lr70, a new gene for leaf rust resistance mapped in common wheat accession KU3198.", *Theoretical and Applied Genetics (TAG)*, 127(9), pp. 2005-2009. doi : 10.1007/s00122-014-2356-1

Thomas, J.B. (2014). "Rates of yield gain of hard red spring wheat in western Canada.", *Canadian Journal of Plant Science*, 94(1), pp. 1-13. doi : 10.4141/CJPS2013-160

2013

Ghazvini, H., Hiebert, C.W., Thomas, J.B., and Fetch Jr., T.G. (2013). "Development of a multiple bulked segregant analysis (MBSA) method used to locate a new stem rust resistance gene (Sr54) in the winter wheat cultivar Norin 40.", *Theoretical and Applied Genetics (TAG)*, 126(2), pp. 443-449. doi : 10.1007/s00122-012-1992-6

Thomas, J.B., Fox, S.L., McCallum, B.D., Fetch Jr., T.G., Gilbert, J., Menzies, J.G., Wise, I.L., Smith, M.A.H., Despins, T., Niziol, D., Humphreys, D.G., and Brown, P.D. (2013). "Vesper hard red spring wheat.", *Canadian Journal of Plant Science*, 93(2), pp. 315-321. doi : 10.4141/cjps2012-233

2012

Graf, R.J., Thomas, J.B., Gaudet, D.A., Laroche, A., and Beres, B.L. (2012). "Broadview hard red winter wheat.", *Canadian Journal of Plant Science*, 92(1), pp. 177-181. doi : 10.4141/CJPS2011-083

Graf, R.J., Thomas, J.B., Beres, B.L., Gaudet, D.A., Laroche, A., and Eudes, F. (2012). "Flourish hard red winter wheat.", *Canadian Journal of Plant Science*, 92(1), pp. 183-189. doi : 10.4141/CJPS2011-084

Thomas, J.B., Conner, R.L., and Graf, R.J. (2012). "Radiant hard red winter wheat.", *Canadian Journal of Plant Science*, 92(1), pp. 169-175. doi : 10.4141/CJPS2011-082

Thomas, J.B. and Graf, R.J. (2012). "AC Readymade and AC Tempest, selections from Redwin hard red winter wheat.", *Canadian Journal of Plant Science*, 92(2), pp. 355-361. doi : 10.4141/CJPS2011-151

Thomas, J.B., Gaudet, D.A., and Graf, R.J. (2012). "AC Bellatrix hard red winter wheat.", *Canadian Journal of Plant Science*, 92(1), pp. 163-168. doi : 10.4141/CJPS2011-091

2011

DePauw, R.M., Knox, R.E., Humphreys, D.G., Thomas, J.B., Fox, S.L., Brown, P.D., Singh, A.K., Pozniak, C.J., Randhawa, H.S., Fowler, D.B., Graf, R.J., and Hucl, P.J. (2011). "New breeding tools impact Canadian commercial farmer fields.", *Czech Journal of Genetics and Plant Breeding (CJGPB)*, 47(Spec. Issue 1), pp. S28-S34.

Hiebert, C.W., Fetch Jr., T.G., Zegeye, T., Thomas, J.B., Somers, D.J., Humphreys, D.G., McCallum, B.D., Cloutier, S., Singh, D., and Knott, D.R. (2011). "Genetics and mapping of seedling resistance to Ug99 stem rust in Canadian wheat cultivars 'Peace' and 'AC Cadillac'." *Theoretical and Applied Genetics (TAG)*, 122(1), pp. 143-149. doi : 10.1007/s00122-010-1430-6

## Other Science Related Publications:

2015

Chatterton, S., Carcamo, H.A., Thomas, J.B., Meers, S., Harding, M.W., Harker, K.N., Vandenberg, A., Shirliffe, S.J., Bowness, R.T., Reid, P., Broatch, J.S., Barkley, S., Syrový, A., Kaur, S., Brar, P., and Bruhjel, D. (2015). "Reducing necrotic spots on faba beans: Iygus, chocolate spot or both?", West Forum Pest Management, Abbotsford, BC, Canada, October 21 -23, 2015.

2014

McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M.A.H., Pozniak, C.J., Sharpe, A.G., Fobert, P., Fox, S.L., Thomas, J.B., Hiebert, C.W., Jordan, M.C., and Costamagna, A. (2014). "Managing Wheat Midge with Host Genetics.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Abstract)

2013

Kassa, M.T., McCartney, C.A., You, F.M., Hiebert, C.W., Jordan, M.C., Pozniak, C.J., MacLachlan, R., McCallum, B.D., Fox, S.L., Wise, I.L., and Thomas, J.B. (2013). "Marker development for wheat leaf rust resistance gene Lr16 and wheat midge resistance gene Sm1 in Canadian wheat cultivars.", Plant & Animal Genome XXI Conference, Town & Country Convention Center, San Diego, CA, USA, January 12-16, 2013.

2011

Thomas, J.B. (2011). "Research investment and diversity in western Canadian wheat classes.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Fox, S.L., DePauw, R.M., Humphreys, D.G., Hucl, P.J., Singh, A.K., Pozniak, C.J., Brown, P.D., Graf, R.J., Randhawa, H.S., Voldeng, H.D., McCartney, C.A., Hiebert, C.W., Knox, R.E., Thomas, J.B., Townley-Smith, L., and Fetch Jr., T.G. (2011). "Canadian initiatives in breeding for stem rust resistance to race Ug99 and variants.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, pp. 121-126.

McCallum, B.D., Fetch Jr., T.G., Hiebert, C.W., and Thomas, J.B. (2011). "The effect of Lr34 on wheat stem rust.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, Poster #66. (Poster)

Fox, S.L., Humphreys, D.G., Brown, P.D., McCallum, B.D., Fetch Jr., T.G., Menzies, J.G., Gilbert, J., Wise, I.L., Smith, M.A.H., Thomas, J.B., Hiebert, C.W., McCartney, C.A., Lukow, O.M., and Niziol, D. (2011). "Breeding for Canada's premier wheat marker class: Canadian Western Red Spring.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.

Ghazvini, H., Hiebert, C.W., Thomas, J.B., Zegeye, T., and Fetch Jr., T.G. (2011). "Linkage maps of two new stem rust resistance genes on chromosomes 2B and 6A of wheat line Tr129.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, pp. 48.

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Research Scientist

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## Research Publications:

2015

Fraser, L.H., Pither, J., Jentsch, A., Sternberg, M., Zobel, A.M., Bennett, J.A., Bork, E.W., Thompson, D.J., and others (2015). "Worldwide evidence of a unimodal relationship between productivity and plant species richness.", *Science*, 349(6245), pp. 302-305. doi: 10.1126/science.aab3916

Turner, T.D., Jensen, J., Pilfold, J.L., Prema, D., Donkor, K.K., Cinel, B., Thompson, D.J., Dugan, M.E.R, and Church, J.S. (2015). "Comparison of fatty acids in beef tissues from conventional, organic and natural feeding systems in Western Canada.", *Canadian Journal of Animal Science*, 95(1), pp. 49-58. doi: 10.4141/CJAS-2014-113

2014

Thompson, D.J., Acharya, S.N., and Beck, R.K. (2014). "Simulated early spring deer damage to alfalfa in interior BC.", *Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference*, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014.

Thompson, D.J. and Willms, W.D. (2014). "Effects of long-term protection from grazing on phenotypic expression in geographically separated mountain rough fescue populations.", *Canadian Journal of Plant Science*, 94(1), pp. 33-39. doi: 10.4141/cjps2013-181

Thompson, D.J. (2014). "Relating germination requirements of timber milkvetch to serral stage in the Interior Douglas-fir zone.", *Canadian Journal of Plant Science*, 94(4), pp. 723-726. doi: 10.4141/cjps2013-336

2013

Ducherer, K., Bai, Y., Thompson, D.J., and Broersma, K. (2013). "Thinning of a Ponderosa Pine/Douglas-Fir forest in South-Central BC: Impacts on understory vegetation.", *Journal of Ecosystems and Management*, 14(1), pp. 1-15.

Thompson, D.J. (2013). "Yield and nutritive value of irrigated tall fescue compared with orchardgrass: In monocultures or mixed with alfalfa.", *Canadian Journal of Plant Science*, 93(5), pp. 799-807. doi: 10.4141/cjps2012-283

2012

Evans, C.R.W., Krzic, M., Broersma, K., and Thompson, D.J. (2012). "Long-term grazing effects on grassland soil properties in southern British Columbia.", *Canadian Journal of Soil Science*, 92(4), pp. 685-693. doi: 10.4141/CJSS2011-070

## Other Science Related Publications:

2015

Thompson, D.J., Elsinger, M., and Schellenberg, M.P. (2015). "Effects of warming and season of defoliation on the species composition of Manitoba Prairie.", 2015 Society for Range Management Annual General Meeting, Sacramento, CA, USA, January 31-February 7, 2015.

2014

Thompson, D.J. (2014). "Plant community choice by free ranging cattle while grazing or resting.", 67th annual meeting of the Society for Range Management, Orlando, FL, USA. (Abstract)

2013

Thompson, D.J., Wheatley, B., Schellenberg, M.P., and Leborgne, M. (2013). "Microclimate modification effects on the species composition of BC grassland communities.", 66th annual meeting of the Society for Range Management, Oklahoma City, OK, USA. (Abstract)

Thompson, D.J. and Veira, D.M. (2013). "Stockpiling tall fescue for winter grazing by beef cows in interior BC.", in Bittman, S. and Hunt, D. (eds.) - Cool Forages: Advances management of temperate forages.

## 2012

Thompson, D.J., Wheatley, B., Church, J., Newman, R., McLeod, M., and Walker, J. (2012). "Plant community preference by cattle on BC bunchgrass range.", 65th annual meeting of the Society for Range Management, Spokane, WA, USA. (Abstract)

## 2011

Thompson, D.J. and Viera, D. (2011). "Winter feeding of heifer calves and effects on subsequent performance.", Beef in BC, 26(2), pp. 46.

Thompson, D.J. (2011). "Recovery of intermontane grasslands with fall grazing or rest.", 64th annual meeting of the Society for Range Management, Billings, MT, USA. (Abstract)



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## Research Publications:

2015

Cáceres, L.A., McDowell, T.W., Scott, I.M., Hannoufa, A., McGarvey, B.D., Tian, L.-N., Yeung, K.K.-C., and Sumarah, M.W. (2015). "In vivo extraction of volatile organic compounds (VOCs) from Micro-Tom tomato flowers with multiple solid phase microextraction (SPME) fibers.", *Canadian Journal of Chemistry*, 93(2), pp. 143-150. doi : 10.1139/cjc-2014-0269

Yoon, V., Tian, G., Vessey, K., Macfie, S. M., Dangj, O.P., Kumer, A.K., and Tian, L.-N. (2015). "Colonization efficiency of different sorghum genotypes by *Gluconacetobacter diazotrophicus*.", *Plant and Soil*. doi : 10.1007/s11104-015-2653-8

Wang, A.M., Tian, L.-N., Brown, D.C.W., Svircev, A.M., Stobbs, L.W., and Sanfaçon, H. (2015). "Generation of efficient resistance to Plum pox virus (PPV) in *Nicotiana benthamiana* and *Prunus domestica* expressing triple-intron-spanned double-hairpin RNAs simultaneously targeting 5' and 3' conserved genomic regions of PPV.", *Acta Horticulturae (ISHS)*, 1063, pp. 77-84.

Wang, Y., Wang, Z., Amyot, L., Tian, L.-N., Xu, Z., Gruber, M.Y., and Hannoufa, A. (2015). "Ectopic expression of miR156 represses nodulation and causes morphological and developmental changes in *Lotus japonicus*.", *Molecular Genetics and Genomics*, 290(2), pp. 471-484. doi : 10.1007/s00438-014-0931-4

Ma, X., Cui, H., Bernardy, M.G., Tian, L.-N., Abbasi, P.A., and Wang, A.M. (2015). "Molecular characterization of a Strawberry mild yellow edge virus isolate from Canada.", *Canadian Journal of Plant Pathology*, 37(3), pp. 369-375. doi : 10.1080/07060661.2015.1053990

Eskin, N., Vessey, K., and Tian, L.-N. (2015). "Research progress and perspectives of nitrogen fixing bacterium, *gluconacetobacter diazotrophicus*, in monocot plants.", *International Journal of Agronomy*, 2014 (Article number 208383). doi : 10.1155/2014/208383

Zhao, J., Zhang, J.-X., Zhang, W., Wu, K.-L., Zheng, F., Tian, L.-N., Liu, X., and Duan, J. (2015). "Expression and functional analysis of the plant-specific histone deacetylase HDT701 in rice.", *Frontiers in Plant Science*, 5 (JAN: Article number 764), pp. 1-7. doi : 10.3389/fpls.2014.00764

2014

Fu, G., Grbić, V., Ma, S., and Tian, L.-N. (2014). "Evaluation of somatic embryos of alfalfa for recombinant protein expression.", *Plant Cell Reports*, 34(2), pp. 211-221. doi : 10.1007/s00299-014-1700-x

Fang, H., Liu, X., Thorn, R.G., Duan, J., and Tian, L.-N. (2014). "Expression analysis of histone acetyltransferases in rice under drought stress.", *Biochemical and Biophysical Research Communications (BBRC)*, 443(2), pp. 400-405. doi : 10.1016/j.bbrc.2013.11.102

2013

Wang, X., Kohalmi, S.E., Svircev, A.M., Wang, A.M., Sanfaçon, H., and Tian, L.-N. (2013). "Silencing of the Host Factor eIF(iso)4E Gene Confers Plum Pox Virus Resistance in Plum.", *PLoS ONE*, 8(1), Article No. e50627. doi : 10.1371/journal.pone.0050627

2012

Liu, W., Liang, Z., Shan, C.-J., Marsolais, F., and Tian, L.-N. (2012). "Genetic transformation and full recovery of alfalfa plants via secondary somatic embryogenesis.", *In Vitro Cellular & Developmental Biology - Plant*, 49(1), pp. 17-23. doi : 10.1007/s11627-012-9463-y

2011

Meerja, F.A., Wang, X., Whybourne, K.J., Svircev, A.M., and Tian, L.-N. (2011). "Optimization of in vitro regeneration in European Plum.", *Acta Horticulturae (ISHS)*, 899, pp. 145-152.

Zhang, J.-X., Wu, K.-L., Tian, L.-N., Zeng, S.-J., and Duan, J. (2011). "Cloning and characterization of a novel CONSTANS-like gene from *Phalaenopsis hybrid*.", *Acta Physiologiae Plantarum*, 33(2), pp. 409-417. doi : 10.1007/s11738-010-0560-4

## Other Science Related Publications:

2014

Scott, I.M., Cáceres, L.A., Challa, S., Hannoufa, A., Sumarah, M.W., Tian, L.-N., Shipp, L., and Shipp, J.L. (2014). "Deterring tomato pests by manipulating the flower volatiles.", Joint Annual Meeting of the Entomological Societies of Canada and Saskatchewan. Symposium: Arthropod "omics" – Impact on Management, Saskatoon, Canada, September 26-October 1, 2014, Platform presentation.

Nowak, J.J., Tian, L.-N., and Marsolais, F. (2014). "Tolerance to the herbicide imazethapyr (Pursuit) in common bean. Oral presentation.", Eastern Regional Meeting of the Canadian Society of Plant Biologists, Guelph, ON, Canada, November 28-29, 2014.

Challa, S., Scott, I.M., Cáceres, L.A., Sumarah, M.W., Tian, L.-N., and Hannoufa, A. (2014). "Natural Plant Volatiles: A Sustainable Pest Control Strategy.", Eastern Regional Meeting of the Canadian Society of Plant Biologists, Guelph, ON, Canada, November 28-29, 2014, Oral presentation.

2013

Tian, L.-N., Wang, X., Svircev, A.M., Wang, A.M., Sanfaçon, H., Brown, D.C.W., Kohalmi, S.E., and Lu, M. (2013). "Development of Plum pox virus resistance in plum grown in Canada via plant biotechnology.", 2nd International Symposium on Plum Pox Virus, Olomouc, Czech Republic, September 3-6, 2013.

Tian, L.-N., Eskin, N.A.M., Vessey, K., Tian, G., Henry, H.A.L., Reid, L.M., and Yang, Y. (2013). "Study of biological nitrogen fixation in corn by *Gluconacetobacter diazotrophicus*.", 67th Northeastern Corn Improvement Conference, Ottawa, ON, Canada, February 14-15, 2013.

Tian, L.-N., Eskin, N.A.M., Lu, J., Najak, A., Al Hejani, A., Tian, G., Vessey, K., Henry, H.A.L., Reid, L.M., and Yang, X. (2013). "Study *Gluconacetobacter diazotrophicus* in corn plants for colonization and potential nitrogen fixation.", 67th Northeastern Corn Improvement Conference, Ottawa, ON, Canada, February 14-15, 2013, pp. 11-15.

Lakshminarayan, S., Bernards, M.A., Tian, L.-N., Qubbaj, T., and Hannoufa, A. (2013). "Analysis of Arabidopsis plants overexpressing carotenoid cleavage dioxygenases for volatile emissions and insect resistance.", 2013 Eastern Regional Meeting of the Canadian Society of Plant Biologists, Mississauga, ON, Canada, December 6-7, 2013. (Presentation)

Wang, A.M., Elhiti, M., Wang, H., Li, Y., Tian, L.-N., Svircev, A.M., Sanfaçon, H., and Brown, D.C.W. (2013). "Development of genetic resistance to Plum pox virus in Canada.", 2nd International Symposium on Plum Pox Virus, Olomouc, Czech Republic, September 3-6, 2013.

Wang, Y., Amyot, L., Xu, Z., Tian, L.-N., and Hannoufa, A. (2013). "MicroRNA156 regulates plant development and nodulation in *Lotus japonicus*.", 2013 Eastern Regional Meeting of the Canadian Society of Plant Biologists, Mississauga, ON, Canada, December 6-7, 2013. (Poster)

2012

Lakshminarayan, S., Wei, S., Gruber, M.Y., Bernards, M.A., Tian, L.-N., Qubbaj, T., and Hannoufa, A. (2012). "Role of carotenoid cleavage dioxygenases in volatile emissions and insect resistance in Arabidopsis.", Canadian Society of Plant Biologists (CSPB) Eastern Regional Meeting and Plant Development Workshop, Wilfrid Laurier University, Waterloo, ON, Canada, November 30 - December 1, 2012.

Wang, Y., Amyot, L., Xu, Z., Tian, L.-N., and Hannoufa, A. (2012). "Role of two RNA-binding proteins in carotenoid and chlorophyll biosynthesis and stress adaptation.", 8th Canadian Plant Biotechnology Conference, University of Guelph, Guelph, ON, Canada, May 14-17, 2012.

Tian, L.-N., Wang, X., Kohalmi, S.E., Svircev, A.M., Wang, A.M., Sanfaçon, H., Brown, D.C.W., and Schneider, K.E. (2012). "Control of the expression of the host factor *elF(iso)4E* gene for Plum Pox Virus resistance.", Joint Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012. (Presentation)

Lakshminarayan, S., Wei, S., Gruber, M.Y., Bernards, M.A., Tian, L.-N., Qubbaj, T., and Hannoufa, A. (2012). "Role of carotenoid cleavage dioxygenases in volatile emissions and insect resistance in Arabidopsis.", 3rd Annual Biology Graduate Research Forum 2012, University of Western Ontario, London, ON, Canada, October 20, 2012.

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## Research Publications:

2016

Gou, L., Hattori, J., Fedak, G., Balcerzak, M., Sharpe, A.G., Visendi, P., Edwards, D.J., Tinker, N.A., Wei, Y.-M., Chen, G-Y., and Ouellet, T. (2016). "Development and validation of *Thinopyrum elongatum* expressed molecular markers specific for the long arm of chromosome 7E.", *Crop Science*, 56, pp. 1-10. doi : 10.2135/cropsci2015.03.0184

2015

Luo, X., Tinker, N.A., Zhang, H., Wight, C.P., Kang, H., Fan, X., Wang, Y., Sha, L., and Zhou, Y.-H. (2015). "Centromeric position and genomic allocation of a repetitive sequence isolated from chromosome 18D of hexaploid oat, *Avena sativa* L.", *Genetic Resources and Crop Evolution*, 62(1), pp. 1-4. doi : 10.1007/s10722-014-0170-x

2014

Huang, Y.-F., Poland, J., Wight, C.P., Jackson, E.W., and Tinker, N.A. (2014). "Using genotyping-by-sequencing (GBS) for genomic discovery in cultivated oat.", *PLoS ONE*, 9(7: Article e102448). doi : 10.1371/journal.pone.0102448

Tinker, N.A., Chao, S., Lazo, G.R., Oliver, R.E., Huang, Y.-F., Poland, J., Jellen, E.N., Maughan, P.J., Kilian, A., and Jackson, E.W. (2014). "A SNP genotyping array for hexaploid oat.", *Plant Genome*, 7(3). doi : 10.3835/plantgenome2014.03.0010

Kim, K.-S., Tinker, N.A., and Newell, M.A. (2014). "Improvement of Oat as a Winter Forage Crop in the Southern United States.", *Crop Science*, 54(4), pp. 1336-1346. doi : 10.2135/cropsci2013.07.0505

2013

Luo, X., Tinker, N.A., Jiang, Y., Xuan, P., Zhang, H., and Zhou, Y. (2013). "Suitable dose of <sup>60</sup>Co γ-ray for mutation in *Roegneria* seeds.", *Journal of Radioanalytical and Nuclear Chemistry*, 295(2), pp. 1129-1134. doi : 10.1007/s10967-012-1888-6

Oliver, R.E., Tinker, N.A., Lazo, G.R., Chao, S., Jellen, E.N., Carson, M.L., Rines, H.W., Obert, D.E., Lutz, J.D., Shackelford, I., Korol, A., Wight, C.P., Gardner, K.M., Hattori, J., Beattie, A.D., Bjørnstad, A., Bonman, J.M., Jannink, J.-L., Sorrells, M.E., Brown Guedira, G.L., Mitchell Fetch, J.W., Harrison, S.A., Howarth, C.J., Ibrahim, A.A., Kolb, F.L., McMullen, M.S., Murphy, J.P., Ohm, H.W., Rosnagel, B.G., Yan, W., Mićlaus, K.J., Hiller, J., Maughan, P.J., Redman Hultz, R.R., Anderson, J.M., Islamovic, E., and Jackson, E.W. (2013). "SNP discovery and chromosome anchoring provide the first physically-anchored hexaploid oat map and reveal synteny with model species.", *PLoS ONE*, 8(3, Article No.e58068). doi : 10.1371/journal.pone.0058068

Asoro, F.G., Newell, M.A., Beavis, W.D., Scott, M. P., Tinker, N.A., and Jannink, J.-L. (2013). "Genomic, marker-assisted, and pedigree-BLUP selection methods for β-glucan concentration in elite oat.", *Crop Science*, 53, pp. 1894-1906. doi : 10.2135/cropsci2012.09.0526

Lamara, M., Zhang, L.Y., Marchand, S., Tinker, N.A., and Belzile, F.J. (2013). "Comparative analysis of genetic diversity in Canadian barley assessed by SSR, DArT and pedigree data.", *Genome*, 56(6), pp. 351-358. doi : 10.1139/gen-2013-0048

2012

Luo, X., Tinker, N.A., Fan, X., Zhang, H., Sha, L., Kang, H., Ding, C., Liu, J., Zhang, L., Yang, R., and Zhou, Y.-H. (2012). "Phylogeny and maternal donor of *Kengyilia* species (Poaceae: Triticeae) based on three cpDNA (matK, rbcL and trnH-psbA) sequences.", *Biochemical Systematics and Ecology*, 44, pp. 61-69. doi : 10.1016/j.bse.2012.04.004

Rampitsch, C., Tinker, N.A., Subramaniam, R., Barkow-Oestereicher, S., and Laczko, E. (2012). "Phosphoproteome profile of *Fusarium graminearum* grown in vitro under nonlimiting conditions.", *Proteomics*, 12(7), pp. 1002-1005. doi : 10.1002/pmic.201100065

Luo, X., Wight, C.P., Zhou, Y., and Tinker, N.A. (2012). "Characterization of Chromosome-Specific Genomic DNA from Hexaploid Oat.", *Genome*, 55(4), pp. 265-268. doi : 10.1139/G2012-011

Nava, I.C., Wight, C.P., Pacheco, M.T., Federizzi, L.C., and Tinker, N.A. (2012). "Tagging and mapping candidate loci for vernalization and flower initiation in hexaploid oat.", *Molecular Breeding*, 30(3), pp. 1295-1312. doi : 10.1007/s11032-012-9715-x

Hizbai, B.T., Gardner, K.M., Wight, C.P., Dhanda, R.K., Molnar, S.J., Frégeau-Reid, J.A., Yan, W., Rossnagel, B.G., Holland, J.B., and Tinker, N.A. (2012). "Quantitative trait loci affecting oil content, oil composition, and other agronomically important traits in oat.", *Plant Genome*, 5(3), pp. 164-175. doi : 10.3835/plantgenome2012.07.0015

2011

Xu, Y., Badea, C., Tran, F., Frick, M., Schneiderman, D., Robert, L.S., Harris, L.J., Thomas, D.K., Tinker, N.A., Gaudet, D.A., and Laroche, A. (2011). "Next-Gen sequencing of the transcriptome of triticale.", *Plant Genetic Resources: Characterization and Utilization*, 9(2), pp. 181-184. doi : 10.1017/s1479262111000281

Oliver, R.E., Lazo, G.R., Lutz, J.D., Rubenfield, M.J., Tinker, N.A., Wisniewski Morehead, N.H., Adhikary, D., Jellen, E.N., Maughan, J.P., Anderson, J.M., Brown Guedira, G.L., Chao, S., Beattie, A.D., Carson, M.L., Rines, H.W., Obert, D.E., Bonman, J.M., and Jackson, E.W. (2011). "Model SNP development for complex genomes based on hexaploid oat using high-throughput 454 sequencing technology.", *BMC Genetics*, 12:77. doi : 10.1186/1471-2164-12-77

Newell, M.A., Cook, D., Tinker, N.A., and Jannink, J.-L. (2011). "Population structure and linkage disequilibrium in oat (*Avena sativa* L.): implications for genome-wide association studies.", *Theoretical and Applied Genetics (TAG)*, 122(3), pp. 623-632. doi : 10.1007/s00122-010-1474-7

## Other Science Related Publications:

2016

Ouellet, T., Gou, L., Konkin, D., Hattori, J., Tekieh, F., Wolfe, D.F., Balcerzak, M., Chalabian, F., Vrana, J., Kubaláková, M., Doležel, J., Tinker, N.A., Sharpe, A.G., and Fedak, G. (2016). "Towards cloning of the FHB-resistance locus from *Thinopyrum elongatum* chromosome 7EL.", XIV Plant and Animal Genome Conference, San Diego, CA, USA, January 2016. (Poster)

2015

Miller, S.S., Miller, S.S., Kaka, A., Wight, C.P., and Tinker, N.A. (2015). "Phenotypic variation in *Avena* species.", American Association of Cereal Chemists Annual Meeting, Minneapolis, Minnesota, USA, October 18-21, 2015. (Poster)

Saied, C., Huang, Y.F., Blake, V.C., Matthews, D.E., Birkett, C., Tinker, N.A., and Jannink, J.-L. (2015). "Oat Global and T3-Oat: Relational Data for Oat Genotypes and Phenotypes", XXIII Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2015.

Chaffin, A.S., Huang, Y.F., Smith, S.M., Reid, R.W., Babiker, E., Nanjappa, G., Foresman, B., Blanchard, S., Jay, J., Wight, C.P., Oliver, R., Chao, S., Islamovic, E., Klos, K.E., Kolb, F.L., McCartney, C., Mitchell Fetch, J.W., Bonman, J.M., Brouwer, C., Jellen, E.N., Poland, J., Hsieh, T.-F., Brown, R., Lutz, J.D., Jackson, E.D., Tinker, N.A., and Schlueter, J.A. (2015). "Ode to an Oat: Theme and Variations on a Map.", XXIII Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2015, Abstracts at: <https://pag.confex.com/pag/xxiii/webprogram/Session2675.html>.

Gusmini, G., Howarth, C.J., Tinker, N.A., Okamoto, J.K., Boroughs, B., Federizzi, L.C., Roskens, A.B., Zwer, P., and Dyck, J. (2015). "Oat Global: Uniting the Oat World at OatGlobal.org.", XXIII Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2015, <https://pag.confex.com/pag/xxiii/webprogram/Session2675.html>. (Abstract)

Bekele, W.A. and Tinker, N.A. (2015). "Local GBS Haplotypes in Hexaploid Oat: How and Why?", XXIII Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2015, <https://pag.confex.com/pag/xxiii/webprogram/Session2675.html>. (Abstract)

2014

Klos, K.E., Huang, Y.F., and Tinker, N.A. (2014). "Genetic diversity among oat lines of the North American Collaborative Oat Research Enterprise (CORE).", American Oat Workers Conference 2014, Ottawa Marriott Hotel, Ottawa, ON, Canada, July 13-16, 2014.

Jannink, J.-L., Matthews, D.E., Blake, V.C., Birkett, C., Clohessy, J., Lazo, G.R., Huang, Y.F., and Tinker, N.A. (2014). "How an international oat information system will accelerate oat improvement?", American Oat Workers Conference 2014, Ottawa Marriott Hotel, Ottawa, ON, Canada, July 13-16, 2014.

Huang, Y.F., Jackson, E.W., and Tinker, N.A. (2014). "Collaborative Oat Research Enterprise (CORE): outcome, progress, and beyond.", American Oat Workers Conference 2014, Ottawa Marriott Hotel, Ottawa, ON, Canada, July 13-16, 2014.

Wight, C.P., McMullen, M.P., Gusmini, G., Lazo, G.R., Miller, S.S., Miller, S.S., Mitchell Fetch, J.W., Jannink, J.-L., Sorrells, M.E., and Tinker, N.A. (2014). "The Oat Newsletter: where we've been and where we're going.", American Oat Workers Conference 2014, Ottawa Marriott Hotel, Ottawa, ON, Canada, July 13-16, 2014, Full presentation published at: [http://aowc.ca/AOWC2014\\_presentations.html](http://aowc.ca/AOWC2014_presentations.html).

Marquez, B.K., Wight, C.P., Mitchell Fetch, J.W., Beattie, A.D., Johnson, D.A., Poland, J., and Tinker, N.A. (2014). "Genotyping-by-sequencing facilitates whole genome visualization of Canadian oat cultivars.", American Oat Workers Conference 2014, Ottawa Marriott Hotel, Ottawa, ON, Canada, July 13-16, 2014.

Chaffin, A.S., Huang, Y.F., Smith, S.M., Schneider, A., Reid, R.W., Babiker, E., Nanjappa, G., Foresman, B., Blanchard, S., Jay, J., Wight, C.P., Chao, S., Islamovic, E., Klos, K.E., Kolb, F.L., McCartney, C., Mitchell Fetch, J.W., Bonman, J.M., Brouwer, C., Jellen, E.N., Poland, J., Hsieh, T.-F., Brown, R., Lutz, J.D., Jackson, E.D., Oliver, R., Tinker, N.A., and Schlueter, J.A. (2014). "A shiny new state-of-the-art oat consensus map: where to next?", American Oat Workers Conference 2014, Ottawa Marriott Hotel, Ottawa, ON, Canada, July 13-16, 2014.

Vickerstaff, R., Langdon, T., Howarth, C.J., Hegarty, M., Marshall, S.A., Huang, Y.F., and Tinker, N.A. (2014). "An Avena A-genome zipper and its application to hexaploid oat breeding.", EUCARPIA-ITMI 2014, Wernigerode, Germany, June 29-July 4, 2014.

## 2013

Marquez, B.K., Huang, Y.F., Wight, C.P., Hattori, J., Poland, J., Jackson, E.W., Johnson, D.A., and Tinker, N.A. (2013). "Toward Smart Databases for Oat Genomics.", XXI Plant and Animal Genome Conference, San Diego, CA, USA, January 12-16, 2013.

Huang, Y.F., Poland, J., Jackson, E.W., and Tinker, N.A. (2013). "Genotyping-By-Sequencing (GBS) In The Real Oat World: Making The Data Talk.", XXI Plant and Animal Genome Conference, San Diego, CA, USA, January 12-16, 2013.

Marquez, B.K., Wight, C.P., Johnson, D.A., and Tinker, N.A. (2013). "Diagnostic SNP Assays to Identify Key Canadian Oat Varieties and Variation Among Seed Sources.", XXI Plant and Animal Genome Conference, San Diego, CA, USA, January 12-16, 2013, Poster: P0744.

## 2012

Wight, C.P., Hizbai, B.T., Gardner, K.M., Couroux, P., and Tinker, N.A. (2012). "Oat genomics: the state of the art, illustrated by a model trait.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012.

Jackson, E.W., Islamovic, E., Coon, M., Oliver, R.E., Lazo, G.R., Tinker, N.A., Chao, S., Lutz, J.D., Jellen, E.N., and Maughan, J.P. (2012). "Markers to Maps to Molecules: Moving forward on Genetic Dissection of Oat Beta Glucan.", Plant & Animal Genome XX Conference, Town & Country Convention Center, San Diego, CA, USA, January 14-18, 2012, Paper 3486. (Abstract)

Tinker, N.A., Poland, J., Jackson, E.D., Chao, S., Lazo, G.R., and Oliver, R.E. (2012). "Genotype-by-sequence for high-density, high-throughput whole-genome profiling in oat.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012.

Jackson, E.W., Brown, R., Oliver, R.E., Coon, M., Sheridan, J.J., Islamovic, E., Tinker, N.A., Lazo, G.R., and Jellen, E.N. (2012). "Driving oat into the modern era of scientific discovery.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012.

Luo, X., Wight, C.P., Zhou, Y., and Tinker, N.A. (2012). "Genomic sequences from chromosome 18D of hexaploid oat.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

Hattori, J., Chao, S., Ouellet, T., Jellen, E.N., Jackson, E.W., Oliver, R.E., Lazo, G.R., and Tinker, N.A. (2012). "Inter-genome distances in hexaploid oat and wheat estimated from single copy candidate genes.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

Hizbai, B.T., Gardner, K.M., Wight, C.P., Dhanda, R.K., Molnar, S.J., Johnson, D.L., Frégeau-Reid, J.A., Yan, W., Rosnagel, B.G., Burrows, V.D., and Tinker, N.A. (2012). "Mapping of QTLs affecting oil content and composition in oats.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

Gardner, K.M., Wight, C.P., Mitchell Fetch, J.W., Yan, W., Ames, N.P., Rosnagel, B.G., Hermann, M., Molnar, S.J., Frégeau-Reid, J.A., Miller, S.S., Fetch Jr., T.G., Chong, J., Martin, R.A., Tekauz, A., Haber, S.M., Savard, M.E., and Tinker, N.A. (2012). "Prospects of whole genome selection in oat using high throughput genetic markers.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

Marquez, B.K., Wight, C.P., Gardner, K.M., Chao, S., Oliver, R.E., Lazo, G.R., Jackson, E.W., Johnson, D.A., and Tinker, N.A. (2012). "Validating oat pedigrees using graphical genotypes.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

Chao, S., Oliver, R.E., Lazo, G.R., Tinker, N.A., Jannink, J.-L., Redman, R., Jackson, E.W., Jellen, E.N., and Maughan, J.P. (2012). "Development of a High-Density SNP Genotyping Panel as a Community Resource for Genetic Analysis in Oat.", Plant & Animal Genome XX Conference, Town & Country Convention Center, San Diego, CA, USA, January 14-18, 2012, Paper 3478. (Abstract)

Poland, J., Jackson, E.W., Oliver, R.E., Tinker, N.A., and Jannink, J.-L. (2012). "Genotyping-By-Sequencing Approaches for Your Favorite Large Polyploidy Genome (*Avena sativa*).", Plant & Animal Genome XX Conference, Town & Country Convention Center, San Diego, CA, USA, January 14-18, 2012, Paper 3485. (Abstract)

2011

Chao, S., Oliver, R.E., Lazo, G.R., Tinker, N.A., Jannink, J.-L., Redman, R., and Jackson, E.W. (2011). "Analysis Of Genetic Diversity Using SNP Markers In Oat.", Plant & Animal Genome XIX Conference, Town & Country Convention Center, San Diego, CA, USA, January 15-19, 2011. (Abstract)

Tinker, N.A., Jackson, E.W., Chao, S., Lazo, G.R., Jellen, E.N., Oliver, R.E., Wight, C.P., Redman, R., Hattori, J., Lutz, J. D., and Collaborative Oat Research Enterprise, (CORE) (2011). "Oat Genomics: The Picture Gets Clearer.", Plant & Animal Genome XIX Conference, Town & Country Convention Center, San Diego, CA, USA, January 15-19, 2011. (Abstract)

Molnar, S.J., Tinker, N.A., Kaepler, H.F., and Rines, H.W. (2011). "Molecular Genetics of Quality in Oats.", in Webster, F.H. and Wood, P.J. (eds.) - Oats: Chemistry and Technology. 2nd Edition, American Association of Cereal Chemists (AACC), Chapter 4, pp. 51-75.

Jackson, E.W., Islamovic, E., Oliver, R.E., Coon, M., Jellen, E.N., Hu, G.G., Lazo, G.R., Tinker, N.A., Campbell, R., Beattie, A.D., Lutz, J.D., and Collaborative Oat Research Enterprise, (CORE) (2011). "Gene Fishing In Avena: The Perfect Storm.", Plant & Animal Genome XIX Conference, Town & Country Convention Center, San Diego, CA, USA, January 15-19, 2011. (Abstract)

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## Research Publications:

2015

Brummell, D.A. and Toivonen, P.M.A. (2015). "Postharvest Physiology of Vegetables.", in Siddiq, M. and Uebbersax, M. (eds.) - 2015, Wiley - Blackwell, Chapter 11.

Toivonen, P.M.A. (2015). "Comparison of IAD and starch-iodine indices at harvest and how they relate to post-storage firmness retention in Ambrosia™ apples over three growing seasons.", *Canadian Journal of Plant Science*, 95(6), pp. 1177-1180. doi: 10.4141/cjps-2015-185

Manganaris, G.A., Toivonen, P.M.A., and Kalaitzis, P. (Eds.) (2015). *Proceedings of the V Postharvest Unlimited Conference. Acta Horticulturae (ISHS) 1079*, 714 pages. (Book)

Toivonen, P.M.A. (2015). "Integrated analysis for improving export of sweet cherries and how a small industry can compete by focusing on premium quality.", *Acta Horticulturae (ISHS)*, 1079, pp. 71-82.

Toivonen, P.M.A., Lu, C., Bach, S.J., and Delaquis, P.J. (2015). "Hypoxic atmospheres can induce subsequent increases in cutting-induced hydrogen peroxide production by fresh-cut Romaine lettuce.", *Acta Horticulturae (ISHS)*, 1071, pp. 519-526.

Toivonen, P.M.A. (2015). "Postharvest Physiology of Fruits and Vegetables.", in Pareek, S. (ed.) - *Postharvest Ripening Physiology of Crops. Innovations in Postharvest Technology Series*, CRC Press Taylor, Boca Raton, FL, USA.

2014

Liplap, P., Toussaint, V., Toivonen, P.M.A., Vigneault, C., Boutin, J., and Raghavan, G.S.V. (2014). "Effect of hyperbaric pressure treatment on the growth and physiology of bacteria that cause decay in fruits and vegetables.", *Food and Bioprocess Technology*, 7(8), pp. 2267-2280. doi: 10.1007/s11947-013-1197-2

Stanich, K., Cliff, M.A., Hampson, C.R., and Toivonen, P.M.A. (2014). "Shelf-life and sensory assessments reveal the effects of storage treatments with 1-methylcyclopropene on new and established apples.", *Canadian Journal of Plant Science*, 94, pp. 1427-1439. doi: 10.4141/cjps-2014-139

Toivonen, P.M.A. and Hampson, C.R. (2014). "Relationship of IAD index to internal quality attributes of apple treated with 1-methylcyclopropene and stored in air or controlled atmospheres.", *Postharvest Biology and Technology*, 91, pp. 90-95. doi: 10.1016/j.postharvbio.2013.12.024

Toivonen, P.M.A. (2014). "Relationship of typical core temperatures after hydrocooling on retention of different quality components in sweet cherry.", *HortTechnology*, 24(4), pp. 457-462.

Toivonen, P.M.A., Mitcham, E.J., and Terry, L.A. (2014). "Postharvest care and the treatment of fruits and vegetables.", in Dixon, G.R. and Aldous, D.E. (eds.) - *Horticulture: Plants for People and Places, Volume 1, Production Horticulture*, Springer, pp. 465-483.

2013

Liplap, P., Vigneault, C., Toivonen, P.M.A., Charles, M.T., and Raghavan, G.S.V. (2013). "Effect of hyperbaric pressure and temperature on respiration rates and quality attributes of tomato.", *Postharvest Biology and Technology*, 86, pp. 240-248. doi: 10.1016/j.postharvbio.2013.07.002

Toivonen, P.M.A. and Lu, C. (2013). "Differential quenching of free chlorine by organic compounds potentially exuded from injured plant tissues.", *Postharvest Biology and Technology*, 86, pp. 192-194. doi: 10.1016/j.postharvbio.2013.06.035

Liplap, P., Vigneault, C., Toivonen, P.M.A., Boutin, J., and Raghavan, G.S.V. (2013). "Effect of hyperbaric treatment on respiration rates and quality attributes of sweet corn.", *International Journal of Postharvest Technology and Innovation (IJPTI)*, 3(3), pp. 257-271. doi: 10.1504/IJPTI.2013.059295

Palakawong, C., Sophanodora, P., Toivonen, P.M.A., and Delaquis, P.J. (2013). "Optimized extraction and characterization of antimicrobial phenolic compounds from mangosteen (*Garcinia mangostana* L.) cultivation and processing waste.", *Journal of the Science of Food and Agriculture*, 93(15), pp. 3792-3800. doi: 10.1002/jsfa.6277

2012

Tardelli, F., Guidi, L., Massai, R., and Toivonen, P.M.A. (2012). "Effects of 1-methylcyclopropene and post-controlled atmosphere air storage treatments on fresh-cut Ambrosia apple slices.", *Journal of the Science of Food and Agriculture*, 93(2), pp. 262-270. doi : 10.1002/jsfa.5750

Cliff, M.A., Li, J.B., Toivonen, P.M.A., and Ehret, D.L. (2012). "Effects of nutrient solution electrical conductivity on the compositional and sensory characteristics of greenhouse tomato fruit.", *Postharvest Biology and Technology*, 74, pp. 132-140. doi : 10.1016/j.postharvbio.2011.12.007

Toivonen, P.M.A. and Hampson, C.R. (2012). "Phenotypic Analysis of New Sweet Cherry and Apple Cultivars Based on Postharvest Quality Characteristics.", *Acta Horticulturae (ISHS)*, 945, pp. 219-226.

Toivonen, P.M.A., Lu, C., Bach, S.J., and Delaquis, P.J. (2012). "Modulation of wound-induced hydrogen peroxide and its influence on the fate of *Escherichia coli* O157:H7 in cut lettuce tissues.", *Journal of Food Protection*, 75(12), pp. 2208-2212. doi : 10.4315/0362-028X.JFP-12-208

Toivonen, P.M.A. and Kappel, F. (2012). "Effect of Cold Storage Duration on Shelf Quality Attributes of 'Bing' and Five Sweet Cherry Cultivars Developed in the Summerland Breeding Program.", *Acta Horticulturae (ISHS)*, 934, pp. 1011-1016.

2011

Cliff, M.A., Stanich, K., Moran Trujillo, J., Toivonen, P.M.A., and Fomey, C.F. (2011). "Determination and Prediction of Odor Thresholds for Odor Active Volatiles in a Neutral Apple Juice Matrix.", *Journal of Food Quality*, 34(3), pp. 177-186. doi : 10.1111/j.1745-4557.2011.00383.x

DeLong, J.M., Hodges, D.M., Prange, R.K., Fomey, C.F., Toivonen, P.M.A., Bishop, M.C., Elliot, M.L., and Jordan, M.A. (2011). "The unique fatty acid and antioxidant composition of ostrich fern (*Matteuccia struthiopteris*) fiddleheads.", *Canadian Journal of Plant Science*, 91(5), pp. 919-930. doi : 10.4141/cjps2010-042

Toivonen, P.M.A., Lu, C., Delaquis, P.J., and Bach, S.J. (2011). "Slicing under chlorinated water improves the disinfection of fresh-cut romaine lettuce.", *Journal of Food Protection*, 74(12), pp. 2142-2147. doi : 10.4315/0362-028X.JFP-11-194

## Other Science Related Publications:

2015

Toivonen, P.M.A., DeLong, J.M., Hampson, C.R., Song, J., Fomey, C.F., and Myles, S. (2015). "Peel maturity only correlates with soft scald in a highly susceptible orchard of Ambrosia™ apple.", *HortScience*, 50(9), pp. S181. (Abstract)

Song, J., Fomey, C.F., Myles, S., Sauerteig, K.A., Du, L., Hampson, C.R., Toivonen, P.M.A., Fan, L., DeLong, J.M., and Fillmore, S.A.E. (2015). "An integrated 'omics' investigation on control mechanisms and molecular markers of apple fruit storage disorders.", AG Connect 2015 Summit, Truro, NS, USA, March 31 -April 1, 2015. (Poster)

Toivonen, P.M.A., DeLong, J.M., Song, J., and Fomey, C.F. (2015). "Peel Maturity only Correlates with Soft Scald in a Highly Susceptible Orchard of Ambrosia™ apple.", ASHS2015, New Orleans, Louisiana, USA, August 4-7, 2015.

McClure, K.A., Gardner, K.M., Toivonen, P.M.A., Hampson, C.R., Lannard, B.L., Rajcan, I., Song, J., and Myles, S. (2015). "Genetic mapping using next-generation DNA sequencing in apple.", Canadian Plant Genome Workshop (CPGW 2015), Victoria, BC, Canada, August 1-13., 2015.

2014

Toivonen, P.M.A. and Hampson, C.R. (2014). "Replacement of existing cultivars with similar apples having better postharvest traits.", ISHS 29th International Horticultural Congress, Brisbane, Australia, August 17 -22, 2014, Oral presentation.

Toivonen, P.M.A. (2014). "Managing sweet cherry quality - Importance of production and harvest practices.", *Compact Fruit Tree* (August), pp. 30.

O'Gorman, D.T., Haag, P., Urbez-Torres, J.R., and Toivonen, P.M.A. (2014). Characterization and management of two cherry diseases in the Okanagan: cherry slip skin and cherry replant disease 2014. AIP-ASP reporting: Okanagan Plant Improvement Company (PICO)/Scientist Meeting Agenda – March 26, 2014: PARC-Summerland. (Report)

Toivonen, P.M.A. and Cliff, M.A. (2014). Progress Report for Project ID number J-000379. P020-BCFGA- Canadian Tree Fruit Products Development - Activity 4: Update on Improving Ambrosia™ Apple Quality after Long Term Storage. AIP-ASP reporting: Okanagan Plant Improvement Company (PICO)/Scientist Meeting Agenda – March 26, 2014: PARC-Summerland. (Report)



Toivonen, P.M.A., O'Gorman, D.T., and Cossentine, J.E. (2014). Progress Report for Project ID number J-000378. P020-BCFGA-Canadian Tree Fruit Products Development - Activity 3: Postharvest characterization of apple and sweet cherry quality. AIP-ASP reporting: Okanagan Plant Improvement Company (PICO)/Scientist Meeting Agenda – March 26, 2014: PARC-Summerland. (Report)

Toivonen, P.M.A. (2014). Response of Aurora Golden Gala™ apple to 1-methylcyclopropene (1-MCP) treatment, controlled atmosphere storage (CAS) and storage temperature over short duration storage. Report to Summerland Varieties Corporation, 13 pp. (Report)

Toivonen, P.M.A. (2014). "DA meter assessment of apple maturity: Myths, realities and challenges.", Orchard Network Newsletter, 18(4), pp. 10-11. (Newsletter)

## 2013

Toivonen, P.M.A., Lu, C., Bach, S.J., and Delaquis, P.J. (2013). "Hypoxic atmospheres can induce subsequent increases in cutting-induced hydrogen peroxide production by fresh-cut Romaine lettuce.", 11th International Controlled and Modified Atmosphere Research Conference, Trani, Italy, June 3-7, 2013. (Poster)

Toivonen, P.M.A. (2013). "Importance of Managing Humidity and Temperature from Harvest to Packinghouse.", 8 pages.

Toivonen, P.M.A. and Hampson, C.R. (2013). "Respiration rates of sweet cherry cultivars at optimal and abusive temperatures over three growing seasons.", VIIIth International Cherry Symposium, Plasencia, Spain, June 23-27, 2013, Poster.

Toivonen, P.M.A., Lu, C., Bach, S.J., and Delaquis, P.J. (2013). "Hypoxic treatment can enhance cut-edge hydrogen peroxide production in Romaine lettuce.", United Fresh 2013, San Diego Convention Center, San Diego, CA, USA, May 14-16, 2013, Abstract. (Poster)

Delaquis, P.J., Bach, S.J., Lu, C., and Toivonen, P.M.A. (2013). "Effect of environmental factors (field versus controlled environment chamber) on the survival of Escherichia coli O157:H7 on Romaine lettuce.", United Fresh 2013, San Diego Convention Center, San Diego, CA, USA, May 14-16, 2013, Abstract. (Poster)

Bach, S.J., Delaquis, P.J., Toivonen, P.M.A., and Lu, C. (2013). "The effect of hypoxic treatment of Romaine lettuce on the survival of Escherichia coli O157:H7.", United Fresh 2013, San Diego Convention Center, San Diego, CA, USA, May 14-16, 2013, Abstract. (Poster)

Bach, S.J., Delaquis, P.J., Toivonen, P.M.A., and Lu, C. (2013). "Impact of hydrogen peroxide on Escherichia coli O157:H7 in vitro and in vivo on fresh-cut lettuce.", United Fresh 2013, San Diego Convention Center, San Diego, CA, USA, May 14-16, 2013, Abstract. (Poster)

Bach, S.J., Lu, C., Delaquis, P.J., and Toivonen, P.M.A. (2013). "Impact of wound induced hydrogen peroxide production on Escherichia coli O157:H7 in fresh-cut lettuce.", 5th Congress of European Microbiologists (FEMS 2013), Leipzig, Germany, July 21-25, 2013, Presentation. (Poster)

Toivonen, P.M.A. (2013). "Importancia de manejar la humedad y la temperatura desde la cosecha hasta el almacén.", 8 pages.

## 2012

Toivonen, P.M.A. (2012). Controlled Atmosphere Storage Experiments for 'Ambrosia' Apples 2011-12., Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC). (Report)

Toivonen, P.M.A. (2012). Progress Report on Postharvest Storage and Quality Characteristics of 'Silken' Apple from the 2011 Season., Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC). (Report)

Toivonen, P.M.A., Mostofi, Y., Wiersma, P.A., and Hampson, C.R. (2012). Evaluation of Non-Destructive Instruments for Assessing Apple Maturity and Quality: 2011 Results., Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC). (Report)

Toivonen, P.M.A. (2012). "Optimizing handling for superior fresh market quality of sweet cherries and potential value-added product", International Plum and Sweet Cherry Symposium, October 24-25, 2012, In: D. Martinez-Romero, D. Valero, M. Serrano, S. Castillo, F. Guillén and P.J. Zapata (eds). Ciruela y Cereza: del Campo al Consumidor (Plum and Sweet Cherry: from Field to Consumer), pp. 159-164.

Toivonen, P.M.A., Mostofi, Y., Hampson, C.R., and Wiersma, P.A. (2012). "Evaluating the synchronicity of flesh and peel ripening in standard and new cultivars of apples.", Annual Conference of the American Society for Horticultural Science, Miami, Florida, USA, July 31-August 3, 2012. (Poster)

Toivonen, P.M.A. (2012). Storage research 2011-12 season. Nicola™ News, February 2012, p. 2.

Toivonen, P.M.A., Mostofi, Y., Hampson, C.R., and Wiersma, P.A. (2012). "Storage Research With New Cultivars.", 10th Ontario Fruit and Vegetable Convention (OFVC 2012), Niagara Falls, ON, Canada, February 22-23, 2012.

Toivonen, P.M.A., Mostofi, Y., Hampson, C.R., and Wiersma, P.A. (2012). "Exciting New Technologies for Today.", Okanagan Fieldmens Association Horticultural Forum, Kelowna, BC, Canada, March 1, 2012.

2011

Toivonen, P.M.A., Lu, C., Delaquis, P.J., and Bach, S.J. (2011). "Timing of sanitizer application reduces microbial counts on fresh-cut Romaine lettuce.", 2nd ISHS International Conference on Quality Management of Fresh Cut Produce: Convenience Food for a Tasteful Life, Università degli Studi di Torino, Torino, Italy, July 17-21, 2011.

Toivonen, P.M.A. and Hampson, C.R. (2011). "Phenotypic analysis of new sweet cherry and apple cultivars based on postharvest characteristics.", 4th International Conference Postharvest Unlimited 2011, Wenatchee, WA, USA, May 23-26, 2011, pp. 69.

Neilsen, G.H., Neilsen, D., and Toivonen, P.M.A. (2011). "NC-140-Sweet cherry training system /rootstock trial.", Cherry Notes: Newsletter of the Okanagan Kootenay Cherry Growers Association, 2011 (June), pp. 10.

Toivonen, P.M.A. (2011). "DIAP Project 2010 – OKCGA Activities", BC Tree Fruit Horticultural Symposium 2011, Kelowna, BC, Canada, March 10-11, 2011.

Bach, S.J., Lu, C., Delaquis, P.J., and Toivonen, P.M.A. (2011). "Cutting Romaine lettuce while submerged in sanitizer improves efficacy of sodium hypochlorite.", The Grower, 61(5), pp. 20.

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## Research Publications:

2015

Al-Rajab, A.J., Sabourin, L., Lapen, D.R., and Topp, E. (2015). "Dissipation of triclosan, triclocarban, carbamazepine and naproxen in agricultural soil following surface or sub-surface application of dewatered municipal biosolids.", *Science of the Total Environment*, 512-513, pp. 480-488. doi : 10.1016/j.scitotenv.2015.01.075

Barret, M., Gagnon, N., Morissette, B., Kalmokoff, M.L., Topp, E., Brooks, S.P.J., Matias, F., Neufeld, J.D., and Talbot, G. (2015). "Phylogenetic identification of methanogens assimilating acetate-derived carbon in dairy and swine manures.", *Systematic and Applied Microbiology*, 38(1), pp. 56-66. doi : 10.1016/j.syapm.2014.11.006

Que, Z., Seidou, O., Droste, R.L., Wilkes, G.A., Sunohara, M., Topp, E., and Lapen, D.R. (2015). "Using AnnAGNPS to Predict the Effects of Tile Drainage Control on Nutrient and Sediment Loads for a River Basin.", *Journal of Environmental Quality*, 44, pp. 1-13. doi : 10.2134/jeq.2014.06.0246

Archambault, M., Boerlin, P., Campbell, J.M., Dumont, M., Hutchinson, J.J., Landals, D., McClure, J., McEwen, S.A., Prescott, J.F., Rubin, J., Slavic, D., Stemshorn, B., Skippon, W., Weese, S., Szkotnicki, J., and Topp, E. (2015). "Antibiotic stewardship's golden moment: Resistance or change?", *Canadian Veterinary Journal*, 56(2), pp. 115-119.

Konopka, M., Henry, H.A.L., Romain, M., and Topp, E. (2015). "Multi-year and short-term responses of soil ammonia-oxidizing prokaryotes to zinc bacitracin, monensin and ivermectin, singly or in combination.", *Environmental Toxicology and Chemistry*, 34(3), pp. 618-625. doi : 10.1002/etc.2848

Caracciolo, A.B., Topp, E., and Grenni, P. (2015). "Pharmaceuticals in the environment: Biodegradation and effects on natural microbial communities. A Review.", *Journal of Pharmaceutical and Biomedical Analysis*, 106, pp. 25-36. doi : 10.1016/j.jpba.2014.11.040

Lawrence, J.R., Topp, E., Waiser, M.J., Tumber, V., Roy, J., Swerhone, G.D.W., Leavitt, P.R., Paule, A., and Korber, D.R. (2015). "Resilience and recovery: the effect of triclosan exposure timing during development, on the structure and function of river biofilm communities.", *Aquatic Toxicol*, 161, pp. 253-266. doi : 10.1016/j.aquatox.2015.02.012

Jokinen, C.C., Koot, J.M., Cole, L., Desruisseau, A., Edge, T.A., Khan, I.U.H., Koning, W., Lapen, D.R., Pintar, K.D.M., Reid-Smith, R., Thomas, J.L., Topp, E., Wang, L.Y., Wilkes, G.A., Ziebell, K.A., van Bochove, É., and Gannon, V.P.J. (2015). "The distribution of *Salmonella enterica* serovars and subtypes in surface water from five agricultural regions across Canada.", *Water Research*, 76, pp. 120-131. doi : 10.1016/j.watres.2015.02.038

Frey, S.K., Topp, E., Khan, I.U.H., Ball, B., Edwards, M., Gottschall, N., Sunohara, M.D., and Lapen, D.R. (2015). "Quantitative *Campylobacter* spp., antibiotic resistance gene, and veterinary antibiotic movement to surface and ground water following manure application: Influences of Tile Drainage Control.", *Science of the Total Environment*, 532, pp. 138-153. doi : 10.1016/j.scitotenv.2015.03.114

Sunohara, M., Gottschall, N., Wilkes, G.A., Craiovan, E., Topp, E., Que, Z., Seidou, O., Frey, S.K., and Lapen, D.R. (2015). "Long Term Observations of Nitrogen and Phosphorus Export in Paired-Agricultural Watersheds Under Controlled and Conventional Tile Drainage.", *Journal of Environmental Quality*. doi : 10.2134/jeq2015.01.0008

Dhanani, A.S., Block, G.S., Dewar, K., Forgetta, V., Topp, E., Beiko, R.G., and Diarra, M.S. (2015). "Genomic comparison of non-typhoidal *Salmonella enterica* Serovars Typhimurium, Enteritidis, Heidelberg, Hadar and Kentucky isolates from broiler chickens.", *PLoS ONE*. doi : 10.1371/journal.pone.0128773

Holman, D.B., McAllister, T.A., Topp, E., Wright, A.-D.G., and Alexander, T.W. (2015). "The nasopharyngeal microbiota of feedlot cattle that develop bovine respiratory disease.", *Veterinary Microbiology*, 180(1-2), pp. 90-95. doi : 10.1016/j.vetmic.2015.07.031

Zhi, S., Li, Q., Yasui, Y., Edge, T.A., Topp, E., and Neumann, N.F. (2015). "Assessing host-specificity of *Escherichia coli* using a supervised learning logic-regression-based analysis of single nucleotide polymorphisms in intergenic regions.", *Molecular Phylogenetics and Evolution*, 92, pp. 72-81. doi : 10.1016/j.ympev.2015.06.007

Dring, C., Devlin, J.F., Boag, G., Sunohara, M.D., Fitzgibbon, J., Topp, E., and Lapen, D.R. (2015). "Incentives and disincentives identified by producers and drainage contractors/experts on the adoption of controlled tile drainage in eastern Ontario, Canada.", *Water Quality Research Journal of Canada*. doi : 10.2166/wqjrc.2015.047

Etienne, D., Destas, M., Lyautey, E., Marti, R., Ruffaldi, P., Georges-Leroy, M., Dambrine, E., and Topp, E. (2015). "Two thousand-year reconstruction of livestock production intensity in France using sediment-archived fecal Bacteroidales and source-specific mitochondrial markers.", *The Holocene*, 25(9), pp. 1384-1393. doi : 10.1177/0959683615585836

Khan, A.H., Topp, E., Scott, A., Sumarah, M.W., Macfie, S. M., and Ray, M.B. (2015). "Biodegradation of benzalkonium chlorides singly and in mixtures by a *Pseudomonas* sp. Isolated from returned activated sludge", *Journal of Hazardous Materials*, 299, pp. 595-602. doi : 10.1016/j.jhazmat.2015.07.073

Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Cloutier, M., Tambong, J.T., Xu, R., Topp, E., Arts, M.T., Chao, J., Adam, Z., Lévesque, C.A., Lapen, D.R., Villemur, R., and Khan, I.U.H. (2015). "Identification, characterization and description of *Arcobacter faecis* sp. Nov., isolated from a human waste septic tank", *Systematic and Applied Microbiology*. doi : 10.1016/j.syapm.2015.12.002

Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Cloutier, M., Tambong, J.T., Xu, R., Topp, E., Arts, M.T., Chao, J., Adam, Z., Lévesque, C.A., Lapen, D.R., Villemur, R., Talbot, G., and Khan, I.U.H. (2015). "*Arcobacter lanthieri* sp. nov., isolated from pig and dairy cattle manure.", *International Journal of Systematic and Evolutionary Microbiology (IJSEM)*. doi : 10.1099/ijs.0.000318

MacDonald, J., Doshi, K., Dussault, M., Hall, J.C., Holbrook, L., Jones, G., Kaldis, A., Klima, C.L., MacDonald, P., McAllister, T.A., McLean, M.D, Potter, A., Richman, A.S., Shearer, H., Yarosh, O., Yoo, H.S., Topp, E., and Menassa, R. (2015). "Bringing plant-based veterinary vaccines to market: Managing regulatory and commercial hurdles.", *Biotechnology Advances*. doi : 10.1016/j.biotechadv.2015.07.007

2014

Prosser, R.S., Lissemore, L., Topp, E., and Sibley, P.K. (2014). "Bioaccumulation of triclosan and triclocarban in plants grown in soils amended with municipal dewatered biosolids.", *Environmental Toxicology and Chemistry*, 33(5), pp. 975-984. doi : 10.1002/etc.2505

Kolotilin, I., Topp, E., Cox, E., Devriendt, B., Conrad, U., Joensuu, J.J., Stöger, E., Warzecha, H., McAllister, T.A., Potter, A., McLean, M.D, Hall, J.C., and Menassa, R. (2014). "Plant-based solutions for veterinary immunotherapeutics and prophylactics.", *Veterinary Research*, 45(1: Article number 117), pp. 1-12. doi : 10.1186/s13567-014-0117-4

Wilkes, G.A., Brassard, J., Edge, T.A., Gannon, V.P.J., Gottschall, N., Jokinen, C.C., Jones, T.H., Khan, I.U.H., Marti, R., Sunohara, M., Topp, E., and Lapen, D.R. (2014). "Long-term monitoring of waterborne pathogens and microbial source tracking markers in paired-agricultural watersheds under controlled and conventional tile drainage management.", *Applied and Environmental Microbiology*, 80(12), pp. 3708-3720. doi : 10.1128/AEM.00254-14

Marti, R., Tien, Y.C., Murray, R.L., Scott, A., Sabourin, L., and Topp, E. (2014). "Safely Coupling Livestock and Crop Production Systems: How Rapidly Do Antibiotic Resistance Genes Dissipate in Soil Following a Commercial Application of Swine or Dairy Manure?", *Applied and Environmental Microbiology*, 80(10), pp. 3258-3265. doi : 10.1128/AEM.00231-14

Adam, Z., Whiteduck-Leveillee, K., Cloutier, M., Tambong, J.T., Chen, W., Lewis, C.T., Lévesque, C.A., Topp, E., Lapen, D.R., Talbot, G., and Khan, I.U.H. (2014). "Draft genome sequences of three *Arcobacter* strains of pig and dairy cattle manure origin.", *Genome Announcements*, 2(3:e00377-14). doi : 10.1128/genomeA.00377-14

Adam, Z., Whiteduck-Leveillee, K., Cloutier, M., Chen, W., Lewis, C.T., Lévesque, C.A., Topp, E., Lapen, D.R., Tambong, J.T., Talbot, G., and Khan, I.U.H. (2014). "Draft genome sequences of two *Arcobacter* strains isolated from human feces.", *Genome Announcements*, 2(2 e00113-14). doi : 10.1128/genomeA.00113-14

Adam, Z., Whiteduck-Leveillee, K., Cloutier, M., Chen, W., Lewis, C.T., Lévesque, C.A., Topp, E., Lapen, D.R., Tambong, J.T., Talbot, G., and Khan, I.U.H. (2014). "Draft genome sequence of *Arcobacter cibarius* Strain LMG21996{SUP}T{/SUP} isolated from broiler carcasses.", *Genome Announcements*, 2(1), pp. e00034-14. doi : 10.1128/genomeA.00034-14

Simmons, K., Rempel, H., Block, G.S., Forgetta, V., Vaillancourt Jr., R., Malouin, F., Topp, E., Delaquis, P.J., and Diarra, M.S. (2014). "Duplex PCR methods for the molecular detection of *Escherichia fergusonii* from broiler chickens.", *Applied and Environmental Microbiology*, 80(6), pp. 1941-1948. doi : 10.1128/AEM.04169-13

Rahube, T.O., Marti, R., Scott, A., Tien, Y.C., Murray, R.L., Sabourin, L., Zhang, Y., Duenk, P.W., Lapen, D.R., and Topp, E. (2014). "Impact of Fertilizing With Raw or Anaerobically-Digested Sewage Sludge on the Abundance of Antibiotic-Resistant Coliforms, Antibiotic Resistance Genes and Pathogenic Bacteria in Soil, and on Vegetables at Harvest.", *Applied and Environmental Microbiology*, 80(22), pp. 6898-6907. doi : 10.1128/AEM.02389-14

Diarra, M.S., Delaquis, P.J., Rempel, H., Bach, S.J., Harlton, C.E., Aslam, M.N., Pritchard, J., and Topp, E. (2014). "Antibiotic resistance and diversity of *Salmonella enterica* serovars associated with broiler chickens.", *Journal of Food Protection*, 77(1), pp. 40-49. doi : 10.4315/0362-028.JFP-13-251

Sunohara, M., Craiovan, E., Topp, E., Gottschall, N., Drury, C.F., and Lapen, D.R. (2014). "Comprehensive Nitrogen Budgets for Corn and Soybean Fields Under Controlled Tile Drainage for Wetter and Drier Cropping Seasons.", *Journal of Environmental Quality*, 43(2), pp. 617-630. doi : 10.2134/jeq2013.04.0117

Macherius, A., Lapen, D.R., Reemtsma, T., Römbke, J., Topp, E., and Coors, A. (2014). "Triclocarban, triclosan and its transformation product methyl triclosan in native earthworm species four years after a commercial-scale biosolids application.", *Science of the Total Environment*, 472, pp. 235-238. doi : 10.1016/j.scitotenv.2013.10.113

Martin-Laurent, F., Marti, R., Waglechner, N., Wright, G.D., and Topp, E. (2014). "Draft genome sequence of the sulfonamide antibiotic-degrading *Microbacterium* sp. Strain C448. *Genome Announcements*", *Genome Announcements*, 2(1), pp. e01113-13. doi : 10.1128/genomeA.01113-13

Frey, S.K., Gottschall, N., Wilkes, G.A., Gregoire, D., Topp, E., Pintar, K.D.M., Sunohara, M.D., Romain, M., and Lapen, D.R. (2014). "Rainfall-Induced Runoff From Exposed Streambed Sediments: An Important Source of Water Pollution.", *Journal of Environmental Quality*, 44(1), pp. 236-247. doi : 10.1234/jeq2014.03.0122

McKellar, R.C., Pérez Rodriguez, F., Harris, L.J., Moyne, A.-L., Blais, B., Topp, E., Bezanson, G.S., Bach, S.J., and Delaquis, P.J. (2014). "Evaluation of different approaches for modeling *Escherichia coli* O157:H7 survival on field lettuce.", *International Journal of Food Microbiology*, 184, pp. 74-85. doi : 10.1016/j.ijfoodmicro.2014.04.026

Khan, I.U.H., Gannon, V.P.J., Jokinen, C.C., Kent, R., Koning, W., Lapen, D.R., Medeiros, D.T., Miller, J.J., Neumann, N.F., Phillips, R., Schreier, H., Topp, E., van Bochove, É., Wilkes, G.A., and Edge, T.A. (2014). "A National Investigation of the Prevalence and Diversity of Thermophilic *Campylobacter* Species in Agricultural Watersheds in Canada", *Water Research*, 61, pp. 243-252. doi : 10.1016/j.watres.2014.05.027

## 2013

Gaze, W.H., Krone, S.M., Larsson, D.G.J., Li, X.-Z., Robinson, J.A., Simonet, P., Smalla, K., Timinouni, M., Topp, E., Wellington, E.M.H., Wright, G.D., and Zhu, Y.-G. (2013). "Influence of humans on evolution and mobilization of environmental antibiotic resistome.", *Emerging Infectious Diseases*, 19(7). doi : 10.3201/eid1907.120871

Gottschall, N., Topp, E., Edwards, M., Payne, M., Kleywegt, S., Russell, P., and Lapen, D.R. (2013). "Hormones, sterols, and fecal indicator bacteria in groundwater, soil, and subsurface drainage following a high single application of municipal biosolids to a field.", *Chemosphere*, 91(3), pp. 275-286. doi : 10.1016/j.chemosphere.2012.10.108

Wilkes, G.A., Ruecker, N.J., Neumann, N.F., Gannon, V.P.J., Jokinen, C.C., Sunohara, M., Topp, E., Pintar, K.D.M., Edge, T.A., and Lapen, D.R. (2013). "Spatiotemporal Analysis of *Cryptosporidium* Species/Genotypes and Relationships with Other Zoonotic Pathogens in Surface Water from Mixed use Watersheds.", *Applied and Environmental Microbiology*, 79(2), pp. 434-448. doi : 10.1128/AEM.01924-12

Li, H., Sumarah, M.W., and Topp, E. (2013). "Persistence of the tricyclic antidepressant drugs amitriptyline and nortriptyline in agriculture soils.", *Environmental Toxicology and Chemistry*, 32(3), pp. 509-516. doi : 10.1002/etc.2112

Frey, S.K., Topp, E., Edge, T.A., Fall, C., Gannon, V.P.J., Jokinen, C.C., Marti, R., Neumann, N.F., Ruecker, N.J., Wilkes, G.A., and Lapen, D.R. (2013). "Using SWAT, Bacteroidales microbial source tracking markers, and fecal indicator bacteria to predict waterborne pathogen occurrence in an agricultural watershed.", *Water Research*, 47(16), pp. 6326-6337. doi : 10.1016/j.watres.2013.08.010

Ruecker, N.J., Matsune, J.C., Lapen, D.R., Topp, E., Edge, T.A., and Neumann, N.F. (2013). "The detection of *Cryptosporidium* and the resolution of mixtures of species and genotypes from water.", *Infection, Genetics and Evolution*, 15, pp. 3-9. doi : 10.1016/j.meegid.2012.09.009

Parmley, E.J., Pintar, K.D.M., Majowicz, S.E., Avery, B., Cook, A., Jokinen, C.C., Gannon, V.P.J., Lapen, D.R., Topp, E., Edge, T.A., Gilmour, M., Pollari, F., Reid-Smith, R., and Irwin, R. (2013). "A Canadian Application of One Health: Integration of *Salmonella* Data from Various Canadian Surveillance Programs (2005–2010).", *Foodborne Pathogens and Disease*, 10, pp. 747-756. doi : 10.1089/fpd.2012.1438

Barret, M., Gagnon, N., Kalmokoff, M.L., Topp, E., Verastegui, Y., Brooks, S.P.J., Matias, F., Neufeld, J.D., and Talbot, G. (2013). "Identification of *Methanococcus* spp. as active methanogens during anoxic incubations of swine manure storage tank samples.", *Applied and Environmental Microbiology*, 79(2), pp. 424-433. doi : 10.1128/AEM.02268-12

Pariseau, É., Massé, D.I., Masse, L., Topp, E., Burrus, V., and Malouin, F. (2013). "Coagulation–flocculation pre-treatment of surface water used on dairy farms and evaluation of bacterial viability and gene transfer in treatment sludge.", *Water Quality Research Journal of Canada*, 48(2), pp. 111-120. doi : 10.2166/wqjrc.2013.140

Barret, M., Gagnon, N., Topp, E., Masse, L., Massé, D.I., and Talbot, G. (2013). "Physico-chemical characteristics and methanogen communities in swine and dairy manure storage tanks: Spatio-temporal variations and impact on methanogenic activity.", *Water Research*, 47(2), pp. 737-746. doi : 10.1016/j.watres.2012.10.047

Nangia, V., Sunohara, M., Topp, E., Gregorich, E.G., Drury, C.F., Gottschall, N., and Lapen, D.R. (2013). "Measuring and Modeling the Effects of Drainage Water Management on Soil Greenhouse Gas Fluxes from Corn and Soybean Fields.", *Journal of Environmental Management*, 129, pp. 652-664. doi : 10.1016/j.jenvman.2013.05.040

Li, H., Sumarah, M.W., and Topp, E. (2013). "Persistence and dissipation pathways of the antidepressant sertraline in agricultural soils.", *Science of the Total Environment*, 452-453, pp. 296-301. doi : 10.1016/j.scitotenv.2013.02.080

- Metcalfe, C.D., Kleywegt, S., Letcher, R.J., Topp, E., Wagh, P., Trudeau, V.L., and Moon, T.W. (2013). "A multi-assay screening approach for assessment of endocrine-active contaminants in wastewater effluent samples.", *Science of the Total Environment*, 454-455, pp. 132-140. doi: 10.1016/j.scitotenv.2013.02.074
- Merkx-Jacques, A., Coors, A., Brousseau, R., Masson, L., Mazza, A., Tien, Y.C., and Topp, E. (2013). "Evaluating the pathogenic potential of environmental *Escherichia coli* by using the *Caenorhabditis elegans* infection model.", *Applied and Environmental Microbiology*, 79(7), pp. 2435-2445. doi: 10.1128/aem.03501-12
- Schmidt, P.J., Pintar, K.D.M., Fazil, A.M., Flemming, C.A., Lanthier, M., Laprade, N., Sunohara, M., Simhon, A., Thomas, J.L., Wilkes, G.A., Topp, E., and Lapen, D.R. (2013). "Using *Campylobacter* spp. and *E. coli* Data and Bayesian Microbial Risk Assessment to Examine Public Health Risks in Agricultural Watersheds under Tile Drainage Management.", *Water Research*, 47(10), pp. 3255-3272. doi: 10.1016/j.watres.2013.02.002
- Schmidt, P.J., Pintar, K.D.M., Fazil, A.M., and Topp, E. (2013). "Harnessing the Theoretical Foundations of the Exponential and Beta-Poisson Dose-Response Models to Quantify Parameter Uncertainty Using Markov Chain Monte Carlo.", *Risk Analysis*. doi: 10.1111/risa.12006
- Marti, R., Zhang, Y., Tien, Y.C., Lapen, D.R., and Topp, E. (2013). "Assessment of a new Bacteroidales marker targeting North American Beaver (*Castor Canadensis*) fecal pollution by real-time PCR.", *Journal of Microbiological Methods*, 95(2), pp. 201-206. doi: 10.1016/j.mimet.2013.08.016
- Frey, S.K., Topp, E., Ball Coelho, B.R., Edwards, M., Gottschall, N., Sunohara, M., Zoski, E.D., and Lapen, D.R. (2013). "Tile drainage management influences on surface-water and groundwater quality following liquid manure application.", *Journal of Environmental Quality*, 42, pp. 881-892.
- Marti, R., Gannon, V.P.J., Jokinen, C.C., Lanthier, M., Lapen, D.R., Neumann, N.F., Ruecker, N.J., Scott, A., Wilkes, G.A., Zhang, Y., and Topp, E. (2013). "Quantitative multi-year elucidation of fecal sources of waterborne pathogen contamination in the South Nation River basin using Bacteroidales microbial source tracking markers.", *Water Research*, 47(7), pp. 2315-2324. doi: 10.1016/j.watres.2013.02.009
- Topp, E., Chapman, R.A., Devers-Lamrani, M., Hartmann, A., Marti, R., Martin-Laurent, F., Sabourin, L., Scott, A., and Sumarah, M.W. (2013). "Accelerated Biodegradation of Veterinary Antibiotics in Agricultural Soil following Long-Term Exposure, and Isolation of a Sulfamethazine-degrading *Microbacterium* sp.", *Journal of Environmental Quality*, 42(1), pp. 173-178. doi: 10.2134/jeq2012.0162
- Marti, R., Scott, A., Tien, Y.C., Murray, R.L., Sabourin, L., Zhang, Y., and Topp, E. (2013). "Impact of manure fertilization on the abundance of antibiotic-resistant bacteria and frequency of detection of antibiotic resistance genes in soil, and on vegetables at harvest.", *Applied and Environmental Microbiology*, 79, pp. 5701-5709. doi: 10.1128/AEM.01682-13
- Alexander, T.W., Cook, S.R., Klima, C.L., Topp, E., and McAllister, T.A. (2013). "Susceptibility to tulathromycin in *Mannheimia haemolytica* isolated from feedlot cattle over a three-year period.", *Frontiers in Microbiology*, 4(297). doi: 10.3389/fmicb.2013.00297
- Wilkes, G.A., Brassard, J., Edge, T.A., Gannon, V.P.J., Jokinen, C.C., Jones, T.H., Neumann, N.F., Pintar, K.D.M., Ruecker, N.J., Schmidt, P.J., Sunohara, M., Topp, E., and Lapen, D.R. (2013). "Bacteria, viruses, and parasites in an intermittent stream protected from and exposed to pasturing cattle: prevalence, densities, and quantitative microbial risk assessment.", *Water Research*, 47(16), pp. 6244-6257.
- Wilkes, G.A., Brassard, J., Edge, T.A., Gannon, V.P.J., Jokinen, C.C., Jones, T.H., Marti, R., Neumann, N.F., Ruecker, N.J., Sunohara, M., Topp, E., and Lapen, D.R. (2013). "Coherence among different microbial source tracking markers in a small agricultural stream with and without livestock exclusion practices.", *Applied and Environmental Microbiology*, 79(20), pp. 6207-6219. doi: 10.1128/AEM.01626-13
- Ashbolt, N.J., Aamézquita, A., Backhaus, T., Borriello, P., Brandt, K.K., Collignon, P., Coors, A., Finley, R.L., Gaze, W.H., Heberer, T., Lawrence, J.R., Larsson, D.G.J., McEwen, S.A., Ryan, J.J., Schönfeld, J., Silley, P., Snape, J.R., Van den Eede, C., and Topp, E. (2013). "Human health risk assessment (HHRA) for environmental development and transfer of antibiotic resistance.", *Environmental Health Perspectives*, 121(9), pp. 993-1001. doi: 10.1289/ehp.1206316
- Pruden, A., Larsson, D.G.J., Aamézquita, A., Collignon, P., Brandt, K.K., Graham, D.W., Lazorchak, J.R., Suzuki, S., Silley, P., Snape, J.R., Topp, E., Zhao, T., and Zhu, Y.-G. (2013). "Management options for reducing the release of antibiotics and antibiotic resistance genes to the environment.", *Environmental Health Perspectives*, 121, pp. 878-885. doi: 10.1289/ehp.1206446
- Finley, R.L., Collignon, P., Larsson, D.G.J., McEwen, S.A., Li, X.-Z., Gaze, W.H., Reid-Smith, R., Timinouni, M., Topp, E., and Graham, D.W. (2013). "The scourge of antibiotic resistance: the important role of the environment.", *Clinical Infectious Diseases*, 57(5), pp. 704-710. doi: 10.1093/cid/cit355
- Zaheer, R., Cook, S.R., Klima, C.L., Stanford, K.I.M., Topp, E., Read, R.R., and McAllister, T.A. (2013). "Effects of subtherapeutic vs therapeutic administration of macrolides on antimicrobial resistance in *Mannheimia haemolytica* and *Enterococci* isolated from beef cattle.", *BMC Biochemistry*, 4(article 133). doi: 10.3389/fmicb.2013.00133

- Jokinen, C.C., Koot, J.M., Carrillo, C.D., Gannon, V.P.J., Jardine, C.M., Mutschall, S.K., Topp, E., and Taboada, E.N. (2012). "An enhanced technique combining pre-enrichment and passive filtration increases the isolation efficiency of *Campylobacter jejuni* and *Campylobacter coli* from water and animal fecal samples.", *Journal of Microbiological Methods*, 91(3), pp. 506-513. doi: 10.1016/j.mimet.2012.09.005
- Vuong, N.-M., Villemur, R., Payment, P., Brousseau, R., Topp, E., and Masson, L. (2012). "Fecal source tracking in water using a mitochondrial DNA microarray.", *Water Research*, 47(1), pp. 16-30. doi: 10.1016/j.watres.2012.09.011
- Bezanson, G.S., Delaquis, P.J., Bach, S.J., McKellar, R., Topp, E., Gill, A.O., Blais, B., and Gilmour, M. (2012). "Comparative Examination of *Escherichia coli* O157:H7 Survival on Romaine Lettuce and in Soil at Two Independent Experimental Sites.", *Journal of Food Protection*, 75(3), pp. 480-487. doi: 10.4315/0362-028X.JFP-11-306
- Topp, E., Sumarah, M.W., and Sabourin, L. (2012). "The antihistamine diphenhydramine is extremely persistent in agricultural soil.", *Science of the Total Environment*, 439(15 November 2012), pp. 136-140. doi: 10.1016/j.scitotenv.2012.09.033
- McAllister, T.A. and Topp, E. (2012). "Role of livestock in microbiological contamination of water: Commonly the blame, but not always the source.", *Animal Frontiers*, 2(2), pp. 17-27. doi: 10.2527/af.2012-0039
- Vela, J., Hildebrandt, K., Metcalfe, A., Rempel, H., Bittman, S., Topp, E., and Diarra, M.S. (2012). "Characterization of *Staphylococcus xylosum* isolated from broiler chicken barn bioaerosol.", *Poultry Science*, 91(12), pp. 3003-3012. doi: 10.3382/ps.2012-02302
- Boxall, A.B.A., Topp, E., Rudd, M.A., Brooks, B.W., Caldwell, D.J., Choi, K., Hickmann, S., Innes, E., Ostapyk, K., Staveley, J.P., Verslycke, T., Ankley, G.T., Beazley, K.F., Bélanger, S.E., Berninger, J.P., Carriquiriborde, P., Coors, A., DeLeo, P.C., Dyer, S.D., Ericson, J.F., Gagné, F., Giesy, J.P., Gouin, T., Hallstrom, L., Karlsson, M.V., Larsson, D.G.J., Lazorchak, J.R., Mastrocco, F., McLaughlin, A., McMaster, M.E., Meyerhoff, R.D., Moore, R., Parrott, J., Snape, J.R., Murray-Smith, R., Servos, M., Sibley, P.K., Straub, J.O., Szabo, N.D., Tetreault, G.R., Trudeau, V.L., and Van Der Kraak, G. (2012). "Pharmaceuticals and Personal Care Products in the Environment: What Are the Big Questions?", *Environmental Health Perspectives*, 120(9), pp. 1221-1229. doi: 10.1289/ehp.1104477
- Merchant, L.E., Rempel, H., Forge, T.A., Kannangara, T., Bittman, S., Delaquis, P.J., Topp, E., Ziebell, K.A., and Diarra, M.S. (2012). "Characterization of antibiotic-resistant and potentially pathogenic *Escherichia coli* from soil fertilized with litter of broiler chickens fed antimicrobial-supplemented diets.", *Canadian Journal of Microbiology*, 58(9), pp. 1084-1098. doi: 10.1139/W2012-082
- Ruecker, N.J., Matsune, J.C., Wilkes, G.A., Lapen, D.R., Topp, E., Edge, T.A., Sænsen, C.W., Xiao, L., and Neumann, N.F. (2012). "Molecular and phylogenetic approaches for assessing sources of *Cryptosporidium* contamination in water.", *Water Research*, 46(16), pp. 5135-5150. doi: 10.1016/j.watres.2012.06.045
- Sabourin, L., Duenk, P.W., Bonte-Gelok, S., Payne, M., Lapen, D.R., and Topp, E. (2012). "Uptake of pharmaceuticals, hormones and parabens into vegetables grown in soil fertilized with municipal biosolids.", *Science of the Total Environment*, 431, pp. 233-236. doi: 10.1016/j.scitotenv.2012.05.017
- Lyautey, E., Hartmann, A., Lapen, D.R., and Topp, E. (2012). "A comparison of enrichment and direct plating methods for isolation of *Listeria monocytogenes* from surface water.", *Canadian Journal of Microbiology*, 58(12), pp. 1405-1410. doi: 10.1139/cjm-2012-0418
- Zaheer, R., Yanke, L.J., Church, D., Topp, E., Read, R.R., and McAllister, T.A. (2012). "High-throughput species identification of enterococci using pyrosequencing.", *Journal of Microbiological Methods*, 89(3), pp. 174-178. doi: 10.1016/j.mimet.2012.03.012
- Edge, T.A., El-Shaarawi, A., Gannon, V.P.J., Jokinen, C.C., Kent, R., Khan, I.U.H., Koning, W., Lapen, D.R., Miller, J.J., Neumann, N.F., Phillips, R., Robertson, W.J., Schreier, H., Scott, A., Shtepani, I., Topp, E., Wilkes, G.A., and van Bochove, É. (2012). "Investigation of an *Escherichia coli* Environmental Benchmark for Waterborne Pathogens in Agricultural Watersheds in Canada.", *Journal of Environmental Quality*, 41(1), pp. 21-30. doi: 10.2134/jeq2010.0253
- Lawrence, J.R., Zhu, B., Swerhone, G.D.W., Roy, J., Tumber, V., Waiser, M.J., Topp, E., and Korber, D.R. (2012). "Molecular and microscopic assessment of the effects of caffeine, acetaminophen, diclofenac, and their mixtures on river biofilm communities.", *Environmental Toxicology and Chemistry*, 31(3), pp. 508-517. doi: 10.1002/etc.1723
- Ball Coelho, B.R., Lapen, D.R., Murray, R.L., Topp, E., Bruin, A.J., and Khan, B. (2012). "Nitrogen loading to offsite waters from liquid swine manure application under different drainage and tillage practices.", *Agricultural Water Management*, 104, pp. 40-50. doi: 10.1016/j.agwat.2011.11.014
- Gottschall, N., Topp, E., Metcalfe, C.D., Edwards, M., Payne, M., Kleywegt, S., Russell, P., and Lapen, D.R. (2012). "Pharmaceutical and personal care products in groundwater, subsurface drainage, soil, and wheat grain, following a high single application of municipal biosolids to a field.", *Chemosphere*, 87(2), pp. 194-203. doi: 10.1016/j.chemosphere.2011.12.018

Forgetta, V., Rempel, H., Malouin, F., Vaillancourt Jr., R., Topp, E., Dewar, K., and Diarra, M.S. (2012). "Pathogenic and multidrug-resistant *Escherichia fergusonii* from broiler chicken.", *Poultry Science*, 91(2), pp. 512-525. doi : 10.3382/ps.2011-01738

Jokinen, C.C., Edge, T.A., Koning, W., Laing, C.R., Lapen, D.R., Miller, J.J., Mutschall, S.K., Scott, A., Taboada, E.N., Thomas, J.E., Topp, E., Wilkes, G.A., and Gannon, V.P.J. (2012). "Spatial and Temporal Drivers of Zoonotic Pathogen Contamination of an Agricultural Watershed.", *Journal of Environmental Quality*, 41(1), pp. 242-252. doi : 10.2134/jeq2011.0203

Barret, M., Gagnon, N., Morissette, B., Topp, E., Kalmokoff, M.L., Brooks, S.P.J., Matias, F., Massé, D.I., Masse, L., and Talbot, G. (2012). "Methanoculleus spp. as a biomarker of methanogenic activity in swine manure storage tanks.", *FEMS Microbiology Ecology*, 80(2), pp. 427-440. doi : 10.1111/j.1574-6941.2012.01308.x

Sunohara, M., Topp, E., Wilkes, G.A., Gottschall, N., Neumann, N.F., Ruecker, N.J., Jones, T.H., Edge, T.A., Marti, R., and Lapen, D.R. (2012). "Impact of Riparian Zone Protection From Cattle on Nutrient, Bacteria, F5 coliphage, Cryptosporidium, and Giardia Loading of an Intermittent Stream.", *Journal of Environmental Quality*, 41(4), pp. 1301-1314. doi : 10.2134/jeq2011.0407

2011

Champagne, J., Diarra, M.S., Rempel, H., Topp, E., Greer, C.W., Harel, J., and Masson, L. (2011). "Development of a DNA Microarray for Enterococcal Species, Virulence, and Antibiotic Resistance Gene Determinations among Isolates from Poultry.", *Applied and Environmental Microbiology*, 77(8), pp. 2625-2633. doi : 10.1128/AEM.00263-11

Cessna, A.J., Lamey, F.J., Kuchta, S.L., Hao, X., Entz, T., Topp, E., and McAllister, T.A. (2011). "Veterinary antimicrobials in feedlot manure: dissipation during composting, effects on composting processes and extent in ground water.", *Journal of Environmental Quality*, 40(1), pp. 188-198. doi : 10.2134/jeq2010.0079

Sharma, R., Ryan, K., Hao, X., Lamey, F.J., McAllister, T.A., and Topp, E. (2011). "Real-time quantification of *mcrA*, *pmoA* for methanogen, methanotroph estimations during composting.", *Journal of Environmental Quality*, 40(1), pp. 199-205. doi : 10.2134/jeq2010.0088

Mirzaagha, P., Louie, M., Sharma, R., Yanke, L.J., Topp, E., and McAllister, T.A. (2011). "Distribution and characterization of ampicillin and tetracycline-resistant *Escherichia coli* from feedlot cattle fed subtherapeutic antimicrobials.", *BMC Microbiology*, 11:78. doi : 10.1186/1471-2180-11-78

Su, R., Munns, K., Beauchemin, K.A., Schwartzkopf-Genswein, K.S.G., Jin-Quan, L., Topp, E., and Sharma, R. (2011). "Effect of backgrounding and transition diets on fecal concentration and strain types of commensal *Escherichia coli* in beef cattle.", *Canadian Journal of Animal Science*, 91(3), pp. 449-458. doi : 10.4141/cjas2010-034

Wilkes, G.A., Edge, T.A., Gannon, V.P.J., Jokinen, C.C., Lyautey, E., Neumann, N.F., Ruecker, N.J., Scott, A., Sunohara, M., Topp, E., and Lapen, D.R. (2011). "Associations among Pathogenic Bacteria, Parasites, and Environmental and Land use Factors in Multiple Mixed-Use Watersheds, Eastern Ontario Canada.", *Water Research*, 45(18), pp. 5807-5825. doi : 10.1016/j.watres.2011.06.021

Gagnon, N., Barret, M., Topp, E., Kalmokoff, M.L., Massé, D.I., Masse, L., and Talbot, G. (2011). "A novel fingerprinting technology to assess the diversity of methanogens.", *FEMS Microbiology Letters*, 325(2), pp. 115-122. doi : 10.1111/j.1574-6968.2011.02418.x

Jokinen, C.C., Edge, T.A., Ho, S., Koning, W., Laing, C.R., Mauro, W., Medeiros, D.T., Miller, J.J., Robertson, W.M., Taboada, E.N., Thomas, J.E., Topp, E., Ziebell, K.A., and Gannon, V.P.J. (2011). "Molecular subtypes of *Campylobacter* spp., *Salmonella enterica*, and *Escherichia coli* O157:H7 isolated from faecal and surface water samples in the Oldman River watershed, Alberta, Canada.", *Water Research*, 45(3), pp. 1247-1257. doi : 10.1016/j.watres.2010.10.001

Kalmokoff, M.L., Waddington, L.M., Thomas, M., Liang, K.-L., Ma, C., Topp, E., Desranleau Dandurand, U., Letellier, A., Matias, F., and Brooks, S.P.J. (2011). "Continuous feeding of antimicrobial growth promoters to commercial swine during the growing/finishing phase does not modify faecal community erythromycin resistance or community structure.", *Journal of Applied Microbiology*, 110(6), pp. 1414-1425. doi : 10.1111/j.1365-2672.2011.04992.x

Edwards, M., Topp, E., Bolton, P., and Lapen, D.R. (2011). "Practical considerations optically sensing rhodamine WT in water impacted by municipal biosolids.", *Environmental Monitoring and Assessment*, 173(1-4), pp. 37-44. doi : 10.1007/s10661-010-1368-9

Marti, R., Zhang, Y., Lapen, D.R., and Topp, E. (2011). "Development and validation of a microbial source tracking marker for the detection of fecal pollution by muskrats.", *Journal of Microbiological Methods*, 87(1), pp. 82-88. doi : 10.1016/j.mimet.2011.07.013

Lamey, F.J., Hao, X., and Topp, E. (2011). "Manure Management", in Hatfield, J.L. and Sauer, T.J. (eds.) - *Soil Management: Building a Stable Base for Agriculture*, Soil Science Society of America (SSSA), Chapter 16, pp. 247-263.

Ball Coelho, B.R., Murray, R.L., Lapen, D.R., Topp, E., and Bruin, A.J. (2011). "Phosphorus and sediment loading to surface waters from liquid swine manure application under different drainage and tillage practices.", *Agricultural Water Management*, 104, pp. 51-61. doi : 10.1016/j.agwat.2011.10.020



Lanthier, M., Scott, A., Cloutier, M., Durie, D., Henderson, V.C., Wilkes, G.A., Lapen, D.R., and Topp, E. (2011). "Distribution of selected virulence genes and antibiotic resistance in *Enterococcus* species isolated from the South Nation River drainage basin, Ontario, Canada.", *Journal of Applied Microbiology*, 110(2), pp. 407-421. doi : 10.1111/j.1365-2672.2010.04893.x

Alexander, T.W., Yanke, L.J., Reuter, T.R., Topp, E., Read, R.R., Selinger, L.B., and McAllister, T.A. (2011). "Longitudinal characterization of antimicrobial resistance genes in feces shed from cattle fed different subtherapeutic antibiotics.", *BMC Microbiology*, 11:19. doi : 10.1186/1471-2180-11-19

Sabourin, L., Al-Rajab, A.J., Chapman, R.A., Lapen, D.R., and Topp, E. (2011). "Fate of the antifungal drug clotrimazole in agricultural soil.", *Environmental Toxicology and Chemistry*, 30(3), pp. 582-587. doi : 10.1002/etc.432

Massé, D.I., Gilbert, Y., and Topp, E. (2011). "Pathogen removal in farm-scale psychrophilic anaerobic digesters processing swine manure.", *Bioresource Technology*, 102(2), pp. 641-646. doi : 10.1016/j.biortech.2010.08.020

Lyautey, E., Wilkes, G.A., Miller, J.J., van Bochove, É., Schreier, H., Koning, W., Edge, T.A., Lapen, D.R., and Topp, E. (2011). "Variation of an indicator of *Escherichia coli* persistence from surface waters of mixed-use watersheds, and relationship with population density and other factors.", *Annales de Limnologie - International Journal of Limnology*, 47(1), pp. 1-9. doi : 10.1051/limn/2010033

Chen, B., Zheng, W., Yu, Y., Huang, W., Zheng, S., Zhang, Y., Guan, X., Zhuang, Y., Chen, N., and Topp, E. (2011). "Class 1 Integrons, Selected Virulence Genes, and Antibiotic Resistance in *Escherichia coli* Isolated.", *Applied and Environmental Microbiology*, 77(1), pp. 148-155. doi : 10.1128/AEM.01676-10

Massé, D.I., Masse, L., Topp, E., Séguin, G., Ortega, L.M., Scott, A., and Pariseau, É. (2011). "Maintenance strategies for on-site water disinfection by ultraviolet lamps on dairy farms.", *Water Quality Research Journal of Canada*, 46(1), pp. 2-12. doi : 10.2166/wqrj.2011.014

## Other Science Related Publications:

2015

Lévesque, C.A., Chen, W., Hambleton, S., Seifert, K.A., Adam, Z., Bilodeau, G.J., Cullis, J., Demeke, T., Dumonceaux, T.J., Gagnon, M., Graefenhan, T., Kawchuk, L.M., Khan, I.U.H., Lewis, C.T., Li, X., Links, M.G., Mimee, B., Rott, M., Tambong, J.T., Topp, E., Yu, Q., and Yuan, K. (2015). Project CRTI 09-462RD - Next generation sequencing, direct detection and genotyping of fungi, bacteria and nematodes in the agri-food system. DRDC-RDDC-2015-C148. Final Close-Out Report. (Report)

Kolotilin, I., Topp, E., Cox, E., Devriendt, B., Conrad, U., Joensuu, J.J., Stöger, E., Warzecha, H., McAllister, T.A., McLean, M.D., Hall, J.C., and Menassa, R. (2015). "Plant-based solutions for veterinary immunotherapeutics and prophylactics.", *BMC Veterinary Research*, 45(1), pp. 375. (Abstract)

2014

Barret, M., Auffret, M., Gagnon, N., Topp, E., Masse, L., Massé, D.I., and Talbot, G. (2014). "Influence of seasonal temperature variation on methanogen communities and methanogenesis in manure storage tanks.", XVth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada. (Poster)

Edge, T.A., Hill, S., Khan, I.U.H., Gannon, V.P.J., Crane, C., Collins, H.M., Johnson, R., Topp, E., and Roberts, C. (2014). "Microbial source tracking of pathogen and fecal pollution in shellfish harvesting areas in Atlantic Canada.", XVth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada, July 27-August 1, 2014.

Khan, I.U.H., Cloutier, M., Topp, E., Lapen, D.R., Lévesque, C.A., Edge, T.A., Tambong, J.T., Talbot, G., and Wilkes, G.A. (2014). "Quantitative Detection and Identification of *Arcobacter*, *Campylobacter* and *Helicobacter* Species in a Canadian Agricultural Watershed.", XVth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada, July 27-August 1, 2014.

Nadya, S., Allen, K.J., Johnson, R.P., Ziebell, K.A., Topp, E., Delaquis, P.J., and Bach, S.J. (2014). "A comparison of the presence of total *Escherichia coli* and Shiga-toxigenic *E. coli* in irrigation waters from an intensive agricultural region.", United Fresh 2014, Chicago, IL, USA, June 10-14, 2014, Abstract. (Poster)

McKellar, R.C., Pérez Rodríguez, F., Harris, L.J., Moyne, A.-L., Blais, B., Topp, E., Bezanson, G.S., Bach, S.J., and Delaquis, P.J. (2014). "Evaluation of mathematical models to describe *Escherichia coli* O157:H7 decay on field-grown leafy vegetables.", Annual Meeting of the International Association for Food Protection (IAFP), Indianapolis, USA, August 3-6, 2014, Oral presentation. (Abstract)

Diarra, M.S., Diarrassouba, F., Proudfoot, J., Rempel, H., Topp, E., and Prichard, J. (2014). "Fate of antibiotic resistant enterococci during broiler chicken production.", 54th Annual Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC) of American Society for Microbiology, Washington DC, USA, September 5-9, 2014.

Alexander, T.W., McAllister, T.A., Stanford, K.I.M., Reuter, T.R., and Topp, E. (2014). "Characterization of Shiga toxin-producing *Escherichia coli* isolated from feces of cattle in commercial feedlots.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.

Hartmann, A. and Topp, E. (2014). "Gènes de résistance aux antibiotiques dans les effluents d'origine agricole ou urbaine. Anses - Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail.", Bulletin de veille scientifique n° 25, Santé / Environnement / Travail, Décembre 2014, pp. 30-34.

2013

Simmons, K., Rempel, H., Block, G.S., Topp, E., and Diarra, M.S. (2013). "Antimicrobial resistance in *Escherichia fergusonii* isolated from commercial broiler chickens.", 53rd Annual Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC) of American Society for Microbiology, Denver, Colorado, USA, September 10-13, 2013, #1561. (Poster)

Whiteduck-Leveillee, K., Laprade, N., Whiteduck-Leveillee, J., Topp, E., Kaneza, C.A., Lapen, D.R., Tambong, J.T., Guylaine, T., Wilkes, G.A., and Khan, I.U.H. (2013). "Antimicrobial resistance profiling of *Arcobacter butzleri* isolated from a Canadian agricultural watershed.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.

Laprade, N., Whiteduck-Leveillee, J., Whiteduck-Leveillee, K., Cloutier, M., Tambong, J.T., Topp, E., Lapen, D.R., Wilkes, G.A., and Khan, I.U.H. (2013). "Detection of virulence, toxin and tet(O) resistant genes in thermophilic *Campylobacter* species using multiplex PCR assays.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.

Kaneza, C.A., Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Identification and detection of *Arcobacter* spp. From water and fecal matter using genus- and species-specific PCR assays.", La Cité Collégiale, Ottawa, ON, Canada, April 26, 2013.

Talbot, G., Barret, M., Gagnon, N., and Topp, E. (2013). "Use of specific methanogen inhibitors and molecular analyses to elucidate biochemical pathways of methanogenesis in swine manure.", 63rd Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013. (Abstract)

Delaquis, P.J., Bach, S.J., McKellar, R., Bezanson, G.S., and Topp, E. (2013). "Survival of six Shiga-toxigenic *Escherichia coli* serotypes in field lettuce.", 58th Annual Meeting of the International Association of Food Protection (IAFP 2013), Charlotte Convention Center, Charlotte, NC, USA, July 28-31, 2013. (Poster)

Kaneza, C.A., Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Identification and detection of *Arcobacter* spp. from water and fecal matter using genus- and species-specific PCR assays.", La Cité Collégiale, Ottawa, ON, Canada, April 26, 2013. (Poster)

Whiteduck-Leveillee, K., Whiteduck-Leveillee, J., Kaneza, C.A., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Development of genus-specific PCR assay for rapid identification of *Arcobacter* species: Optimization of PCR Primers and Conditions, and Restriction Pattern Analysis.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.

Whiteduck-Leveillee, J., Whiteduck-Leveillee, K., Kaneza, C.A., Cloutier, M., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Multiplex PCR assay for the detection and identification of virulent genes in *Arcobacter* species.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.

Khan, I.U.H., Cloutier, M., Edge, T.A., Schellhorn, H.E., Gupta, R.S., Laprade, N., Topp, E., Guylaine, T., Lapen, D.R., Tambong, J.T., Wilkes, G.A., Nowak, E.K., and Hill, S. (2013). "A comparative study on the prevalence of thermophilic *Campylobacter* spp. in agricultural and recreational waters.", Canadian Society of Microbiologists (CSM) 63rd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Ottawa, ON, Canada, June 17-20, 2013.

Léveillé, W.J., Kaneza, C.A., Léveillé, K., Talbot, G., Topp, E., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Optimization of a genus-specific PCR assay and restriction fragment length polymorphism (RFLP) analysis for rapid detection.", 63rd Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013, Abstract AE88.

Fung, S., Rempel, H., Forgetta, V., Dewar, K., Topp, E., and Diarra, M.S. (2013). "Ceca Microbiome of Mature Broiler Chickens Fed with or without Salinomycin.", Keystone Symposium: The Gut Microbiome: The Effector/Regulatory Immune Network (B3), Taos, NM, USA, February 10-15, 2013.

Simmons, K., Rempel, H., Block, G.S., Delaquis, P.J., Topp, E., and Diarra, M.S. (2013). "Identification and prevalence of *Escherichia fergusonii* in broiler chickens.", 102nd IAFP Meeting, Charlotte, North Carolina, USA, July 28-31, 2013.

Fung, S., Rempel, H., Forgetta, V., Dewar, K., Topp, E., and Diarra, M.S. (2013). "Ceca Microbiome of Mature Broiler Chickens Fed with or without Salinomycin.", Keystone Symposia: The Gut Microbiome: The Effector/Regulatory Immune Network (B3), Taos, New Mexico, USA, February 10-15, 2013.

Léveillé, W.J., Kaneza, C.A., Léveillé, K., Talbot, G., Topp, E., Lapen, D.R., Tambong, J.T., Lévesque, C.A., and Khan, I.U.H. (2013). "Optimization of multiplex PCR assays for the detection of virulence genes in *Arcobacter* species isolated from fecal samples.", 63rd Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013, Abstract AE86.

Léveillé, K., Laprade, N., Léveillé, W.J., Topp, E., Lapen, D.R., Tambong, J.T., Talbot, G., Wilkes, G.A., and Khan, I.U.H. (2013). "Antimicrobial resistance profiling of *Arcobacter butzleri* isolates from faecal sources and an agricultural watershed.", 63rd Annual Conference of the Canadian Society of Microbiologists, Carleton University, Ottawa, ON, Canada, June 17-20, 2013, Abstract AE87.

Simmons, K., Rempel, H., Block, G.S., Delaquis, P.J., Topp, E., and Diarra, M.S. (2013). "Identification and prevalence of *Escherichia fergusonii* in broiler chickens.", 58th Annual Meeting of the International Association of Food Protection (IAFP 2013), Charlotte Convention Center, Charlotte, NC, USA, July 28-31, 2013.

## 2012

Ruecker, N.J., Matsune, J.C., Lapen, D.R., Schreier, H., van Bochove, É., Koning, W., Edge, T.A., Topp, E., Sensen, C.W., Xiao, L., and Neumann, N.F. (2012). "Phylogenetic processes for analyzing the sequence diversity of *Cryptosporidium* from environmental samples used for source tracking.", American Water Works Association (AWWA) Water Quality Technology Conference and Exposition 2011, Phoenix Convention Center, Phoenix, Arizona, USA, November 13-17, 2011, pp. 2106-2117.

Topp, E. (2012). "Antibiotic resistance and the environment", Antibiotic Resistance, whose responsibility is it?, Annual Ontario Public Health Convention, Toronto, ON, Canada, April 4, 2012. (Presentation)

Marti, R., Fremaux, B., Edge, T.A., Topp, E., and Yost, C.K. (2012). "Les méthodes de typages des sources microbiennes au Canada.", *Revue Techniques - Sciences - Méthodes (TSM)*, 2012(3), pp. 65-79.

Diarra, M.S., Rempel, H., Bach, S.J., Harlton, C.E., Delaquis, P.J., Pritchard, J., Aslam, M.N., Leslie, M., and Topp, E. (2012). "Distribution of antibiotic resistance phenotypes and genotypes among *Salmonella* spp. Isolated from broiler chickens in British Columbia.", 101st Annual Meeting of the International Association of Food Protection (IAFP 2012), Rhode Island Convention Center, Providence, RI, USA, July 22-25, 2012, Poster ID# 2398. (Poster)

Diarra, M.S., Rempel, H., Champagne, J., Masson, L., and Topp, E. (2012). "Diversity of multiple antibiotic resistant enterococci from broiler chicken fed antimicrobial supplemented Diets.", 52nd Annual Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC) of American Society for Microbiology, San Francisco, CA, USA, September 9-12, 2012, Poster # 1914. (Poster)

Talbot, G., Barret, M., Gagnon, N., Kalmokoff, M.L., Topp, E., and Neufeld, J.D. (2012). "Methanoculleus spp. Are major contributors to methane emissions in swine and dairy manure storage tanks.", Canadian Society of Microbiologists (CSM) 62nd Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Vancouver, BC, Canada, June 20-23, 2012, Abstract AE076.

## 2011

Kalmokoff, M.L., Waddington, L.M., Thomas, M.B., Liang, K.-L., Ma, C., Topp, E., Desranleau Dandurand, U., Letellier, A., Matias, F., and Brooks, S.P.J. (2011). "Continuous feeding of antimicrobial growth promoters to commercial swine during the growing/finishing phase does not modify faecal community erythromycin resistance of community structure.", Joint UK-Canada gut health meeting, Guelph & St Hyacinthe, Canada, February, 2011. (Presentation)

Topp, E. (2011). "Antibiotic resistance and the environment", Canadian Rural Health Research Society Annual Conference, Vancouver, BC, Canada, October 20-22, 2011.

Talbot, G., Barret, M., Massé, D.I., Masse, L., Kalmokoff, M.L., and Topp, E. (2011). "Methanogenesis in dairy and swine production.", 1er Symposium du Centre de recherche et de développement sur le bovin laitier et le porc: Parlons science au CRDBLP! / 1st Symposium of the Dairy and Swine Research and Development Centre: Let's Talk Science at the DSRDC!, Sherbrooke, QC, Canada, June 7, 2011.

Topp, E. (2011). "Microbial Source Tracking for identifying sources of pollution and managing water quality.", Raisin River Source Water Protection Committee, Casselman, ON, Canada, January 27, 2011. (Presentation)

Jokinen, C.C., Mutschall, S.K., Ross, S.L., Buchanan, C., Kindt, A., Koning, W., Miller, J.J., Edge, T.A., Topp, E., Thomas, J.E., Gannon, V.P.J., and Taboada, E.N. (2011). "Application of comparative genomics-based genotyping to the molecular epidemiology of *Campylobacter jejuni* from the Oldman River watershed in southern Alberta, Canada.", 15th Annual Federal Food Safety and Nutrition Research Meeting (FFSNRM), Ottawa, ON, Canada, December 6, 2011. (Presentation)

Barret, M., Gagnon, N., Morissette, B., Topp, E., Massé, D.I., Masse, L., and Talbot, G. (2011). "Methanogenesis in Swine Manure Storage Tanks: Towards the Identification of the Active Microorganisms.", 111th General Meeting of American Society for Microbiology (ASM2011), New Orleans, LA, USA, May 21-24, 2011.

Jokinen, C.C., Mutschall, S.K., Ross, S.M., Buchanan, C., Kindt, A., Koning, W., Miller, J., Edge, T.A., Topp, E., Thomas, J., Gannon, V.P.J., and Taboada, E.N. (2011). "Application of comparative genomics-based genotyping to the molecular epidemiology of *Campylobacter jejuni* from the Oldman River watershed in southern Alberta, Canada.", 16th International Workshop on *Campylobacter*, *Helicobacter*, and Related Organisms (CHRO 2011), Vancouver, BC, Canada, August 28 -September 1, 2011. (Presentation)

Lamey, F.J., Cessna, A.J., Kuchta, S.L., Hao, X., Entz, T., Topp, E., and McAllister, T.A. (2011). "Composting effects on antibiotics in feedlot manure.", *Manure Management Update 2011*, Lethbridge, AB, Canada, January 17, 2011, pp. 46-54.

Diarra, M.S., Vela, J., Hilderbrand, K., Metcalfe, A., Rempel, H., Bittman, S., and Topp, E. (2011). "Antibiotic resistance of *Staphylococcus xylosum* isolated from broiler barn bioaerosol.", 51st Annual Conference of the Pacific Northwest International Section (PNWIS) of the Air & Waste Management Association, Harrison, BC, Canada, November 8-11, 2011, Oral presentation.

Nangia, V., Sunohara, M., Topp, E., Gregorich, E.G., Gottschall, N., Drury, C.F., Toussef, M.A., and Lapen, D.R. (2011). "Assessing field-scale effects of controlled tile drainage on N mass balance from corn and soybean fields in Eastern Ontario, Canada.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Nangia, V., Sunohara, M., Topp, E., Gregorich, E.G., Gottschall, N., Drury, C.F., and Lapen, D.R. (2011). "Measuring the effects of watertable management on soil greenhouse gas emissions from corn and soybean fields in Eastern Canada.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Yost, C.K., Diarra, M.S., and Topp, E. (2011). "Animals and human as source of fecal indicator bacteria.", in Sadowsky, M. J. and R. L. Whitman (eds.) - *The Fecal Bacteria*, American Society for Microbiology (ASM), Chapter 4, pp. 67-91.

Barret, M., Neufeld, J.D., Gagnon, N., Kalmokoff, M.L., Topp, E., Verastegui, Y., and Talbot, G. (2011). "Active methanogens in swine manure storage tanks revealed by stable isotope probing.", Canadian Society of Microbiologists (CSM) 61st Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Memorial University of Newfoundland, St. John's, NL, Canada, June 20-23, 2011, Abstract AE74. (Abstract)

Barret, M., Neufeld, J.D., Gagnon, N., Kalmokoff, M.L., Topp, E., Verastegui, Y., and Talbot, G. (2011). "Identification of the active methanogens in swine manure storage tanks by DNA Stable Isotope Probing.", 1er Symposium du Centre de recherche et de développement sur le bovin laitier et le porc: Parlons science au CRDBLP! / 1st Symposium of the Dairy and Swine Research and Development Centre: Let's Talk Science at the DSRDC!, Sherbrooke, QC, Canada, June 7, 2011.

# Torrey, Stephanie, Ph.D.

Research Scientist

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## Research Publications:

2014

Morrissey, K.L.H., Widowski, T.M., Leeson, S., Sandilands, V., Arnone, A., and Torrey, S. (2014). "The effect of dietary alterations during rearing on growth, productivity, and behavior in broiler breeder females." *Poultry Science*, 93(2), pp. 285-295. doi : 10.3382/ps.2013-03265

Nannoni, E., Widowski, T.M., Torrey, S., Fox, J., Rocha, L.M., Gonyou, H.W., Weschenfelder, A.V., Crowe, T.G., and Faucitano, L. (2014). "Water sprinkling market pigs in a stationary trailer. 2. Effects on selected exsanguination blood parameters and carcass and meat quality variation." *Livestock Science*, 160(1), pp. 124-131. doi: 10.1016/j.livsci.2013.11.022

Fox, J., Widowski, T.M., Torrey, S., Nannoni, E., Bergeron, R., Gonyou, H.W., Brown, J.A., Crowe, T.G., Mainau, E., and Faucitano, L. (2014). "Water sprinkling market pigs in a stationary trailer. 1. Effects on pig behaviour, gastrointestinal tract temperature and trailer micro-climate." *Livestock Science*, 160(1), pp. 113-123. doi : 10.1016/j.livsci.2013.12.019

Correa, J.A., Gonyou, H.W., Torrey, S., Widowski, T.M., Bergeron, R., Crowe, T.G., LaForest, J.-P., and Faucitano, L. (2014). "Welfare of pigs being transported for long distance using a pot-belly trailer during winter and summer." *Animals*, 4(2), pp. 200-213. doi : 10.3390/ani4020200

Duggan, G., Widowski, T.M., Quinton, M., and Torrey, S. (2014). "The development of injurious pecking in a commercial turkey facility." *Journal of Applied Poultry Research (JAPR)*, 23(2), pp. 280-290. doi : 10.3382/japr.2013-00860

Morrissey, K.L.H., Widowski, T.M., Leeson, S., Sandilands, V., Arnone, A., and Torrey, S. (2014). "The effect of dietary alterations during rearing on feather condition in broiler breeder females." *Poultry Science*, 93(7), pp. 1636-1643. doi : 10.3382/ps.2013-03822

Bovey, K., Widowski, T.M., Dewey, C., Devillers, N., Farmer, C., Lessard, M., and Torrey, S. (2014). "The effect of birth weight and age on the behavioral and physiological responses of piglets to tail docking and ear notching." *Journal of Animal Science*, 92(4), pp. 1718-1727. doi : 10.2527/jas.2013-7063

2013

Weschenfelder, A.V., Torrey, S., Devillers, N., Crowe, T.G., Bassols, A., Saco, Y., Piñeiro, M., Saucier, L., and Faucitano, L. (2013). "Effects of trailer design on animal welfare parameters and carcass and meat quality of three Pietrain crosses being transported over a short distance." *Livestock Science*, 157(1), pp. 234-244. doi : 10.1016/j.livsci.2013.07.004

Torrey, S., Bergeron, R., Faucitano, L., Widowski, T.M., Lewis, N., Crowe, T.G., Correa, J.A., Brown, J.A., Hayne, S., and Gonyou, H.W. (2013). "Transportation of market-weight pigs: II. Effect of season and location within truck on behavior with an eight-hour transport." *Journal of Animal Science*, 91(6), pp. 2872-2878. doi : 10.2527/jas.2012-6006

Torrey, S., Bergeron, R., Widowski, T.M., Lewis, N., Crowe, T.G., Correa, J.A., Brown, J.A., Gonyou, H.W., and Faucitano, L. (2013). "Transportation of market-weight pigs: I. Effect of season, truck type, and location within truck on behavior with a two-hour transport." *Journal of Animal Science*, 91(6), pp. 2863-2871. doi : 10.2527/jas.2012-6005

Correa, J.A., Gonyou, H.W., Torrey, S., Widowski, T.M., Crowe, T.G., LaForest, J.-P., and Faucitano, L. (2013). "Welfare and carcass and meat quality of pigs being transported for 2 hours using two vehicle types during two seasons of the year." *Canadian Journal of Animal Science*, 93(1), pp. 43-55. doi : 10.4141/CJAS2012-088

Dalton, H.A., Wood, B.J., and Torrey, S. (2013). "Injurious pecking in domestic turkeys: Development, causes, and potential solutions." *World's Poultry Science Journal*, 69(4), pp. 865-876. doi : 10.1017/S004393391300086X

2012

Weschenfelder, A.V., Torrey, S., Devillers, N., Crowe, T.G., Bassols, A., Saco, Y., Piñeiro, M., Saucier, L., and Faucitano, L. (2012). "Effects of trailer design on animal welfare parameters and carcass and meat quality of three Pietrain crosses being transported over a long distance." *Journal of Animal Science*, 90(9), pp. 3220-3231. doi : 10.2527/jas.2011-4676

2011

Brown, J.A., Samarakone, T.S., Crowe, T.G., Bergeron, R., Widowski, T.M., Correa, J.A., Faucitano, L., Torrey, S., and Gonyou, H.W. (2011). "Temperature and Humidity Conditions in Trucks Transporting Pigs in Two Seasons in Eastern and Western Canada.", *Transactions of the ASABE*, 54(6), pp. 2311-2318.

### **Other Science Related Publications:**

2013

Gaskill, B., Cloutier, S., Beausoleil, N., and Torrey, S. (2013). "Preface.", *Applied Animal Behaviour Science*, 143(2-4), pp. 83-84.

2012

Nannoni, E., Widowski, T.M., Torrey, S., Fox, J., Rocha, L.M., Brown, J.A., Gonyou, H.W., Weschenfelder, A.V., Crowe, T.G., and Faucitano, L. (2012). "The effect of water sprinkling on blood lactate and meat quality of market hogs transported during summer.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012.

Fox, J., Widowski, T.M., Torrey, S., Nannoni, E., Bergeron, R., Gonyou, H.W., Brown, J.A., Crowe, T.G., and Faucitano, L. (2012). "The effect of water sprinkling on behavior and core body temperature of market hogs transported during summer.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, #T9, Published in: *J. Anim. Sci.*, 90 (Suppl. 3), 255. (Poster)

Ringgenberg, N., Torrey, S., Bergeron, R., and Devillers, N. (2012). "Impacts of prenatal stress and environmental enrichment during lactation on the behaviour and performances of piglets after weaning.", 46th Congress of the International Society for Applied Ethology, Vienna, Austria, July 31-August 4, 2012, pp. 11.

2011

Brown, J.A., Crowe, T.G., Torrey, S., Bergeron, R., Widowski, T.M., Correa, J.A., and Faucitano, L. (2011). "Relationships between transport temperatures, pig behaviour, blood stress indicators and meat quality.", 5th International Conference on the Assessment of Animal Welfare at Farm and Group Level, University of Guelph, Guelph, ON, Canada, August 8-11, 2011, pp. 18. (Abstract)

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## Research Publications:

2015

Tosh, S.M. and Chu, Y. (2015). "Systematic review of the effect of processing of whole-grain oat cereals on glycaemic response.", *British Journal of Nutrition*, 114(8), pp. 1256-1262. doi: 10.1017/S0007114515002895

Ames, N.P., Storsley, J., and Tosh, S.M. (2015). "Effects of processing on physicochemical properties and efficacy of  $\beta$ -glucan from oat and barley.", *Cereal Foods World*, 60(1), pp. 4-8. doi: 10.1094/CFW-60-1-0004

Brummer, Y., Kaviani, M., and Tosh, S.M. (2015). "Structural and functional characteristics of dietary fibre in beans, lentils, peas and chickpeas.", *Food Research International*, 67, pp. 117-125. doi: 10.1016/j.foodres.2014.11.009

Gamel, T.H., Abdel-Aal, E-S.M., and Tosh, S.M. (2015). "Effect of yeast-fermented and sour-dough making processes on physicochemical characteristics of  $\beta$ -glucan in whole wheat/oat bread.", *Food Science and Technology - LWT*, 60(1), pp. 78-85. doi: 10.1016/j.lwt.2014.07.030

2014

Gamel, T.H., Abdel-Aal, E-S.M., Ames, N.P., Duss, R., and Tosh, S.M. (2014). "Enzymatic extraction of beta-glucan from oat bran cereals and oat crackers and optimization of viscosity measurement.", *Journal of Cereal Science*, 59(1), pp. 33-40. doi: 10.1016/j.jcs.2013.10.011

Sharabafi, N., Tosh, S.M., Alexander, M., and Corredig, M. (2014). "Phase behaviour, rheological properties, and microstructure of oat  $\beta$ -glucan-milk mixtures.", *Food Hydrocolloids*, 41, pp. 274-280. doi: 10.1016/j.foodhyd.2014.03.030

Sharabafi, N., Alexander, M., Tosh, S.M., and Corredig, M. (2014). "Dynamics of Phase Separation in Oat  $\beta$ -glucan/Milk Mixtures Studied with Ultrasonic and Diffusing Wave Spectroscopy.", *Food Biophysics*, 10(1), pp. 66-75. doi: 10.1007/s11483-014-9362-3

Whitehead, A., Beck, E.J., Tosh, S.M., and Wolever, T.M.S. (2014). "Cholesterol-lowering effects of oat  $\beta$ -glucan: a meta-analysis of randomized controlled trials.", *American Journal of Clinical Nutrition*. doi: 10.3945/ajcn.114.086108

Brummer, Y., Defelice, C., Wu, Y., Kwong, M.G.Y., Wood, P.J., and Tosh, S.M. (2014). "Textural and Rheological Properties of Oat Beta-Glucan Gels with Varying Molecular Weight Composition.", *Journal of Agricultural and Food Chemistry*, 62(14), pp. 3160-3167. doi: 10.1021/jf405131d

2013

Kwong, M.G.Y., Wolever, T.M.S., Brummer, Y., and Tosh, S.M. (2013). "Attenuation of glycaemic responses by oat  $\beta$ -glucan solutions and viscoelastic gels is dependent on molecular weight distribution.", *Food & Function*, 4(3), pp. 401-408. doi: 10.1039/c2fo30202k

Tosh, S.M. (2013). "Review of human studies investigating the post-prandial blood-glucose lowering ability of oat and barley food products.", *European Journal of Clinical Nutrition*, 67(4), pp. 310-317. doi: 10.1038/ejcn.2013.25

Kwong, M.G.Y., Wolever, T.M.S., Brummer, Y., and Tosh, S.M. (2013). "Increasing the viscosity of oat  $\beta$ -glucan solutions by reducing solution volume does not reduce glycaemic responses.", *British Journal of Nutrition*, 110(8), pp. 1465-1471. doi: 10.1017/S000711451300069X

Tosh, S.M., Farnworth, E.R., Brummer, Y., Duncan, A.M., Wright, A.J., Boye, J.I., Marcotte, M., and Benali, M. (2013). "Nutritional profile and carbohydrate characterization of spray-dried lentil, pea and chickpea ingredients.", *Foods*, 2(3), pp. 338-349. doi: 10.3390/foods2030338

Tosh, S.M. (2013). "Effects of oats on carbohydrate metabolism.", in Chu, Y.-F. (ed.) - *Oat Nutrition and Technology*, Wiley - Blackwell, pp. 273-290.

Tosh, S.M. (2013). "The research legacy of Peter J. Wood.", *Bioactive Carbohydrates and Dietary Fibre*, 2(2), pp. 170-180. doi: 10.1016/j.bcdf.2013.10.003

Gamel, T.H., Tosh, S.M., and Badali, K. (2013). "Changes of  $\beta$ -glucan physicochemical characteristics in frozen and freeze dried oat bran bread and porridge.", *Journal of Cereal Science*, 58(1), pp. 104-109. doi: 10.1016/j.jcs.2013.03.014

Sikora, P., Tosh, S.M., Brummer, Y., and Olsson, O. (2013). "Identification of high  $\beta$ -glucan oat lines and localization and chemical characterization of their seed kernel  $\beta$ -glucans.", *Food Chemistry*, 137(1), pp. 83-91. doi : 10.1016/j.foodchem.2012.10.007

## 2012

Tosh, S.M., Ahmadi, L., Yip, L., Roudsari, M., and Wood, P.J. (2012). "Presence of  $\beta$ -glucanase activity in wheat and dairy ingredients and use of organic salts as potential enzyme inhibitors.", *Journal of Cereal Science*, 56(3), pp. 538-543. doi : 10.1016/j.jcs.2012.08.013

Gamel, T.H., Abdel-Aal, E-S.M., Wood, P.J., Ames, N.P., and Tosh, S.M. (2012). "Application of the rapid Visco Analyzer (RVA) as an effective rheological tool for measurement of  $\beta$ -glucan viscosity.", *Cereal Chemistry*, 89(1), pp. 52-58. doi : 10.1094/CCHEM-07-11-0089

Vatandoust, A., Ragaei, S.M., Wood, P.J., Tosh, S.M., and Seetharaman, K. (2012). "Detection, Localization, and Variability of Endogenous  $\beta$ -Glucanase in Wheat Kernels.", *Cereal Chemistry*, 89(1), pp. 59-64. doi: 10.1094/CCHEM-07-11-0084

Cryne, C.N., Veenstra, J.M., Deschambault, B.R., Benali, M., Marcotte, M., Boye, J.I., Tosh, S.M., Farnworth, E.R., Wright, A.J., and Duncan, A.M. (2012). "Spray-dried pulse consumption does not affect cardiovascular disease risk or glycemic control in healthy males.", *Food Research International*, 48(1), pp. 131-139. doi : 10.1016/j.foodres.2012.02.018

Charlton, K.E., Tapscott, L.C., Batterham, M.J., O'Shea, J., Thome, R., Beck, E.J., and Tosh, S.M. (2012). "Effect of 6 weeks' consumption of  $\beta$ -glucan-rich oat products on cholesterol levels in mildly hypercholesterolaemic overweight adults.", *British Journal of Nutrition*, 107(7), pp. 1037-1047. doi: 10.1017/S0007114511003850

Brummer, Y., Duss, R., Wolever, T.M.S., and Tosh, S.M. (2012). "Glycemic response to extruded oat bran cereals processed to vary in molecular weight.", *Cereal Chemistry*, 89(5), pp. 255-261. doi: 10.1094/cchem-03-12-0031-r

## 2011

Regand Ramirez, A., Chowdhury, Z., Tosh, S.M., Wolever, T.M.S., and Wood, P.J. (2011). "The molecular weight, solubility and viscosity of oat  $\beta$ -glucan affect human glycemic response by modifying starch digestibility.", *Food Chemistry*, 129(2), pp. 297-304. doi : 10.1016/j.foodchem.2011.04.053

Mei, G.-Y., Carey, C.M., Tosh, S.M., and Kostrzynska, M. (2011). "Utilization of different types of dietary fibres by potential probiotics.", *Canadian Journal of Microbiology*, 57(10), pp. 857-865. doi : 10.1139/w11-077

Agbenorhevi, J.K., Kontogiorgos, V., Kirby, A.R., Morris, V.J., and Tosh, S.M. (2011). "Rheological and microstructural investigation of oat  $\beta$ -glucan isolates varying in molecular weight.", *International Journal of Biological Macromolecules*, 49(3), pp. 369-377. doi : 10.1016/j.ijbiomac.2011.05.014

Wolever, T.M.S., Gibbs, A.L., Brand-Miller, J.C., Duncan, A.M., Hart, V.A., Lamarche, B., Tosh, S.M., and Duss, R. (2011). "Bioactive oat  $\beta$ -glucan reduces LDL cholesterol in Caucasians and non-Caucasians.", *Nutrition Journal*, 10(1), pp. 130. doi : 10.1186/1475-2891-10-130

## Other Science Related Publications:

### 2015

Tosh, S.M. and Miller, S.S. (2015). "Oats.", in Caballero, B., Finglas, P. and Toldrá, F. (eds.) - *Encyclopedia of Food and Health*, Elsevier.

### 2014

Tosh, S.M. (2014). "Influence of food processing on human glycemic response to oat products.", 247th American Chemical Society National Meeting, Dallas, TX, USA, March 16-20, 2014. (Abstract)

### 2013

Tosh, S.M., Farnworth, E.R., Brummer, Y., Duncan, A.M., Wright, A.J., Boye, J.I., Marcotte, M., and Benali, M. (2013). "Nutritional profile and carbohydrate characterization of spray-dried lentil, pea and chickpea ingredients.", *Foods: Bioactives, Processing, Quality and Nutrition*, April 10-12, 2013. (Abstract)

Wang, Y., Thandapilly, S.J., Harding, S.V., Tosh, S.M., Jones, P.J.H., and Ames, N.P. (2013). "Barley  $\beta$ -Glucan Consumption Decreases Serum Cholesterol Levels and Increases 7  $\alpha$ -Hydroxy-4-Cholesten-3-One Levels in Moderately Hypercholesterolemic Adults.", *Experimental Biology 2013*, Boston, MA, USA, April 20-24, 2013.



Tosh, S.M., Farnworth, E.R., Brummer, Y., Duncan, A.M., Wright, A.J., Boye, J.I., Marcotte, M., and Benali, M. (2013). "Nutritional profile and carbohydrate characterization of spray-dried lentil, pea and chickpea ingredients.", *Foods: Bioactives, Processing, Quality and Nutrition*, April 10-12, 2013, <http://sciforum.net/conf/bpqn2013>. (Electronic Conference). Published online: <http://sciforum.net/user/submission/1184>. (Abstract)

Ames, N.P. and Tosh, S.M. (2013). "Effect of processing on physicochemical properties and efficacy of oat and barley beta-glucan.", 2013 International Annual Meeting of the American Association of Cereal Chemists (AACC), Albuquerque, NM, USA, September 29-October 2, 2013, Published in: *Supplement Cereal Food World*, 58(4) A52-S. (Abstract)

## 2012

Tosh, S.M. (2012). "Food processing effects on glycemic response.", 2012 International Annual Meeting of the American Association of Cereal Chemists (AACC), Hollywood, FL, USA, September 30-October 3, 2012, Published in: *Supplement Cereal Food World*, 57(4) A7. (Abstract)

Sharafbafi, N., Tosh, S.M., and Corredig, M. (2012). "Shear Stabilized Micro-Phase-Separated Dairy Gels Containing Nutritionally Significant Concentrations of Oat  $\beta$ -glucan", *Journal of Dairy Science (JDS)*, 95(Supplement 2), pp. 171. (Abstract)

Tosh, S.M. and Yada, S. (2012). "Dietary fibres from pulse flours and fractions: characteristics and applications.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Abstract)

Tosh, S.M. (2012). "Systematic review of evidence that oat and barley soluble fibre lower post-prandial blood glucose.", . (Abstract)

Tosh, S.M. (2012). "An overview of beta glucans.", 2012 International Annual Meeting of the American Association of Cereal Chemists (AACC), Hollywood, FL, USA, September 30-October 3, 2012, Published in: *Supplement Cereal Food World*, 57(4) A13. (Abstract)

Gamel, T.H., Tosh, S.M., Abdel-Aal, E-S.M., and Ames, N.P. (2012). "Impact of digestive enzymes on the optimization of in vitro digestion and beta glucan viscosity measurement using Rapid Visco Analyzer.", 2012 International Annual Meeting of the American Association of Cereal Chemists (AACC), Hollywood, FL, USA, September 30-October 3, 2012, Published in: *Supplement Cereal Food World*, 57(4) A46. (Abstract)

Vatandoust, A., Ragaei, S.M., Tosh, S.M., and Seetharaman, K. (2012). "Effect of bread dough storage conditions on the properties of  $\beta$ -glucans extracted from bread under in vitro conditions.", 2012 International Annual Meeting of the American Association of Cereal Chemists (AACC), Hollywood, FL, USA, September 30-October 3, 2012, Published in: *Supplement Cereal Food World*, 57(4) A75. (Abstract)

Abbasi, N., Purslow, P., Bakovic, M., Tosh, S.M., and Singh, R. (2012). "Understanding the mechanism responsible for lowering blood glucose modulation by oat beta glucan.", Canadian Institute of Food Science and Technology 50th National Conference (CIFST), Niagara Falls, ON, Canada, May 27 – 29, 2012, <https://secure.cifst.ca/default.asp?id=1250>.

Gamel, T.H., Badali, K., and Tosh, S.M. (2012). "Changes of  $\beta$ -glucan physicochemical characteristics in frozen oat bread and porridge.", Canadian Institute of Food Science and Technology 50th National Conference (CIFST), Niagara Falls, ON, Canada, May 27 – 29, 2012, <https://secure.cifst.ca/default.asp?id=1252>.

## 2011

Mei, G.-Y., Carey, C.M., Tosh, S.M., and Kostrzynska, M. (2011). "Development of novel synbiotic preparations.", 9th Annual OMAFRA Food Safety Research Forum, Guelph, ON, Canada, May 5, 2011.

Tosh, S.M. (2011). "Mechanisms of Action of Oat  $\beta$ -Glucan in Lowering Blood Glucose and Cholesterol.", Central Experimental Farm, Neatby Building, Ottawa, ON, Canada, June 28, 2011. (Presentation)

Ames, N.P., Storsley, J., Gamel, T.H., and Tosh, S.M. (2011). "Validating the health benefits of barley foods: Effect of processing on physiological properties of beta-glucan in test foods.", *Cereal Foods World*, 56(4, Suppl.), pp. A28. (Abstract)

Tosh, S.M. (2011). "Agriculture and Agri-Food Canada: Food and Nutrition Research.", National 4-H Conference Science and Technology Symposium, Toronto Airport Marriott Hotel, Toronto, ON, Canada, November 3, 2011. (Presentation)

Gamel, T.H. and Tosh, S.M. (2011). "Measurement of beta-glucan viscosity using Rapid Visco Analyzer (RVA).", *Cereal Foods World*, 56(4, Suppl.), pp. A72.

Tosh, S.M. (2011). "Oat  $\beta$ -Glucan and Health Benefits: The Viscosity Story.", AAFC Guelph Food Research Centre, Guelph, ON, Canada, March 14, 2011. (Presentation)

Tosh, S.M. (2011). "Dose response studies supporting health claims that oat and barley  $\beta$ -glucans lower serum cholesterol levels: Effects of viscosity on cholesterol trafficking.", AAFC Guelph Food Research Centre, Guelph, ON, Canada, March 10, 2011. (Presentation)

Vatandoust, A., Ragaei, S.M., Tosh, S.M., and Seetharaman, K. (2011). " $\beta$ -Glucan degradation by endogenous enzymes in wheat flour doughs with different moisture contents.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011, Published in: Cereal Foods World, 56:A6. (Poster)

Gamel, T.H. and Tosh, S.M. (2011). "A New Approach to  $\beta$ -Glucan Viscosity Measurement and potential health benefits.", AAFC Guelph Food Research Centre, Guelph, ON, Canada, October 14, 2011. (Presentation)

Tosh, S.M. (2011). "Evidence that oat and barley soluble fibre lower post-prandial glucose.", AAFC Guelph Food Research Centre, Guelph, ON, Canada, December 8, 2011. (Presentation)

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## Research Publications:

2014

Liplap, P., Toussaint, V., Toivonen, P.M.A., Vigneault, C., Boutin, J., and Raghavan, G.S.V. (2014). "Effect of hyperbaric pressure treatment on the growth and physiology of bacteria that cause decay in fruits and vegetables.", *Food and Bioprocess Technology*, 7(8), pp. 2267-2280. doi : 10.1007/s11947-013-1197-2

2012

LeBlanc, D.I., Vigneault, C., Boutin, J., Toussaint, V., Charlebois, D., Fomey, C.F., Bourgeois, G., Clément, A., and Bezanson, G.S. (2012). "Design and performance of a controlled environment mini-chamber for measuring produce quality deterioration.", *Journal of Agricultural Science and Technology B*, 2, pp. 391-399.

Toussaint, V., Benoît, D.-L., and Carisse, O. (2012). "Potential of weed species as a reservoir for *Xanthomonas campestris* pv. *vitiatis*, the causal agent of bacterial leaf spot of lettuce.", *Crop Protection*, 41(November), pp. 64-70. doi : 10.1016/j.cropro.2012.05.018

2011

Phillion, V., Svircev, A.M., Toussaint, V., and Stockwell, V.O. (2011). "Antagonistic interaction between the biocontrol agent BlightBan C9-1 and the plant defense elicitor actigard.", *Acta Horticulturae (ISHS)*, 896, pp. 437-440.

## Other Science Related Publications:

2015

Toussaint, V. and Ciotola, M. (2015). "Cultures de couverture et réduction des bactérioses dans les cultures horticoles.", *Journées du groupe de travail sur les cultures de couverture et engrais verts en grande cultures*, Ste-Martine, QC, Canada, 21 janvier, 2015.

Toussaint, V. (2015). "Études des génotypes de *Xanthomonas* pathogènes de la laitue et de leur relation hôte-pathogène dans un contexte de sélection variétale pour la résistance à la tache bactérienne de la laitue.", *Journée d'information de la Fondation pour l'amélioration génétique de la laitue et des légumes-feuilles*, Napierville, QC, Canada, 11 février, 2015.

Toussaint, V. (2015). "Les bactérioses de la laitue : la recherche et les collaborations en cours au CRDH.", *Journée Laitue du Consortium Prisme*, Sherrington, Canada, 25 février, 2015.

Toussaint, V. (2015). "Les bactéries : État de la situation en production légumière et solutions.", *Rencontre Horticole 2015*, La Prairie, QC, Canada, 26 février, 2015.

2014

Phillion, V., Fortin, A.F., Leclerc, D., Joubert, V., Duceppe, M.-O., Toussaint, V., and Mimee, B. (2014). "La détection des bactéries en verger pour prévenir le feu bactérien: les faux négatifs dépriment les plus optimistes.", *106e Réunion annuelle de la SPPQ: Les plantes bio-industrielles: enjeux environnementaux et phytosanitaires*, Saint-Mathieu de Beloeil, QC, Canada, June 10-12, 2014.

Nicolas, O., Toussaint, V., Jenni, S., Charles, M.T., and Beaulieu, C. (2014). "Rôle des stomates et des éléments minéraux dans la tolérance de la laitue à la tache bactérienne causée par *Xanthomonas campestris* pv. *vitiatis*.", *106e Réunion annuelle de la SPPQ: Les plantes bio-industrielles: enjeux environnementaux et phytosanitaires*, Saint-Mathieu de Beloeil, QC, Canada, June 10-12, 2014.

Delisle-Houde, M., Toussaint, V., and Tweddell, R.J. (2014). "Évaluation de la phytotoxicité de différents sels destinés à une utilisation phytosanitaire dans la culture de la laitue.", *106e Réunion annuelle de la SPPQ: Les plantes bio-industrielles: enjeux environnementaux et phytosanitaires*, Saint-Mathieu de Beloeil, QC, Canada, June 10-12, 2014.

Xu, D. and Toussaint, V. (2014). "Genetic diversity among strains of fluorescent *Pseudomonas* isolated from squash fruits and leaves.", *13th International Congress on Plant Pathogenic Bacteria*, Shanghai, China, June 8-13, 2014.

Sidibé, A., Komeil, D., Toussaint, V., and Beaulieu, C. (2014). "Analyse comparative du sécrétome de *Streptomyces scabies* dans les milieux de culture supplémentés ou non avec de la subérine de pomme de terre.", 106e Réunion annuelle de la SPPQ : Les plantes bio-industrielles : enjeux environnementaux et phytosanitaires, Saint-Mathieu de Beloeil, QC, Canada, June 10-12, 2014.

## 2013

Toussaint, V., Ciotola, M., Cadieux, M., Racette, G., Duceppe, M.-O., and Mimee, B. (2013). "Identification and temporal distribution of different species of beetles as potential vector-agent of *Erwinia tracheiphila*, the causal agent of bacterial wilt of cucurbits.", American Phytopathological Society (APS) and the Mycological Society of America (MSA) Joint Meeting 2013, Austin, TX, USA, August 10-14, 2013.

Toussaint, V., Ciotola, M., and Cadieux, M. (2013). "Effect of winter rye and wheat used as cover crops to reduce *Pseudomonas syringae* disease incidence and severity in squash.", American Phytopathological Society (APS) and the Mycological Society of America (MSA) Joint Meeting 2013, Austin, TX, USA, August 10-14, 2013.

Phillion, V., Fortin, A.F., Leclerc, D., Joubert, V., Duceppe, M.-O., Toussaint, V., Mimee, B., and others (2013). "Limits of *Erwinia amylovora* detection during bloom for fire blight disease forecast in Québec.", 10th International Congress of Plant Pathology, Beijing International Convention Center, Beijing, China, August 25-30, 2013.

Nicolas, O., Toussaint, V., Jenni, S., Charles, M.T., and Beaulieu, C. (2013). "Étude de facteurs contribuant à la tolérance des cultivars de laitue à la tache bactérienne causée par *Xanthomonas campestris* pv. *Vitians*.", 105e réunion annuelle de la SPPQ : Nano, l'infiniment petit : une solution d'avenir en phytoprotection., Québec, QC, Canada, 5-6 juin, 2013.

Toussaint, V. (2013). "Symbiose engrais vert et réduction des maladies.", Les journées horticoles, 18e édition, St-Rémi, QC, Canada, 4-6 décembre 2013.

Phillion, V., Fortin, A.F., Leclerc, D., Joubert, V., Duceppe, M.-O., Toussaint, V., Mimee, B., and others (2013). "Use of real-time PCR for *Erwinia amylovora* detection during bloom and potential for integration in fire blight disease forecast in Québec.", 13th International Fire Blight Workshop, Zürich, Switzerland, du 2 au 5 juillet 2013.

## 2012

Toussaint, V. (2012). Impact de l'altération du microenvironnement engendrée par l'utilisation de cultures couvre-sols sur le développement des maladies bactériennes, sur la flore, sur la nutrition de la culture commerciale et étude des relations entre ces éléments., AAC Centre de recherche et de développement en horticulture, Saint-Jean-sur-Richelieu, QC. (Report)

Toussaint, V., Ciotola, M., and Cadieux, M. (2012). "Impact of rye and wheat used as mulch in a cover crop production system on the *Pseudomonas syringae* diversity.", 14th International Symposium on Microbial Ecology (ISME14), Copenhagen, Denmark, August 19-24, 2012. (Abstract)

## 2011

Toussaint, V. and Ciotola, M. (2011). "Impact des cultures de couverture sur les maladies des cucurbitacées.", Agri-Vision 2010-2011, Saint-Hyacinthe, QC, Canada, January 10, 2011.

Toussaint, V. and Ciotola, M. (2011). "Effect of the use of cover crops as mulches in the development of diseases in Spaghetti squash crop.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

Jenni, S. and Toussaint, V. (2011). "Des lignées non fixées de laitue romaine tolérantes à la montaison, la brûlure de pointe et la tache bactérienne.", La coopérative de producteurs de laitue Multiveg, la Société Coopérative du Sud de Montréal et de la Fondation, Napierville, QC, Canada, December 16, 2011. (Presentation)

Toussaint, V. and Jenni, S. (2011). "Comparison of controlled environments for the screening of resistance to *Xanthomonas campestris* pv. *Vitians* in lettuce.", EUCARPIA Leafy Vegetables 2011, Université Lille Nord, Villeneuve d'Ascq, France, August 24-26, 2011. (Abstract)

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## Research Publications :

2015

Dos Passos Bernardes, A., Tremblay, G.F., Bélanger, G., Brégard, A., Séguin, P., and Vanasse, A. (2015). "Sugar Yield of Sweet Pearl Millet and Sweet Sorghum as Influenced by Harvest Dates and Delays Between Biomass Chopping and Pressing.", *BioEnergy Research*, 8(1), pp. 100-108. doi : 10.1007/s12155-014-9504-y

Antaya, N.T., Berthiaume, R., Tremblay, G.F., and Brito, A.F. (2015). "Short communication: Feeding red clover cut in the afternoon or morning to late-lactation dairy cows.", *Journal of Dairy Science (JDS)*, 98. doi : 10.3168/jds.2015-9333

N'Dayegamiye, A., Whalen, J.K., Tremblay, G.F., Nyiraneza, J., Grenier, M., Drapeau, A., and Bipfubusa, M. (2015). "The benefits of legume crop on corn and wheat yield, nitrogen nutrition, and soil properties improvement.", *Agronomy Journal*, 107(5), pp. 1653-1665. doi : 10.2134/agronj14.0416

Chorfi, Y., Couture, Y., Tremblay, G.F., Berthiaume, R.R., and Cinq-Mars, D. (2015). "Growth and Blood Parameters of Weaned Crossbred Beef Calves Fed Forage Kale (*Brassica oleracea* spp. *acephala*).", *Advances in Agriculture*, 2015(Article ID 410497), pp. 1-7. doi : 10.1155/2015/410497

Dos Passos Bernardes, A., Tremblay, G.F., Bélanger, G., Seguin, P., Brégard, A., and Vanasse, A. (2015). "Bagasse silage from sweet pearl millet and sweet sorghum as influenced by harvest dates and delays between biomass chopping and pressing.", *BioEnergy Research*. doi : 10.1007/s12155-015-9666-2

Jégo, G., Rotz, C.A., Bélanger, G., Tremblay, G.F., Charbonneau, É., and Pellerin, D. (2015). "Simulating forage crop production in a northern climate with the Integrated Farm System Model.", *Canadian Journal of Plant Science*, 95(4), pp. 745-757. doi : 10.4141/cjps-2014-375

Messerli, J., Bertrand, A., Bourassa, J., Bélanger, G., Castonguay, Y., Tremblay, G.F., Baron, V.S., and Séguin, P. (2015). "Performance of Low-Cost Open-Top Chambers to Study Long-Term Effects of Carbon Dioxide and Climate under Field Conditions.", *Agronomy Journal*, 107(3), pp. 916-920. doi : 10.2134/agronj14.0571

Tremblay, G.F., Bélanger, G., Lajeunesse, J., Chouinard, P.Y., and Charbonneau, É. (2015). "Timothy response to increasing rates of selenium fertilizer in eastern Canada.", *Agronomy Journal*, 107(1), pp. 211-220. doi : 10.2134/agronj14.0397

Brassard, M.-E., Chouinard, P.Y., Berthiaume, R., Tremblay, G.F., Gervais, R., Martineau, R., and Cinq-Mars, D. (2015). "Effects of grain source, grain processing, and protein degradability on rumen kinetics and microbial protein synthesis in Boer kids.", *Journal of Animal Science*, 93, pp. 1-12. doi : 10.2527/jas.2015-9336

2014

Tremblay, G.F., Morin, C., Bélanger, G., Bertrand, A., Castonguay, Y., Berthiaume, R.R., and Allard, G. (2014). "Silage Fermentation of PM- and AM-Cut Alfalfa Wilted in Wide and Narrow Swaths", *Crop Science*, 54(1), pp. 439-452. doi : 10.2135/cropsci2013.07.0443

Simili da Silva, M., Tremblay, G.F., Bélanger, G., Lajeunesse, J., Papadopoulos, Y.A., Fillmore, S.A.E., and Jobim, C.C. (2014). "Forage energy to protein ratio of several legume-grass complex mixtures.", *Animal Feed Science and Technology*, 188, pp. 17-27. doi : 10.1016/j.anifeeds.2013.11.006

St. Luce, M., Ziadi, N., Zebarth, B.J., Grant, C.A., Tremblay, G.F., and Gregorich, E.G. (2014). "Rapid determination of soil organic matter quality indicators using visible near infrared reflectance spectroscopy.", *Geoderma*, 232-234, pp. 449-458. doi : 10.1016/j.geoderma.2014.05.023

Bertrand, A., Piva, A., Tremblay, G.F., Bélanger, G., Castonguay, Y., and Séguin, P. (2014). "Elevated CO<sub>2</sub> and Temperature Affect the Composition and in vitro Degradability of Timothy Roots.", *Crop Science*, 54(6), pp. 2893-2902. doi : 10.2135/cropsci2014.04.0317

Brito, A.F., Tremblay, G.F., Bertrand, A., Castonguay, Y., Bélanger, G., Michaud, R., Lafrenière, C., Martineau, R., and Berthiaume, R.R. (2014). "Alfalfa baleage with increased concentration of nonstructural carbohydrates supplemented with a corn-based concentrate did not improve production and nitrogen utilization in early lactation dairy cows.", *Journal of Dairy Science (JDS)*, 97(11), pp. 6970-6990. doi : 10.3168/jds.2013-7305

## 2013

Simili da Silva, M., Tremblay, G.F., Bélanger, G., Lajeunesse, J., Papadopoulos, Y.A., Fillmore, S.A.E., and Jobim, C.C. (2013). "Energy to protein ratio of grass-legume binary mixtures under frequent clipping.", *Agronomy Journal*, 105(2), pp. 482-492. doi : 10.2134/agronj2012.0281

Crépeau, M., Khelifi, M., Vanasse, A., Séguin, P., and Tremblay, G.F. (2013). "Compressive forces and harvest time effects on sugars and juice extracted from sweet pearl millet and sweet sorghum.", *Transactions of the ASABE*, 56(5), pp. 1665-1671. doi : 10.13031/trans.56.10271

Villeneuve, M.-P., Lebeuf, Y., Gervais, R., Tremblay, G.F., Vuilleumard, J.-C., Fortin, J., and Chouinard, P.Y. (2013). "Milk volatile organic compounds and fatty acid profile in cows fed timothy as hay, pasture, or silage.", *Journal of Dairy Science (JDS)*, 96(11), pp. 7181-7194. doi : 10.3168/jds.2013-6785

Jégo, G., Bélanger, G., Tremblay, G.F., Jing, Q., and Baron, V.S. (2013). "Calibration and performance evaluation of the STICS crop model for simulating timothy growth and nutritive value.", *Field Crops Research*, 151, pp. 65-77. doi : 10.1016/j.fcr.2013.07.003

Tremblay, G.F., Bélanger, G., Pelletier, S., Lajeunesse, J., and Pageau, D. (2013). "Dietary Cation–Anion Difference of Forage Species after Chloride Fertilization.", *Agronomy Journal*, 105(2), pp. 455-462. doi : 10.2134/agronj2012.0355

Berthiaume, R.R., Tremblay, G.F., Bélanger, G., Lafrenière, C., Bertrand, A., Castonguay, Y., Michaud, R., and Allard, G.C. (2013). "Taking advantage of diurnal shifts in the nutritive value of forages.", in Bittman, S and Hunt, D. (eds.) - *Cool Forages- Advanced management of temperate forages*, Pacific Field Corn Association, Agassiz, BC, Canada, Chapter 42, pp. 176-179.

Tremblay, G.F., Bélanger, G., Pelletier, S., Charbonneau, É., Oba, M., Pellerin, D., and Allard, G.C. (2013). "Forages for cows in the transition period.", in Bittman, S. and Hunt, D. (eds.) - *Cool Forages– Advanced management of temperate forages*, Pacific Field Corn Association, Agassiz, BC, Canada, Chapter 40, pp. 171-174.

Bélanger, G., Tremblay, G.F., Berthiaume, R.R., Bertrand, A., Castonguay, Y., Michaud, R., and Allard, G.C. (2013). "Increasing non-structural carbohydrates in forages.", in Bittman, S. and Hunt, D. (eds.) - *Cool Forages– Advanced management of temperate forages*, Pacific Field Corn Association, Agassiz, BC, Canada, Chapter 43, pp. 180-183.

## 2012

St. Luce, M., Ziadi, N., Nyiraneza, J., Tremblay, G.F., Zebarth, B.J., Whalen, J.K., and Laterrière, M. (2012). "Near infrared reflectance spectroscopy prediction of soil nitrogen supply in humid temperate regions of Canada.", *Soil Science Society of America Journal*, 76(4), pp. 1454-1461. doi : 10.2136/sssaj2011.0443

Abdi, D., Tremblay, G.F., Ziadi, N., Bélanger, G., and Parent, L.-É. (2012). "Predicting Soil Phosphorus-related Properties Using Near Infrared Reflectance Spectroscopy.", *Soil Science Society of America Journal*, 76(6), pp. 2318-2326. doi : 10.2136/sssaj2012.0155

Morin, C., Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R.R., and Allard, G. (2012). "Diurnal variations of nonstructural carbohydrates and nutritive value in timothy.", *Canadian Journal of Plant Science*, 92(5), pp. 883-887. doi : 10.4141/cjps2011-272

Morin, C., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R.R., and Allard, G. (2012). "Nonstructural Carbohydrate Concentration during Field Wilting of PM- and AM-Cut Alfalfa.", *Agronomy Journal*, 104(3), pp. 649-660. doi : 10.2134/agronj2011.0365

Bélanger, G., Savoie, P., Parent, G., Claessens, A., Bertrand, A., Tremblay, G.F., Massé, D.I., Gilbert, Y., and Babineau, D. (2012). "Switchgrass silage for methane production as affected by date of harvest.", *Canadian Journal of Plant Science*, 92(6), pp. 1187-1197. doi : 10.4141/CJPS2011-202

## 2011

Morin, C., Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R.R., and Allard, G. (2011). "Diurnal Variations of Nonstructural Carbohydrates and Nutritive Value in Alfalfa.", *Crop Science*, 51(3), pp. 1297-1306. doi : 10.2135/cropsci2010.07.0406

Oba, M., Oakley, A.E., and Tremblay, G.F. (2011). "Dietary Ca concentration to minimize the risk of hypocalcaemia in dairy cows is affected by the dietary cation-anion difference.", *Animal Feed Science and Technology*, 164(3-4), pp. 147-153. doi : 10.1016/j.anifeedsci.2011.01.002

## Other Science Related Publications:

2015

Jégo, G., Thivierge, M.-N., Rotz, A., Bélanger, G., Tremblay, G.F., Morissette, R., Charbonneau, É., and Pellerin, D. (2015). "Adaptation du modèle IFSM (Integrated Farm System Model) pour simuler le fonctionnement des fermes laitières du Canada. (<http://www.craaq.qc.ca/bovplf>)", Journée d'information scientifique sur les bovins laitiers et les plantes fourragères, Drummondville, QC, Canada, 25 février 2015. (Présentation)

Tremblay, G.F., da Silva, M.S., Bélanger, G., Lajeunesse, J., Papadopoulos, Y.A., Fillmore, S.A.E., and Jobim, C.C. (2015). "Les associations d'espèces fourragères comme moyen d'améliorer le ratio énergie/protéine du fourrage.", Journée d'information scientifique sur les bovins laitiers et les plantes fourragères, Drummondville, QC, Canada, 25 février 2015, Présentation.

Berthiaume, R.R., Fournier, A., and Tremblay, G.F. (2015). "La digestibilité des fourrages.", Journée d'information scientifique sur les bovins laitiers et les plantes fourragères, Drummondville, QC, Canada, 25 février 2015, Présentation.

Dos Passos Bernardes, A., Bélanger, G., Tremblay, G.F., Papadopoulos, Y.A., Fillmore, S.A.E., Lajeunesse, J., and Duynisveld, J.L. (2015). "Dix-huit associations d'une légumineuse avec une graminée évaluées au pâturage pendant trois ans à plusieurs sites.", Journée d'information scientifique sur les bovins laitiers et les plantes fourragères, Drummondville, QC, Canada, 25 février 2015, Présentation.

Messerli, J., Bertrand, A., Bélanger, G., Castonguay, Y., Tremblay, G.F., and Séguin, P. (2015). "Mélanges luzerne-fléole des prés : Résultats après deux saisons de croissance sous CO<sub>2</sub> et température élevés.", Journée d'information scientifique sur les bovins laitiers et les plantes fourragères, Drummondville, QC, Canada, 25 février 2015, Présentation.

Séguin, P., Tremblay, G.F., Claessens, A., Bélanger, G., Lajeunesse, J., Berthiaume, R.R., Martel, H., and Wood, S. (2015). "Adaptabilité du système PEAQ aux conditions québécoises.", Journée d'information scientifique sur les bovins laitiers et les plantes fourragères, Drummondville, QC, Canada, 25 février 2015, Présentation.

Charbonneau, É. and Tremblay, G.F. (2015). "Sélénium : Supplémenter la ration ou fertiliser le fourrage?", *Le Producteur de Lait Québécois*, 35(6), pp. 47-49.

Alfonso-Avila, A.R., Charbonneau, É., Chouinard, P.Y., Tremblay, G.F., and Gervais, R. (2015). "Influence du profil minéral de la ration sur la production de matières grasses du lait chez la vache.", Journée d'information scientifique sur les bovins laitiers et les plantes fourragères, Drummondville, QC, Canada, 25 février 2015, Présentation.

Bélanger, G., Tremblay, G.F., Berthiaume, R.R., and Houston, B. (2015). "How to produce and use sweet forages (Webinar on April 29, 2015 in French)." (Présentation)

Bélanger, G., Tremblay, G.F., Berthiaume, R.R., and Houston, B. (2015). "How to produce and use sweet forages (Webinar on March 4, 2015 in English)." (Présentation)

Lajeunesse, J., Papadopoulos, Y.A., Duynisveld, J.L., Bélanger, G., Tremblay, G.F., Lafrenière, C., Thomas, B., and Fillmore, S.A.E. (2015). "Productivity of eighteen legume-grass binary mixtures.", *Botany 2015 Joint Conference: Science and plants for people*, Edmonton, Alberta, Canada, July 25-29, 2015. (Poster)

Leduc, M., Gervais, R., Baumann, E., Lebeuf, Y., Tremblay, G.F., and Chouinard, P.Y. (2015). "L'intérêt du trèfle rouge dans une stratégie de production de lait enrichi en acides gras  $\omega$ -3.", Journée d'information scientifique sur les bovins laitiers et les plantes fourragères, Drummondville, QC, Canada, 25 février 2015.

2014

Séguin, P., Aubin, M.-P., Charron, J.-B., Vanasse, A., Lalonde, O., and Tremblay, G.F. (2014). "Yield and quality of industrial hemp cultivars grown in Quebec.", *ASA, CSSA and SSSA International Annual Meeting 2014*, Long Beach, CA, USA, November 2-5, 2014.

Alfonso-Avila, A.R., Charbonneau, É., Chouinard, P.Y., Tremblay, G.F., and Gervais, R. (2014). "Effect of mineral supplementation on lactational performance in early-lactating dairy cows fed a high-concentrate diet.", *ADSA-ASAS 2014 Joint Annual Meeting*, Kansas City, MO, USA, July 20-24, 2014.

Abdi, D., Cade-Menun, B.J., Ziadi, N., Tremblay, G.F., and Parent, L.-É. (2014). "Predicting soil organic phosphorus using near-infrared reflectance spectroscopy.", *20th World Congress of Soil Science*, Jeju, South Korea, June 8-13, 2014.

Tremblay, G.F., Bélanger, G., Lajeunesse, J., Chouinard, P.Y., and Charbonneau, É. (2014). "Response of timothy Se concentration to increasing rates of a slow-release Se fertilizer in eastern Canada.", *ASA, CSSA and SSSA International Annual Meeting 2014*, Long Beach, CA, USA, November 2-5, 2014.

Tremblay, G.F., Bélanger, G., Lajeunesse, J., Chouinard, P.Y., and Charbonneau, É. (2014). "Un fourrage enrichi en sélénium pour les vaches laitières: Aspects agronomiques.", *Demi-journée d'information scientifique sur les fourrages*, Victoriaville, QC, Canada, 12 février, 2014, pp. 4-6.

Séboussi, R., Ouellet, V., Chouinard, P.Y., Tremblay, G.F., Bélanger, G., Chorfi, Y., Fournier, A., Couture, Y., and Charbonneau, É. (2014). "Un fourrage enrichi en sélénium pour les vaches laitières: Aspects agronomiques.", *Demi-journée d'information scientifique sur les fourrages*, Victoriaville, QC, Canada, 12 février, 2014, pp. 7-15.

Tremblay, G.F., Bélanger, G., and Berthiaume, R.R. (2014). "Fauche PM en andains larges : une option compatible à l'ensilage en un jour.", *L'Écho Fourrager*, 2, pp. 6-9.

Tremblay, G.F. (2014). "Produire du fourrage enrichi en sélénium.", *La Terre de chez nous*, 11 juin, 2014, pp. 30. (Abstract)

Tremblay, G.F. and Charbonneau, É. (2014). "La fertilisation en sélénium du fourrage comme moyen de compléter la ration des vaches laitières.", *L'Écho Fourrager*, 3, pp. 11-13.

Tremblay, G.F. and Charbonneau, É. (2014). "Examining your forages.", *Milk Producer*, pp. 42-44.

Claessens, A., Chouinard-Michaud, C., Michaud, A.R., Tremblay, G.F., Bertrand, A., Bélanger, G., Castonguay, Y., Berthiaume, R.R., and Allard, G.C. (2014). "Nonstructural carbohydrates and some attributes of nutritive value in alfalfa as influenced by genetic selection.", *North American Alfalfa Improvement Conference*, Lethbridge, Alberta, Canada, July 6-11, 2014.

Tremblay, G.F., Dion, Y., Rioux, S., Vanasse, A., and Angers, D.A. (2014). "Effets de quatre facteurs de régie sur la stabilité structurale des agrégats d'un sol argileux.", *Conférence présentée du congrès annuel de l'Association Québécoise des Spécialistes en Science du Sol (AQSSS)*, Victoriaville, QC, Canada, 26-29 mai 2014.

Abdi, D., Cade-Menun, B.J., Ziadi, N., Tremblay, G.F., and Parent, L.-É. (2014). "Near-infrared reflectance spectroscopy for soil organic phosphorus.", *ASA, CSSA and SSSA International Annual Meeting 2014*, Long Beach, CA, USA, November 2-5, 2014.

## 2013

Ziadi, N., Bélanger, G., Grant, C.A., Cade-Menun, B.J., Lalande, R., Hamel, C., Lafond, J., Lajeunesse, J., Pageau, D., Tremblay, G.F., and Zhang, T.Q. (2013). *Soil and plant phosphorus assessment and modeling in Canadian agro-ecosystems. Final report SAGES#1475. (Report)*

Dos Passos Bernardes, A., Tremblay, G.F., Bélanger, G., Charbonneau, É., and Berthiaume, R.R. (2013). "Composition chimique de certains cultivars d'espèces fourragères fauchées en début et en fin de journée.", *Demi-journée d'information scientifique sur les fourrages 2013*, Victoriaville, QC, Canada, February 14, 2013, pp. 16-21.

Séboussi, R., Tremblay, G.F., Chouinard, P.Y., Chorfi, Y., Bélanger, G., Couture, Y., Ouellet, V., and Charbonneau, É. (2013). "Selenium-fertilized forage as a way to supplement lactating dairy cows.", *ADSA-ASAS Joint Annual Meeting*, Indianapolis, USA, July 2013, *IN. J. Dairy Sci.* 96 (E-suppl.1):247-248.

Ouellet, D.R., Tremblay, G.F., and Mustafa, A.F. (2013). "Evaluation of DM, NDF, and starch ruminal degradabilities of corn hybrids: A three-year study.", *Advances in Dairy Technology (Western Canadian Dairy Seminar Proceedings)*, 25, pp. 387. (Abstract)

Ziadi, N., Tremblay, G.F., Bélanger, G., Abdi, D., St. Luce, M., and Parent, L.-É. (2013). "La spectroscopie dans le proche infrarouge au service de la science du sol.", *27e Congrès de l'AQSSS (Association québécoise de spécialistes en sciences du sol)*, « Les sols à bout de souffle ? », Hôtel Chicoutimi de Saguenay, 27 au 30 mai, 2013.

Berthiaume, R.R., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Michaud, R., Pelletier, S., Brito, A.F., Lafrenière, C., and Allard, G. (2013). "High quality forages: How sweet should they be?", *Advances in Dairy Technology (Western Canadian Dairy Seminar Proceedings)*, 25, pp. 235-252.

Bélanger, G. and Tremblay, G.F. (2013). "Fertilisation et survie hivernale des plantes fourragères.", *Blitz Plantes Fourragères*, Saint-Hyacinthe, QC, Canada, May 22, 2013.

Séboussi, R., Tremblay, G.F., Chouinard, P.Y., Chorfi, Y., Bélanger, G., Couture, Y., Ouellet, V., and Charbonneau, É. (2013). "Ajouter du sélénium dans vos rations via les fourrages!", *37e Symposium sur les bovins laitiers*, St-Hyacinthe, QC, Canada, 30 octobre 2013, pp. 17. (Poster)

Bélanger, G., Tremblay, G.F., Jégo, G., and Lajeunesse, J. (2013). "Forage management research.", *2013 CFGA Conference & AGM*, December 9-11, 2013, Oral presentation.

Tremblay, G.F., Bélanger, G., Drapeau, R., Michaud, R., Allard, G., Chouinard, P.Y., Pellerin, D., Brassard, H., Charbonneau, É., Pelletier, S., Séguin, P., Fournier, A., Lefebvre, D.M., Oba, M., and Penner, G.A. (2013). "Fourrage à valeur ajoutée pour la vache en période de transition.", *Présentation orale faite lors d'une activité de rayonnement des clubs-conseils organisée par le Club-Conseil Agro-Champs, Fertiliser : Comment s'y retrouver?*, Theford Mines, QC, Canada, 31 janvier, 2013. (Presentation)

Bélanger, G. and Tremblay, G.F. (2013). "Fertilisation des prairies et survie hivernale.", *Présentation orale faite lors d'une activité de rayonnement des clubs-conseils organisée par le Club-Conseil Agro-Champs, Fertiliser : Comment s'y retrouver?*, Theford Mines, QC, Canada, 31 janvier, 2013. (Presentation)

Jégo, G., Bélanger, G., Tremblay, G.F., Jing, Q., and Baron, V.S. (2013). "Performance du modèle STICS pour simuler la croissance et la valeur nutritive de la fléole des prés.", *Demi-journée d'information scientifique sur les fourrages 2013*, Victoriaville, QC, Canada, February 14, 2013, pp. 27-31.



Tremblay, G.F., Berthiaume, R.R., Bélanger, G., Audy, P., Lafrenière, C., Charbonneau, É., and Allard, G.C. (2013). Sélection des fourrages sur la base de la valeur alimentaire et de l'ensilabilité pour mieux les valoriser en production laitière. Rapport final de projet de recherche, 2012-2013, Direction générale de la science et de la technologie d'AAC, Programme d'innovation en agriculture (PIA), Rapport final, Projet de recherche #, 26 pages. (Report)

Tremblay, G.F., Morin, C., Bélanger, G., Bertrand, A., Castonguay, Y., Michaud, R., Berthiaume, R.R., and Allard, G.C. (2013). "Increased sugar concentration with PM-cutting and wide swathing improves alfalfa silage fermentation.", 22nd International Grassland Congress, September 15-19, 2013, pp. 766-767.

Leduc, M., Gervais, R., Baumann, E., Lebeuf, Y., Tremblay, G.F., and Chouinard, P.Y. (2013). "Lactation performance and nitrogen balance in cows fed red clover or alfalfa based diets differing in rumen-degraded protein supply.", ADSA-ASAS Joint Annual Meeting, Indianapolis, USA, July 2013.

Bélanger, G., Virkajärvi, P., Duru, M., Tremblay, G.F., and Saarijärvi, K. (2013). "Herbage nutritive value in less-favoured areas of cool regions.", 17th Symposium of the European Grassland Federation, Akureyri, Iceland, June 23-26, 2013, Invited paper. 2013 EGF Iceland. The role of grasslands in a green future. Threats and perspectives in less-favoured areas. Edited by A. Helgado tír et A. Hopkins. Volume 18. Grassland science in Europe, pp. 57-70.

Claessens, A., Bélanger, G., Savoie, P., Parent, G., Bertrand, A., Tremblay, G.F., Massé, D.I., Gilbert, Y., and Babineau, D. (2013). "Effect of harvest date and nitrogen fertilization on reed canarygrass and switchgrass yield, composition and specific methane production in eastern Canada.", SWITCHGRASS II conference, Madison, Wisconsin, USA, September 10-12, 2013,, [www.dfr.wisc.edu/switchgrass/](http://www.dfr.wisc.edu/switchgrass/).

Claessens, A., Bélanger, G., Savoie, P., Parent, G., Bertrand, A., Tremblay, G.F., Massé, D.I., Gilbert, Y., and Babineau, D. (2013). "Species, harvest date, and nitrogen fertilization affect characteristics of biomass grown for methane production in eastern Canada.", SWITCHGRASS II conference, Madison, Wisconsin, USA, September 9-13, 2013, Invited for an oral presentation.

Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Berthiaume, R.R., Michaud, R., Pelletier, S., Morin, C., Lafrenière, C., and Allard, G.C. (2013). "Improving forage nonstructural carbohydrates through management and breeding.", 22nd International Grassland Congress, September 15-19, 2013, pp. 668-669.

Berthiaume, R.R., Brito, A.F., Tremblay, G.F., Bélanger, G., Lafrenière, C., Bertrand, A., Castonguay, Y., Michaud, R., and Allard, G.C. (2013). "High-sugar alfalfa for dairy cows.", 22nd International Grassland Congress, September 15-19, 2013, pp. 729-731.

Bélanger, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Berthiaume, R.R., Michaud, R., Pelletier, S., Morin, C., Lafrenière, C., and Allard, G.C. (2013). "Improving forage nonstructural carbohydrates through management and breeding.", Symposium de l'industrie laitière, Moncton, NB, Canada, November 13-14, 2013.

Tremblay, G.F., Morin, C., Bélanger, G., Bertrand, A., Castonguay, Y., Michaud, R., Berthiaume, R.R., and Allard, G.C. (2013). "Increased sugar concentration with PM-cutting and wide swathing improves alfalfa silage fermentation.", Symposium de l'industrie laitière, Moncton, NB, Canada, November 13-14, 2013.

## 2012

Bertrand, A., Bourassa, J., Bélanger, G., Mongrain, D., Tremblay, G.F., and Castonguay, Y. (2012). "Les hausses de températures et du CO<sub>2</sub> affecteront-elles la productivité des plantes fourragères?", Demi-journée d'information scientifique sur les fourrages 2012, Victoriaville, QC, Canada, February 21, 2012, pp. 32-33.

Crépeau, M., Khelifi, M., Vanasse, A., Seguin, P., and Tremblay, G.F. (2012). "Effects of harvesting time on the extraction of juice from sweet sorghum and sweet pearl millet for eventual bioethanol production.", International Conference on Agricultural and Food Engineering for Life 2012, Faculty of Engineering, Universiti Putra Malaysia, Putrajaya, Malaysia, November 26-28, 2012. (Presentation)

Berthiaume, R.R., Bélanger, G., Tremblay, G.F., and Lafrenière, C. (2012). "Investir dans les fourrages: ça vaut le coût?", Le rendez-vous laitier. Association québécoise des industries de nutrition animale et céréalière (AQINAC) 2012, Best Western Hôtel Universel, Drummondville, QC, Canada, March 27, 2012, pp. 69-81.

Sansoulet, J.B., Pattey, E., Jégo, G., Kröbel, R., Grant, B.B., Smith, W.N., Tremblay, N., and Tremblay, G.F. (2012). "Comparing STICS, DNDC and DAYCENT model simulations to assess the impacts of fertilization and climate variations on N uptake and biomass production from spring wheat in Eastern Canada.", IXe Séminaire du modèle de culture STICS, Sainte-Montaine, France, October 16-19, 2012.

Ouellet, D.R., Tremblay, G.F., and Mustafa, A.F. (2012). "Evaluation of DM, NDF, and starch ruminal degradabilities of corn silage hybrids: A three-year study.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012. (Abstract)

Brassard, M., Tessier, L., Gervais, R., Pouliot, É., Gariépy, C., Tremblay, G.F., Chouinard, P.Y., and Cinq-Mars, D. (2012). "Adipose tissue and meat ultimate pH and color in goat kids as influenced by breed and feeding system.", XI International Conference on Goats, Canary Islands, Spain, September 24-27, 2012. (Abstract)

- Tremblay, G.F., DosPassos Bernardes, A., Vanasse, A., Bélanger, G., and Séguin, P. (2012). "Nutritive value of silages made with sweet pearl millet and sweet sorghum forage residues obtained after juice extraction.", XVI International Silage Conference, Hämeenlinna, Finland, July 2-4, 2012, Published in: Proceedings of the XVI International Silage Conference. Kuoppala, K., Rinne, M., and Vanhatalo, A. (eds.) published by MTT Agrifood Research Finland, University of Helsinki, pp. 226-227. (Abstract)
- Abdi, D., Tremblay, G.F., Ziadi, N., Bélanger, G., and Parent, L.-É. (2012). "Analysis of soil phosphorus by near infrared reflectance spectroscopy.", 4th International Congress EUROSIL: Soil Science for the Benefit of Mankind and Environment, Bari, Italy, July 2-6, 2012. (Abstract)
- Jégo, G., Bélanger, G., Tremblay, G.F., Patey, E., and Jing, Q. (2012). "Calibration et évaluation de la performance du modèle STICS pour simuler la croissance et la valeur nutritive de la fléole des prés.", IXe Séminaire du modèle de culture STICS, Sa Intermontaine, France, October 16-19, 2012. (Poster)
- Savoie, P., Tremblay, G.F., and Morissette, R. (2012). "Méthodes pour réduire les pertes durant la récolte et la conservation des fourrages.", 36e Symposium sur les bovins laitiers: Agir pour l'avenir, Drummondville, QC, Canada, November 1, 2012, pp. 116-129.
- Dos Passos Bernardes, A., Vanasse, A., Tremblay, G.F., Bélanger, G., and Séguin, P. (2012). "Rendement en sucre du millet perlé et du sorgho sucrés et ensilabilité du résidu fourrager.", Grandes cultures "Ensemble pour la diffusion de la recherche agronomique", 23 février 2012, Une initiative du Comité céréales et du Comité maïs et oléoprotéagineux du CRAAQ, pp. 26-27.
- Brito, A.F., Régimbald, G., Tremblay, G.F., Bertrand, A., Castonguay, Y., Bélanger, G., Michaud, R., Lafrenière, C., and Berthiaume, R.R. (2012). "High-total nonstructural carbohydrate timothy enhanced performance of mid-lactation dairy cows.", Western Canadian Dairy Seminar, Red Deer, Alberta, Canada, 6-9 mars, 2012, WCDS Advances in Dairy Technology, Volume 24, Abstract, page 399.
- Berthiaume, R.R., Tremblay, G.F., Bélanger, G., Audy, P., Lafrenière, C., Charbonneau, É., and Allard, G. (2012). "Des variétés de fourrages performantes aux champs et à l'étable, est-ce possible?", Réunion annuelle des représentants Semican - Lallemand 2012, Victoriaville, QC, Canada, July 17, 2012.
- Lajeunesse, J., Bélanger, G., Tremblay, G.F., Papadopoulos, Y.A., and Fillmore, S.A.E. (2012). "Évaluation de mélanges simples et complexes de plantes fourragères pour le pâturage.", Journée d'analyse de groupe vache-veau, Saint-Félicien, QC, Canada, December 12, 2012.
- Gagnon, B., Ziadi, N., Chantigny, M.H., Bélanger, G., Tremblay, G.F., and Massé, D.I. (2012). "Valorisation des sous-produits du traitement des lisiers de porc et des eaux usées de papeteries en production de maïs-fourrager.", Demi-journée d'information scientifique sur les fourrages 2012, Victoriaville, QC, Canada, February 21, 2012, pp. 34-37.
- Chouinard, P.Y., Villeneuve, M.-P., Lebeuf, Y., Tremblay, G.F., and Gervais, R. (2012). "Facteurs alimentaires modulant le profil aromatique du lait chez la vache.", 36e Symposium sur les bovins laitiers: Agir pour l'avenir, Drummondville, QC, Canada, November 1, 2012, pp. 131-147.
- Crépeau, M., Khelifi, M., Vanasse, A., Séguin, P., and Tremblay, G.F. (2012). "Effects of compressive forces on the extraction of juice from sweet sorghum and sweet pearl millet for eventual bioethanol production.", International Conference on Agricultural and Food Engineering for Life 2012, Faculty of Engineering, Universiti Putra Malaysia, Putrajaya, Malaysia, November 26-28, 2012. (Presentation)
- Villeneuve, M.-P., Lebeuf, Y., Gervais, R., Tremblay, G.F., Vuilleumard, J.-C., and Chouinard, P.Y. (2012). "Effets du type de fourrage sur le profil aromatique du lait chez la vache.", 36e Symposium sur les bovins laitiers: Agir pour l'avenir, Drummondville, QC, Canada, November 1, 2012, pp. 12. (Abstract)
- Villeneuve, M.-P., Lebeuf, Y., Gervais, R., Tremblay, G.F., Vuilleumard, J.-C., and Chouinard, P.Y. (2012). "Propriétés sensorielles et abondance de composés volatils retrouvés dans le lait de vaches ayant consommé de la fléole sous forme de foin, d'ensilage ou de pâturage.", Forum Technologique NOVALAIT / IDF Dairy Science and Technology Week 2012, Hôtel et Suites Le Dauphin, Drummondville, QC, Canada, May 29, 2012, P2012-03. (Abstract)
- Chouinard, P.Y., Pellerin, D., Charbonneau, É., Vuilleumard, J.-C., Gervais, R., Fievez, V., Benchaar, C., and Tremblay, G.F. (2012). "Chaire industrielle de recherche sur le contrôle nutritionnel de la production des constituants du lait.", Forum Technologique NOVALAIT / IDF Dairy Science and Technology Week 2012, Hôtel et Suites Le Dauphin, Drummondville, QC, Canada, May 29, 2012, P2012-12. (Abstract)
- Allard, G., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R.R., Pellerin, D., Lefebvre, D.M., and Fournier, A. (2012). "Production de fourrages riches en sucres pour améliorer les performances de la vache laitière.", Forum Technologique NOVALAIT / IDF Dairy Science and Technology Week 2012, Hôtel et Suites Le Dauphin, Drummondville, QC, Canada, May 29, 2012, P2012-01. (Abstract)
- Tremblay, G.F., Berthiaume, R.R., Allard, G., Bertrand, A., Brito, A.F., Castonguay, Y., Chouinard-Michaud, C., Drapeau, R., Lafrenière, C., Lefebvre, D.M., Michaud, R., Pellerin, D., Fournier, A., Morin, C., and Pelletier, S. (2012). "Du fourrage sucré pour mieux performer.", Analyse de groupe de lait 2011 et valorisation des fourrages: Du champ au réservoir à lait, Hôtel du jardin, Saint-Félicien, QC, Canada, April 24, 2012, pp. 1-10.
- Berthiaume, R.R., Lafrenière, C., Tremblay, G.F., Bélanger, G., Bertrand, A., Castonguay, Y., Drapeau, R., Michaud, R., Allard, G., Pellerin, D., Fournier, A., and Lefebvre, D.M. (2012). "Forages: Cows like them sweet!", Thunder Bay District Soil and Crop Improvement Association's Spring Farm Conference 2012, Thunder Bay, ON, Canada, April 11, 2012.

Antaya, N.T., Brito, A.F., Berthiaume, R.R., Tremblay, G.F., Whitehouse, N.L., Soule, G.M., and Guindon, N. (2012). "Feeding red clover cut at sundown and harvested as baleage did not improve milk yield in late-lactation dairy cows.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, J. Anim. Sci. Vol. 90, Suppl. 3/J. Dairy Sci. Vol. 95, Suppl. 2, Abstract W107, p. 538.

Savoie, P., Caron, E., and Tremblay, G.F. (2012). "Méthodes de fenaison pour réduire les pertes.", Demi-journée d'information scientifique sur les fourrages 2012, Victoriaville, QC, Canada, February 12, 2014, pp. 38-47.

Gagnon, B. and Tremblay, G.F. (2012). "Biosolides agricoles et industriels en production de maïs fourrager : bénéfices et contraintes.", Info-Fourrage, 2012(1), pp. 6-7.

## 2011

St. Luce, M., Ziadi, N., Nyiraneza, J., Tremblay, G.F., Zebarth, B.J., Whalen, J.K., and Laterrière, M. (2011). "Prediction of soil properties and soil N supply using near infrared reflectance spectroscopy.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Tremblay, G.F., Berthiaume, R.R., Bélanger, G., Audy, P., Lafrenière, C., Charbonneau, É., and Allard, G. (2011). "Valeur alimentaire des ensilages fabriqués à partir de fourrages plus sucrés.", Réunion annuelle des représentants Semican - Lallemand 2011, Victoriaville, QC, Canada, June 15, 2011.

Sansoulet, J.B., Pattey, E., Jégo, G., Bourgeois, G., Tremblay, N., and Tremblay, G.F. (2011). "Performance of STICS Model to Predict Biomass and N Uptake of Corn and Spring Wheat in Eastern Canada.", 2011 ASA, CSSA, and SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011, Session: Soil-Plant-Water Relations: Modeling and Measurements. (Presentation)

Crépeau, M., Vanasse, A., Khelifi, M., Séguin, P., and Tremblay, G.F. (2011). "Pressage du millet perlé sucré et du sorgho sucré pour la production de bioéthanol.", 79e Congrès de l'ACFAS: Curiosité, diversité, responsabilité, Université de Sherbrooke & Université Bishop's, Sherbrooke, QC, Canada, May 9-10, 2011.

Bertrand, A., Bélanger, G., Castonguay, Y., and Tremblay, G.F. (2011). "Temperature and CO<sub>2</sub> affect yield, root biomass, and nutritive value of Canadian tame and native forage species.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011, Abstract 68182. (Abstract)

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## Research Publications :

2015

Zhang, X., Wang, Q., Xu, J., Gilliam, F.S., Tremblay, N., and Li, C. (2015). "In Situ Nitrogen Mineralization, Nitrification, and Ammonia Volatilization in Maize Field Fertilized with Urea in Huanghuaihai Region of Northern China.", *PLoS ONE*, 10(1: e0115649), pp. 15 pages. doi : 10.1371/journal.pone.0115649

2014

Sansoulet, J.B., Pattey, E., Kröbel, R., Grant, B.B., Smith, W.N., Jégo, G., Desjardins, R.L., Tremblay, N., and Tremblay, G. (2014). "Comparing the performance of STICS, DNDC and DayCent models for predicting N uptake and biomass of spring wheat in Eastern Canada.", *Field Crops Research*, 156, pp. 135-150. doi : 10.1016/j.fcr.2013.11.010

Caron, J., Rancourt, G.T., Bélec, C., Tremblay, N., and Parent, L.-É. (2014). "Nitrogen budget for fertilized carrot cropping systems in a Quebec organic soil.", *Canadian Journal of Soil Science*, 94(2), pp. 139-148. doi : 10.4141/CJSS2013-104

2013

Xie, M., Tremblay, N., Tremblay, G., Bourgeois, G., Bouroubi, M.Y., and Wei, Z. (2013). "Weather effects on corn response to in-season nitrogen rates.", *Canadian Journal of Plant Science*, 93(3), pp. 407-417. doi : 10.4141/cjps2012-145

Chen, P.F., Wang, J., Huang, W.J., Tremblay, N., Ou, Y., and Zhang, Q. (2013). "Critical nitrogen curve and remote detection of nitrogen nutrition index for corn in the northwestern plain of Shandong Province, China.", *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 6(2, art. no. 6410363), pp. 682-689. doi : 10.1109/JSTARS.2012.2236302

2012

Zhu, J.-J., Tremblay, N., and Liang, Y.-L. (2012). "Comparing SPAD and atLEAF values for chlorophyll assessment in crop species.", *Canadian Journal of Soil Science*, 92(4), pp. 645-648. doi : 10.4141/CJSS2011-100

Tremblay, N., Wang, Z., and Cerovic, Z.G. (2012). "Sensing crop nitrogen status with fluorescence indicators. A review.", *Agronomy for Sustainable Development*, 32(2), pp. 451-464. doi : 10.1007/s13593-011-0041-1

Moulin, A.P., Cohen, Y.S., Alchanatis, V., Tremblay, N., and Volkmar, K.M. (2012). "Yield response of potatoes to variable nitrogen management by landform element and in relation to petiole nitrogen - A case study.", *Canadian Journal of Plant Science*, 92(4), pp. 771-781. doi : 10.4141/CJPS2011-005

Tremblay, N., Bouroubi, M.Y., Bélec, C., Mullen, R., Kitchen, N., Thomason, W., Ebelhar, S., Mengel, D., Raun, W., Francis, D., Vories, E., and Ortiz-Monasterio, I. (2012). "Corn Response to Nitrogen is Influenced by Soil Texture and Weather.", *Agronomy Journal*, 104(6), pp. 1658-1671. doi : 10.2134/agnonj2012.0184

Zhang, Y., Tremblay, N., and Zhu, J.-J. (2012). "A first comparison of Multiplex® for the assessment of corn nitrogen status.", *Journal of Food, Agriculture & Environment (JFAE)*, 10(1), pp. 1008-1016.

Nyiraneza, J., Cambouris, A.N., Ziadi, N., Tremblay, N., and Nolin, M.C. (2012). "Spring Wheat Yield and Quality Related to Soil Texture and Nitrogen Fertilization.", *Agronomy Journal*, 104(3), pp. 589-599. doi : 10.2134/agnonj2011.0342

2011

Zhu, J.-J., Tremblay, N., and Liang, Y.-L. (2011). "A Corn Nitrogen Status Indicator Less Affected by Soil Water Content.", *Agronomy Journal*, 103(3), pp. 890-898. doi : 10.2134/agnonj2010.0351

Zhu, J.-J., Liang, Y.-L., and Tremblay, N. (2011). "Responses of corn (*Zea mays* L.) N status indicators to nitrogen rates and soil moisture.", *Acta Agronomica Sinica*, 37(7), pp. 1259-1265. doi : 10.3724/SP.J.1006.2011.01259

Jégo, G., Pattey, E., Bourgeois, G., Tremblay, N., and Drury, C.F. (2011). "Evaluation of the STICS crop growth model with maize cultivar parameters calibrated for Eastern Canada.", *Agronomy for Sustainable Development*, 31(3), pp. 557-570. doi : 10.1007/s13593-011-0014-4

Kröbel, R., Smith, W.N., Grant, B.B., Desjardins, R.L., Campbell, C.A., Tremblay, N., Li, C.S., Zentner, R.P., and McConkey, B.G. (2011). "Development and evaluation of a new Canadian spring wheat sub-model for DNDC.", *Canadian Journal of Soil Science*, 91(4), pp. 503-520. doi : 10.4141/cjss2010-059

Bouroubi, M.Y., Tremblay, N., Vigneault, P., Bélec, C., Panneton, B., and Guillaume, S. (2011). "Optimal Nitrogen Reference P lots Locations for Corn Using NDVI and Soil Apparent Electrical Conductivity.", *Lecture notes in Computer Science*, 6782, pp. 356-368. doi : 10.1007/978-3-642-21928-3\_25

Tremblay, N., Bouroubi, M.Y., Vigneault, P., and Bélec, C. (2011). "Guidelines for in-season nitrogen application for maize (*Zea mays* L.) based on soil and terrain properties.", *Field Crops Research*, 122(3), pp. 273-283. doi : 10.1016/j.fcr.2011.04.008

Fan, L., Fang, C.Q., Dubé, C., Tremblay, N., and Khanizadeh, S. (2011). "A non-destructive method to predict polyphenols content in strawberry.", *Journal of Agricultural, Food and Environmental Sciences*, 9(2), pp. 59-62.

Tremblay, N., Bouroubi, M.Y., Panneton, B., Vigneault, P., and Guillaume, S. (2011). "Space, time, remote sensing and optimal nitrogen fertilization rates - A fuzzy logic approach.", in Clay, E.C. and Shanahan, J.F. (eds.) - *GIS Applications in Agriculture, Volume Two: Nutrient Management for Energy Efficiency*, CRC Press, pp. 101-121.

Tremblay, N., Fallon, E., and Ziadi, N. (2011). "Sensing of Crop Nitrogen Status: Opportunities, Tools, Limitations, and Supporting Information Requirements.", *HortTechnology*, 21(3), pp. 274-281.

## Other Science Related Publications:

2015

Alotaibi, K., Cambouris, A.N., Ziadi, N., Perron, I., and Tremblay, N. (2015). "Corn Yield and quality as a function of nitrogen.", *Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, McGill University, Montreal, QC, Canada, July 5-10, 2015. (Poster)*

2014

Bouroubi, M.Y., Tremblay, N., Vigneault, P., and Benoit, M. (2014). "Linear spectral unmixing for crop and soil information extraction from a single worldview-2 image.", *Joint 2014 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2014) and the 35th Canadian Symposium on Remote Sensing (CSRS 2014), Quebec Convention Centre, Quebec City, Canada, July 13-18, 2014, pp. 5103-5106.*

Cambouris, A.N., Perron, I., Ziadi, N., Lafond, J., Zebarth, B.J., Nyiraneza, J., Nelson, A., Carvers, C., and Tremblay, N. (2014). "Fertilisation azotée du centre à l'est du Canada sous culture de la pomme de terre : saison 2013.", *Congrès annuel de l'AQSSS, Victoriaville, QC, Canada. (Presentation)*

Cambouris, A.C., Perron, I., Ziadi, N., Lafond, J., Zebarth, B.J., Nyiraneza, J., Nelson, A., Carvers, C., and Tremblay, N. (2014). "Fertilisation azotée dans la production de pomme de terre du centre à l'est Canadien : saison 2013.", *Congrès annuel de l'association québécoise des spécialistes en sciences du sol, Victoriaville, Québec, Canada, May 26-29, 2014, Oral presentation.*

Tremblay, N., Grenon, L., Fallon, E., Bélec, C., Surprenant, J., and Lafrenière-Landry, M. (2014). "SCAN 2014 : Rencontre des collaborateurs.", *Saint-Jean-sur-Richelieu, Canada, 11 décembre 2014. (Presentation)*

Tremblay, N., Bourgeois, G., Audet, R., Fallon, E., Bélec, C., and Bouroubi, M.Y. (2014). "Managing spatial and temporal uncertainties in actual and forecast rainfall for optimal in-season nitrogen fertilizer rates recommendations in corn.", *18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30 - July 3, 2014.*

Tremblay, N., Vigneault, P., Bélec, C., Fallon, E., and Bouroubi, M.Y. (2014). "A comparison of performance between UAV and satellite imagery for N status assessment in corn.", *12th International Conference on Precision Agriculture (ICPA), Sacramento, California, USA, Paper 1681. 14 p. Oral. [https://www.ispag.org/abstract\\_papers/papers/paper\\_1681.pdf](https://www.ispag.org/abstract_papers/papers/paper_1681.pdf), pp. 14 pages.*

2013

Bouroubi, M.Y., Tremblay, N., and Adamchuk, V. (2013). "Estimating nitrogen sufficiency index using a natural local reference approach.", *2nd International Conference on Agro-Geoinformatics: Information for Sustainable Agriculture, Agro-Geoinformatics 2013, Fairfax, VA, USA, pp. 71-75.*

Tremblay, N., Bouroubi, M.Y., Bélec, C., Mullen, R., Kitchen, N., Thomason, W., Ebelhar, S., Mengel, D., Raun, W., Francis, D., Vories, E., and Ortiz-Monasterio, I. (2013). "Corn Response to Nitrogen is Influenced by Soil Texture and Weather.", *67th Northeastern Corn Improvement Conference, Ottawa, ON, Canada, February 14-15, 2013, pp. 40.*

2012

Sansoulet, J.B., Pattey, E., Jégo, G., Kröbel, R., Grant, B.B., Smith, W.N., Tremblay, N., and Tremblay, G.F. (2012). "Comparing STICS, DNDC and DAYCENT model simulations to assess the impacts of fertilization and climate variations on N uptake and biomass production from spring wheat in Eastern Canada.", IXe Séminaire du modèle de culture STICS, Sainte-Montaine, France, October 16-19, 2012.

Nyiraneza, J., Cambouris, A.N., Ziadi, N., Tremblay, N., and Nolin, M.C. (2012). "Effets de la texture et de la fertilisation azotée sur le rendement et la qualité de blé de printemps.", Journée scientifique sur les grandes cultures, Centre de Référence en Agriculture et Agroalimentaire du Québec (CRAAQ), Drummondville, QC, Canada, February 23, 2012. (Presentation)

Sansoulet, J.B., Pattey, E., Jégo, G., Tremblay, N., Drury, C.F., and Ma, C. (2012). "Performance evaluation of STICS crop model to simulate corn growth attributes in response to N rate and climate variations.", 11th International Conference on Precision Agriculture (ICPA), Indianapolis, IN, USA, July 15-18, 2012, pp. 12.

Tempesta, M., Tremblay, N., Vigneault, P., Bouroubi, M.Y., and Dorais, M. (2012). "Remote Sensing of Nitrogen and Water Status on Boston Lettuce Transplants in a Greenhouse Environment.", Canadian Organic Science Conference and Organic Science Cluster Strategic Meetings, University of Manitoba, Winnipeg, MB, Canada, February 21-23, 2012, pp. 87.

Pattey, E., Jégo, G., Sansoulet, J.B., Liu, J., Duchesne, I., Tremblay, N., and Beaudoin, N. (2012). "Performance de STICS à prédire la productivité du maïs grain en réponse aux variations climatiques dans l'est du Canada. 1) Réinitialisation à l'aide du LAI extrait de LANDSAT pour prédire des rendements spatialisés; 2) simulation de la réponse à la fertilisation azotée.", IXe Séminaire du modèle de culture STICS, Sainte-Montaine, France, October 16-19, 2012.

Tempesta, M., Tremblay, N., Vigneault, P., Bouroubi, M.Y., Dorais, M., and Gianquinto, G.P. (2012). "Remote sensing of nitrogen and water status on Boston lettuce transplants in a greenhouse environment.", 11th International Conference on Precision Agriculture (ICPA), Indianapolis, IN, USA, July 15-18, 2012, Paper #1278, pp. 2 pages.

2011

Bouroubi, M.Y., Tremblay, N., Vigneault, P., and Bélec, C. (2011). "Water Supply and Soil Textures Influences on Corn Response to In-Season Nitrogen Rates: A Study Using Spatially Variable Irrigation.", 8th European Conference on Precision Agriculture 2011, Czech University of Life Sciences Prague, Prague, Czech Republic, July 11-14, 2011, Published in: Stafford, J.V. (ed.) - Precision Agriculture 2011, ISBN 9788090483026, pp. 51-59.

Landeiro Reyes, E., Bouroubi, M.Y., Bannari, A., and Tremblay, N. (2011). "Optimal Nitrogen Reference Plots Locations for Corn Using NDVI and Soil Apparent Electrical Conductivity.", 32e Symposium canadien sur la télédétection / 14e Congrès de l'association québécoise de télédétection, Université Bishop's, Sherbrooke, QC, Canada, June 13-16, 2011, Paper #1016, Session 2A, Agriculture: sol/soil. (Presentation)

Tremblay, N., Zebarth, B.J., and N'Dayegamiye, A. (2011). "Améliorer les recommandations en engrais par des tests sur l'apport du sol en azote minéral.", 25ème congrès annuel de l'Association québécoise de spécialistes en sciences du sol (AQSSSA), Wendake, QC, Canada, May 25-27, 2011, 94. (Presentation)

Sansoulet, J.B., Pattey, E., Jégo, G., Bourgeois, G., Tremblay, N., and Tremblay, G.F. (2011). "Performance of STICS Model to Predict Biomass and N Uptake of Corn and Spring Wheat in Eastern Canada.", 2011 ASA, CSSA, and SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011, Session: Soil-Plant-Water Relations: Modeling and Measurements. (Presentation)

Fan, L., Fang, C.Q., Dubé, C., Tremblay, N., and Khanizadeh, S. (2011). "A new non-destructive rapid method to select strawberry lines rich in polyphenols: a preliminary study.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011. (Poster)

Fan, L., Fang, C.Q., Dubé, C., Tremblay, N., and Khanizadeh, S. (2011). "A new non-destructive rapid method to select strawberry lines rich in polyphenols: a preliminary study.", 7th North American Strawberry Symposium (NASS) & North American Strawberry Growers Association (NASGA) 2011 Berry Conference, Doubletree Hotel Tampa Westshore Airport, Tampa, FL, USA, February 8-11, 2011. (Poster)

Tremblay, N., Bouroubi, M.Y., Panneton, B., Vigneault, P., and Guillaume, S. (2011). "Space, Time, Remote Sensing and Optimal Nitrogen Fertilization Rates – A Fuzzy Logic Approach.", in Clay, E.C. and Shanahan, J.F. (eds.) - GIS Applications in Agriculture, Volume Two: Nutrient Management for Energy Efficiency, CRC Press, pp. 101-122.

Bouroubi, M.Y., Tremblay, N., Vigneault, P., Bélec, C., Panneton, B., and Guillaume, S. (2011). "Fuzzy Logic Approach for Spatially Variable Nitrogen Fertilization of Corn Based on Soil, Crop and Precipitation Information.", in Murgante, B., Gervasi, O., Iglesias, A., Tanari, D., and Apduhan, B.O. (eds.) - Computational Science and Its Applications - ICCSA 2011. Series: Lecture Notes in Computer Science, Vol. 6785, Springer, pp. 356-368.

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## Research Publications:

2015

Menzies, J.G. and Turkington, T.K. (2015). "An overview of the ergot (*Claviceps purpurea*) issue in western Canada: challenges and solutions.", *Canadian Journal of Plant Pathology*, 37(1), pp. 40-51. doi : 10.1080/07060661.2014.986527

O'Donovan, J.T., Anbessa, Y., Grant, C.A., MacLeod, A., Edney, M.J., Izydorczyk, M.S., Turkington, T.K., Juskiw, P.E., Lafond, G.P., May, W.E., Harker, K.N., Johnson, E.N., Beres, B.L., McAllister, T.A., Smith, E.G., and Chapman, W. (2015). "Relative responses of new malting barley cultivars to increasing nitrogen rates in western Canada.", *Canadian Journal of Plant Science*, 95(5), pp. 831-839. doi : 10.4141/cjps-2014-415

Rennie, D.C., Holtz, M.D., Turkington, T.K., LeBoldus, J.M., Hwang, S.F., Howard, R.J., and Strelkov, S.E. (2015). "Movement of *Plasmidiophora brassicae* resting spores in windblown dust.", *Canadian Journal of Plant Pathology*, 37(2), pp. 188-196. doi : 10.1080/07060661.2015.1036362

Gutiérrez, L., Germán, S., Pereyra, S., Hayes, P.M., Pérez, C.A., Capettini, F., Locatelli, A.B., Berberian, M.M., Falconi, E., Estrada, R., Fros, D., Gonza, V., Altamirano, H., Huerta-Espino, J., Neyra, E., Orjeda, G., Sandoval-Islas, S., Singh, R.P., Turkington, T.K., and Castro, A.J. (2015). "Multi-environment multi-QTL association mapping identifies disease resistance QTL in barley germplasm from Latin America.", *Theoretical and Applied Genetics (TAG)*, 128(3), pp. 501-516. doi : 10.1007/s00122-014-2448-y

Kelly, A.C., Clear, R.M., O'Donnell, K., McCormick, S., Turkington, T.K., Tekauz, A., Gilbert, J., Kistler, H.C., Busman, M., and Ward, T.J. (2015). "Diversity of *Fusarium* head blight populations and trichothecene toxin types reveals regional differences in pathogen composition and temporal dynamics.", *Fungal Genetics and Biology*, 82, pp. 22-31. doi : 10.1016/j.fgb.2015.05.016

Harker, K.N., Yu, A.Z., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Johnson, E.N., Gan, Y.T., Kutcher, H.R., Dossall, L.M., Peng, G. (2015). "Canola rotation frequency impacts canola yield and associated pest species.", *Canadian Journal of Plant Science*, 95(1), pp. 9-20. doi : 10.4141/cjps-2014-289

Akhavan, A., Turkington, T.K., Kebede, B., Tekauz, A., Kutcher, H.R., Kirkham, C.L., Xi, K., Kumar, K., Tucker, J.R., and Strelkov, S.E. (2015). "Prevalence of mating type idiomorphs in *Pyrenophora teres* f. *teres* and *P. teres* f. *maculata* populations from the Canadian prairies.", *Canadian Journal of Plant Pathology*, 37(1), pp. 52-60. doi : 10.1080/07060661.2014.995710

Xi, K., Kumar, K., Holtz, M.D., Turkington, T.K., and Chapman, B.P. (2015). "Understanding the development and management of stripe rust in central Alberta.", *Canadian Journal of Plant Pathology*, 37(1), pp. 21-39. doi : 10.1080/07060661.2014.981215

Lupwayi, N.Z., Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Hall, L.M., Willenborg, C.J., Gan, Y.T., Lafond, G.P., May, W.E., and Grant, C.A. (2015). "Relating soil microbial properties to yields of no-till canola on the Canadian prairies.", *European Journal of Agronomy*, 62, pp. 110-119. doi : 10.1016/j.eja.2014.10.004

Turkington, T.K., O'Donovan, J.T., Harker, K.N., Xi, K., Blackshaw, R.E., Johnson, E.N., Peng, G., Kutcher, H.R., May, W.E., Lafond, G.P., Mohr, R.M., Irvine, R.B., and Stevenson, C. (2015). "The impact of fungicide and herbicide timing on foliar disease severity, and barley productivity and quality.", *Canadian Journal of Plant Science*, 95(3), pp. 525-537. doi : 10.4141/CJPS-2014-364

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Dossall, L.M., Hall, L.M., Kutcher, H.R., Willenborg, C.J., Peng, G., Irvine, R.B., and Mohr, R.M. (2015). "Canola cultivar mixtures and rotations do not mitigate the negative impacts of continuous canola.", *Canadian Journal of Plant Science*, 95(6), pp. 1085-1099. doi : 10.4141/cjps-2015-126

2014

Turkington, T.K., Xi, K., Kutcher, H.R., and Peng, G. (2014). "Understanding the nature and role of fungicides.", *Agronomy Up date Conference 2014*, Capri Centre Hotel, Red Deer, Alberta, Canada, January 14-15, 2014, Invited presentation; [http://www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/crop14718/\\$FILE/au-2014-turkington-understanding-the-nature-and-role-of-fungicides.pdf](http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/crop14718/$FILE/au-2014-turkington-understanding-the-nature-and-role-of-fungicides.pdf).

Ziesman, B.R., Turkington, T.K., Basu, U., and Strelkov, S.E. (2014). "Initial validation of a quantitative PCR-based system for detection of *Sclerotinia sclerotiorum* on canola.", *Canadian Journal of Plant Pathology*, 36, pp. 132. (Abstract)

Akhavan, A., Turkington, T.K., Kebede, B., Strelkov, I.S., Xi, K., Kumar, K., Tekauz, A., Kutcher, H.R., Tucker, J.R., Kirkham, C., Dunfield, K.E., and Strelkov, S.E. (2014). "Aetiology of *Pyrenophora teres* forms causing intermediate symptoms of net blotch in barley fields on the Prairies (84th Annual Meeting of the Canadian Phytopathological Society, Edmonton, AB, Canada, June 16-19, 2013).", *Canadian Journal of Plant Pathology*, 36, pp. 252-253. (Abstract)

Foroud, N.A., Chatterton, S., Reid, L.M., Turkington, T.K., Tittlemier, S.A., and Gräfenhan, T. (2014). "Fusarium Diseases of Canadian Grain Crops: Impact and Disease Management Strategies.", in Goyal A, and Manoharachary C. (eds.) - *Future Challenges in Crop Protection Against Fungal Pathogens*, Springer New York, pp. 267-316.

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Turkington, T.K., Lupwayi, N.Z., Stevenson, F.C., McLaren, D.L., Khakbazan, M., and Smith, E.G. (2014). "Rotational effects of legumes and non-legumes on hybrid canola and malting barley.", *Agronomy Journal*, 106(6), pp. 1921-1932. doi: 10.2134/agronj14.0236

Legge, W.G., Tucker, J.R., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Tekauz, A., Turkington, T.K., and Savard, M.E. (2014). "AAC Synergy barley.", *Canadian Journal of Plant Science*, 94(4), pp. 797-803. doi: 10.4141/cjps2013-307

Akhavan, A., Turkington, T.K., Kebede, B., Tekauz, A., Xi, K., Kutcher, H.R., Tucker, J.R., Kirkham, C., Kumar, K., Rennie, D.C., and Strelkov, S.E. (2014). "Genetic diversity of the spot form of the net blotch pathogen of barley (*Pyrenophora teres* f. *maculata*) on the Canadian Prairies as revealed by simple sequence repeats analysis.", *Canadian Journal of Plant Pathology*, 36, pp. 125-126. (Abstract)

Khakbazan, M., Grant, C.A., Huang, J., Smith, E.G., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Lafond, G.P., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., and Lupwayi, N.Z. (2014). "Economic effects of preceding crops and nitrogen application on canola and subsequent barley.", *Agronomy Journal*, 106(6), pp. 2055-2066. doi: 10.2134/agronj14.0253

## 2013

Legge, W.G., Tucker, J.R., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Tekauz, A., Turkington, T.K., and Savard, M.E. (2013). "Major barley.", *Canadian Journal of Plant Science*, 93(2), pp. 291-297. doi: 10.4141/cjps2012-248

Xi, K., Chen, X.M., Capettini, F., Falconi, E., Yang, R.-C., Helm, J.H., Holtz, M.D., Juskiw, P.E., Kumar, K., Nyachiro, J.M., and Turkington, T.K. (2013). "Multivariate analysis of stripe rust assessment and reactions of barley in multi-location nurseries.", *Canadian Journal of Plant Science*, 93(2), pp. 209-219. doi: 10.4141/CJPS2012-051

Aboukhaddour, R., Turkington, T.K., and Strelkov, S.E. (2013). "Race structure of *Pyrenophora tritici-repentis* (tan spot of wheat) in Alberta, Canada.", *Canadian Journal of Plant Pathology*, 35(2), pp. 256-268. doi: 10.1080/07060661.2013.782470

O'Donovan, J.T., Harker, K.N., Turkington, T.K., and Clayton, G.W. (2013). "Combining cultural practices with herbicides reduces wild oat (*Avena fatua*) seed in the soil seed bank and improves barley yield.", *Weed Science*, 61(2), pp. 328-333. doi: 10.1614/WS-D-12-00168.1

Peng, G., Pageau, D., Strelkov, S.E., Lahlali, R.L., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Turkington, T.K., Falk, K.C., Yu, F.Q., McGregor, L., Hupka, D., and Geissler, H.J. (2013). "Assessment of crop rotation, cultivar resistance and *Bacillus subtilis* biofungicide for control of clubroot on canola.", 6th International Symposium on Brassica and 18th Crucifer Genetics Workshop, Catania, Sicily, Italy, November 12-16, 2012, Published on *Acta Hort.* 1005:591-598.

Peng, G., Pageau, D., Hwang, S.F., Lahlali, R.L., Hynes, R.K., Anderson, K., Strelkov, S.E., McDonald, M.R., Gossen, B.D., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., and McGregor, L. (2013). "Assessment of crop rotation in combination with cultivar resistance or a biofungicide seed treatment for control of clubroot on canola.", 10th International Congress of Plant Pathology, Beijing International Convention Center, Beijing, China, August 25-30, 2013.

Irvine, R.B., Lafond, G.P., May, W.E., Kutcher, H.R., Clayton, G.W., Harker, K.N., Turkington, T.K., and Beres, B.L. (2013). "Stubble options for winter wheat in the Blacksoil zone of western Canada.", *Canadian Journal of Plant Science*, 93(2), pp. 261-270. doi: 10.4141/cjps2012-198

Legge, W.G., Tucker, J.R., Bizimungu, B., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Tekauz, A., Turkington, T.K., Savard, M.E., and Choo, T.-M. (2013). "Cerveza barley.", *Canadian Journal of Plant Science*, 93(3), pp. 557-564. doi: 10.4141/cjps2012-299

Legge, W.G., Tucker, J.R., Bizimungu, B., Tekauz, A., Fetch Jr., T.G., Haber, S.M., Menzies, J.G., Noll, J.S., Turkington, T.K., Martin, R.A., Choo, T.-M., Vigier, B.J., Blackwell, B.A., and Savard, M.E. (2013). "Taylor barley.", *Canadian Journal of Plant Science*, 93(5), pp. 969-977. doi: 10.4141/cjps2013-126



Kutcher, H.R., Turkington, T.K., Clayton, G.W., and Harker, K.N. (2013). "Response of herbicide-tolerant canola (*Brassica napus* L.) cultivars to four row spacings and three seeding rates in a no-till production system.", *Canadian Journal of Plant Science*, 93(6), pp. 1229-1236. doi: 10.4141/cjps2013-173

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Johnson, E.N., Brandt, S.A., Kutcher, H.R., and Clayton, G.W. (2013). "Weed interference impacts and yield recovery after four years of variable crop inputs in no-till barley and canola.", *Weed Technology*, 27(2), pp. 281-290. doi: 10.1614/WT-D-12-00115.1

## 2012

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Klein-Gebbinck, H.W., Dossall, L.M., Hall, L.M., Willenborg, C.J., Kutcher, H.R., Malhi, S.S., Vera, C.L., Gan, Y.T., Lafond, G.P., May, W.E., Grant, C.A., and McLaren, D.L. (2012). "High-yield no-till canola production on the Canadian prairies.", *Canadian Journal of Plant Science*, 92(2), pp. 221-233. doi: 10.4141/CJPS2011-125

McLean, M.S., Howlett, B.J., Turkington, T.K., Platz, G.J., and Hollaway, G.J. (2012). "Spot Form of Net Blotch Resistance in a Diverse Set of Barley Lines in Australia and Canada.", *Plant Disease*, 96(4), pp. 569-576. doi: 10.1094/PDIS-06-11-0477

Turkington, T.K., O'Donovan, J.T., Edney, M.J., Juskiw, P.E., McKenzie, R.H., Harker, K.N., Clayton, G.W., Xi, K., Lafond, G.P., Irvine, R.B., Brandt, S.A., Johnson, E.N., May, W.E., and Smith, E.G. (2012). "Effect of crop residue, nitrogen rate and fungicide application on malting barley productivity, quality, and foliar disease severity.", *Canadian Journal of Plant Science*, 92(3), pp. 577-588. doi: 10.4141/CJPS2011-216

O'Donovan, J.T., Turkington, T.K., Edney, M.J., Juskiw, P.E., McKenzie, R.H., Harker, K.N., Clayton, G.W., Lafond, G.P., Grant, C.A., Brandt, S.A., Johnson, E.N., May, W.E., and Smith, E.G. (2012). "Effect of seeding date and seeding rate on malting barley production in western Canada.", *Canadian Journal of Plant Science*, 92(2), pp. 321-330. doi: 10.4141/cjps2011-130

LeBoldus, J.M., Manolli, V.P., Turkington, T.K., and Strelkov, S.E. (2012). "Adaptation to Brassica Host Genotypes by a Single-Spore Isolate and Population of *Plasmodiophora brassicae* (Clubroot).", *Plant Disease*, 96(6), pp. 833-838. doi: 10.1094/PDIS-09-11-0807

Smith, E.G., O'Donovan, J.T., Henderson, W.J., Turkington, T.K., McKenzie, R.H., Harker, K.N., Clayton, G.W., Juskiw, P.E., Lafond, G.P., Brandt, S.A., Edney, M.J., Johnson, E.N., and May, W.E. (2012). "Net return risk for malting barley production in Western Canada as influenced by production strategies.", *Agronomy Journal*, 104(5), pp. 1374-1382. doi: 10.2134/agronj2011.0416

Edney, M.J., O'Donovan, J.T., Turkington, T.K., Clayton, G.W., McKenzie, R.H., Juskiw, P.E., Lafond, G.P., Brandt, S.A., Grant, C.A., Harker, K.N., Johnson, E.N., and May, W.E. (2012). "Effects of seeding rate, nitrogen rate and cultivar on barley malt quality.", *Journal of the Science of Food and Agriculture*, 92(13), pp. 2672-2678. doi: 10.1002/jsfa.5687

## 2011

Turkington, T.K., Tekauz, A., Xi, K., and Kutcher, H.R. (2011). "Foliar diseases of barley: Don't rely on a Single Strategy from the Disease Management Toolbox.", *Prairie Soils and Crops*, 4, pp. 142-150.

Kumar, K., Xi, K., Tekauz, A., Turkington, T.K., Helm, J.H., and Tewari, J.P. (2011). "Evaluation of a detached leaf assay to measure fusarium head blight resistance components in barley.", *Canadian Journal of Plant Pathology*, 33(3), pp. 364-374. doi: 10.1080/07060661.2011.590820

O'Donovan, J.T., Turkington, T.K., Edney, M.J., Clayton, G.W., McKenzie, R.H., Juskiw, P.E., Lafond, G.P., Grant, C.A., Brandt, S.A., Harker, K.N., Johnson, E.N., and May, W.E. (2011). "Seeding Rate, Nitrogen Rate, and Cultivar Effects on Malting Barley Production.", *Agronomy Journal*, 103(3), pp. 709-716. doi: 10.2134/agronj2010.0490

Turkington, T.K., Clear, R.M., Demeke, T., Lange, R., Xi, K., and Kumar, K. (2011). "Isolation of *Fusarium graminearum* from cereal, grass and corn residues from Alberta, 2001-2003.", *Canadian Journal of Plant Pathology*, 33(2), pp. 179-186. doi: 10.1080/07060661.2011.560189

Strelkov, S.E., Hwang, S.F., Howard, R.J., Hartman, M., and Turkington, T.K. (2011). "Progress towards the Sustainable Management of Clubroot [*Plasmodiophora brassicae*] of Canola on the Canadian Prairies.", *Prairie Soils and Crops*, 4, pp. 114-121.

Legge, W.G., Tucker, J.R., Bizimungu, B., Tekauz, A., Noll, J.S., Fetch Jr., T.G., Menzies, J.G., Haber, S.M., Savard, M.E., Vigier, B.J., Choo, T.-M., Martin, R.A., Turkington, T.K., Rosnagel, B.G., and Harvey, B.L. (2011). "Norman barley.", *Canadian Journal of Plant Science*, 91(6), pp. 1105-1113. doi: 10.4141/cjps2010-020

Turkington, T.K., Kutcher, H.R., McLaren, D.L., and Rashid, K.Y. (2011). "Managing Sclerotinia in Oilseed and Pulse Crops.", *Prairie Soils and Crops*, 4, pp. 105-113.

Juskiw, P.E., Helm, J.H., Oro, M., Nyachiro, J.M., Salmon, D.F., Xi, K., and Turkington, T.K. (2011). "Registration of 'Gadsby' Barley.", *Journal of Plant Registrations*, 5(2), pp. 151-155. (Variety registration)

Kutcher, H.R., Fernando, W.G.D., Turkington, T.K., and McLaren, D.L. (2011). "Best Management Practices for Blackleg Disease of Canola.", *Prairie Soils and Crops*, 4, pp. 122-134.

Baines, D.D.S., Erb, S.L., Turkington, T.K., Kuldau, G., Juba, J., Sumarah, M.W., Mazza, A., and Masson, E. (2011). "Characterization of Haemorrhagic Enteritis in Dairy Goats and the Effectiveness of Probiotic and Prebiotic Applications in Alleviating Morbidity and Production Losses.", *Fungal Genomics & Biology*, 1:1. doi : 10.4172/fgb.1000102

Baines, D.D.S., Erb, S.L., Turkington, T.K., Kuldau, G., Juba, J., Masson, L., Mazza, A., and Roberts, R. (2011). "Mouldy feed, mycotoxins and Shiga toxin - producing *Escherichia coli* colonization associated with Jejunal Hemorrhage Syndrome in beef cattle.", *BMC Veterinary Research*, 7:24. doi : 10.1186/1746-6148-7-24

Baines, D.D.S., Erb, S.L., Sumarah, M.W., Lowe, R.M.S., Turkington, T.K., Sabau, E., Kuldau, G., Juba, J., Masson, L., Mazza, A., Roberts, R. (2011). "A prebiotic, Celmanax™, decreases *Escherichia coli* O157:H7 colonization of bovine cells and feed-associated cytotoxicity in vitro.", *BMC Research Notes*, 4:110. doi : 10.1186/1756-0500-4-110

Kosinski, S.M., King, J.R., Harker, K.N., Turkington, T.K., and Spaner, D.M. (2011). "Barley and triticale underseeded with a kura clover living mulch: Effects on weed pressure, disease incidence, silage yield, and forage quality.", *Canadian Journal of Plant Science*, 91(4), pp. 667-687. doi : 10.4141/CJPS10138

## Other Science Related Publications:

2015

Narduzzi, D. and Turkington, T.K. (2015). Latest research on canola crop rotations. Grainews. Quotes K.N. Harker and T.K. Turkington and features canola crop and pest management research that T.K. Turkington and K.N. Harker were collaborating on with AAFC colleagues across the prairie region.

Turkington, T.K., Xi, K., Peng, G., and Pageau, D. (2015). "The impact of crop rotation and fungicide application on wheat leaf disease severity and crop productivity.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015. (Abstract)

O'Donovan, J.T., Turkington, T.K., Harker, K.N., Oatway, L., Grant, C.A., Beres, B.L., Johnson, E.N., May, W.E., Izydorczyk, M.S., MacLeod, A., Anbessa, Y., and Vera, C.L. (2015). "Malting barley cultivar responses to increasing nitrogen rates in western Canada.", ASA-CSSA-SSSA International Annual Meeting: Synergy in Science. Partnering for Solutions, Minneapolis, MN, USA, November 15-18, 2015. (Poster)

Holtz, M.D., Zantinge, J.L., Xi, K., and Turkington, T.K. (2015). "Genetic diversity and necrotrophic effectors in the barley pathogen *Rhynchosporium commune* in Alberta, Canada.", *Canadian Journal of Plant Pathology*. (Abstract)

Beres, B.L., Pageau, D., Dion, Y., Turkington, T.K., Lupwayi, N.Z., Lamey, F.J., Ellert, B.H., and Smith, E.G. (2015). "Rotational diversity effects in a cereal-based cropping system.", *Canadian Journal of Plant Science*. (Abstract)

Xi, K., Turkington, T.K., Capettini, F., Juskiw, P.E., and Nyachiro, J.M. (2015). "Genotype and environment interactions for barley scald resistance.", *Canadian Journal of Plant Pathology*. (Abstract)

Akhavan, A., Turkington, T.K., Askarian, H., Legge, W.G., Tekauz, A., Tucker, J.R., and Strelkov, S.E. (2015). "Ability of *Pyrenophora teres* pathotypes to overcome net blotch resistance in Canadian barley genotypes.", *Canadian Journal of Plant Pathology*. (Abstract)

Holtz, M.D., Zantinge, J.L., Xi, K., and Turkington, T.K. (2015). "Molecular phylogeny of *Rhynchosporium commune* from central Alberta.", 36th Annual Meeting of the Plant Pathology Society of Alberta, Lethbridge, AB, Canada, November 16-18, 2015. (Abstract)

Turkington, T.K., Xi, K., Peng, G., and Pageau, D. (2015). "The impact of crop rotation and fungicide application on wheat leaf disease severity and crop productivity.", *Canadian Journal of Plant Pathology*. (Abstract)

Milligan, P. and Turkington, T.K. (2015). 17 crop disease prevention strategies: Fungicides are key, but there are many other parts to an effective long-term strategy. 25 September 2015. Quotes T.K. Turkington regarding disease management strategies.

Turkington, T.K., Xi, K., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., McAllister, T.A., and Lupwayi, N.Z. (2015). "The impact of barley variety rotation, mixtures, and intercropping on leaf disease and silage production.", *Canadian Journal of Plant Pathology*. (Abstract)

Turkington, T.K. (2015). "Integrated Disease Management.", Invited Lecture in PL SC 495, AFNS, University of Alberta, January 27-29, 2015. (Presentation)

Turkington, T.K. (2015). "Growing for Success.", Richardson Pioneer winter agronomy conference. (Presentation)

Turkington, T.K. (2015). "Cereal disease management using fungicides: Choosing the right target.", Invited speaker: BASF, BASF Knowledge Harvest events, Calgary & Edmonton, Canada, February 17 & 19, 2015. (Presentation)

Turkington, T.K. (2015). "Key strategies for managing field crop diseases in western Canada.", Invited speaker, Prairie Grain Development Committee, Plenary Session, Banff, AB, Canada, February 25, 2015. (Presentation)

Turkington, T.K. (2015). "Current cereal and oilseed disease issues and key management strategies.", Invited speaker, Ponoka County and Agriculture Financial Services Corporation, Lacombe, Client Information Session. (Presentation)

Turkington, T.K. (2015). "The role of fungicides for field crop disease management.", Invited speaker, Crop Production Services, Managers of Agronomic Services, Alberta, Saskatchewan, and Manitoba, Calgary, Alberta, Canada, March 11, 2015. (Presentation)

Turkington, T.K. (2015). "Key strategies for managing field crop diseases in western Canada.", Invited speaker, Lakeland Agricultural Research Association, Crops Agronomic Update, Bonnyville, AB, Canada, March 12, 2015. (Presentation)

Turkington, T.K., Xi, K., Peng, G., Martin, R.A., Harker, K.N., O'Donovan, J.T., Beres, B.L., May, W.E., and Mohr, R.M. (2015). "The impact of seed treatment, foliar fungicide timing, and plant growth regulator on barley leaf disease severity and productivity.", Canadian Journal of Plant Pathology. (Abstract)

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Johnson, E.N., Kutcher, H.R., Willenborg, C.J., Gan, Y.T., Dossall, L.M., Hall, L.M., Peng, G., Irvine, R.B., and Mohr, R.M. (2015). "Sustainable canola production increases with cropping system diversity.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. (Poster)

Turkington, T.K., O'Donovan, J.T., Harker, K.N., Xi, K., Blackshaw, R.E., Johnson, E.N., Peng, G., Kutcher, H.R., May, W.E., Lafond, G.P., Mohr, R.M., and Irvine, R.B. (2015). "The impact of fungicide and herbicide timing on foliar disease severity, and barley productivity and quality.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015, ID: P HERBI 7. (Poster)

Turkington, T.K. (2015). United Farmers of Alberta 2015. 2015 disease outlook. UFA Connect (online, <http://www.ufaconnect.com/AgArticles.aspx?article=Vy6tV16slxc%3D>). Quotes T.K. Turkington regarding the disease outlook for the 2015 growing season and the key management strategies farmers should consider.

Barker, B. and Turkington, T.K. (2015). IPM improves barley silage production: Integrated approach reduces wild oat pressure. Top Crop Manager, March 2015 (Quotes T.K. Turkington and features silage barley crop management research that T.K. Turkington was collaborating on with AAFC Lacombe and AAFC Lethbridge colleagues).

Rauhala, N.E. and Turkington, T.K. (2015). "2014 barley disease survey in central Alberta.", Canadian Plant Disease Survey, 95, pp. 68-69.

Milligan, P. and Turkington, T.K. (2015). Are plant infection rates increasing for crops? Prairie farmers are spending more time and money on disease prevention than ever before. 23 September 2015. Quotes T.K. Turkington regarding the risk of tight rotations and pathogen adaptation to host resistance and fungicides.

Turkington, T.K. (2015). Alberta/Canada Barley Development Agreement 2015-2016 workplan. Alberta Agriculture and Food, Agriculture and Agri-Food Canada, and Alberta Barley Commission. Winter 2015.

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2015). "Legumes in rotation affect hybrid canola and malting barley.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015, Keynote Theme D oral presentation.

Turkington, T.K., Xi, K., O'Donovan, J.T., Harker, K.N., Peng, G., Martin, R.C., Beres, B.L., May, W.E., and Mohr, R.M. (2015). "The impact of seed treatment, foliar fungicide timing, and plant growth regulator on leaf-disease severity and productivity of barley.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015, ID: P IPM 42. (Poster)

Turkington, T.K., Xi, K., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., McAllister, T.A., and Lupwayi, N.Z. (2015). "The impact of barley variety rotation, mixtures, and intercropping on leaf disease and silage production.", XVIII International Plant Protection Congress (IPPC), Free University Berlin, Henry Ford Building, Berlin, Germany, August 24-27, 2015.

MacLean, D., May, W.E., Peng, G., Coles, K., Turkington, T.K., Harding, M.W., and Kutcher, H.R. (2015). "Fungicide application at anthesis provides effective leaf spot control in spring wheat.", Canadian Journal of Plant Pathology. (Abstract)

Beres, B.L., Pageau, D., Dion, Y., Turkington, T.K., Lupwayi, N.Z., Lamey, F.J., Ellert, B.H., and Smith, E.G. (2015). "Rotational Diversity Effects in a Cereal-Based Cropping System.", Botany 2015, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015.

Turkington, T.K. (2015). Cereal Research, 2015 Research Report. Alberta Agriculture and Rural Development, Lacombe and Agriculture and Agri-Food Canada, Lacombe. Summer 2015. (Report)

2014

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., May, W.E., Lafond, G.P., Turkington, T.K., Lupwayi, N.Z., Khakbazan, M., and Smith, E.G. (2014). "Rotational Effects of Legumes and Non-Legumes on Hybrid Canola, and Malting Barley.", American Society of Agronomy Annual Meeting 2014, Long Beach, CA, USA, November 3-5, 2014.

- Turkington, T.K., Xi, K., Peng, G., O'Donovan, J.T., and Harker, K.N. (2014). "An update on malt barley research at Lacombe.", Rahr Malting Canada Annual Grower Meeting, Alix, Alberta, Canada, February 6, 2014. (Presentation)
- Turkington, T.K., Xi, K., Kutcher, H.R., Kumar, K., Fernandez, M.R., and May, R. (2014). "An overview of fusarium head blight and key management strategies.", United Farmers of Alberta customer fusarium breakfast meeting, Olds, AB, Canada, January 21, 2014. (Presentation)
- Turkington, T.K. (2014). "Cereal disease overview.", Invited speaker and field scouting instructor, Central Region Agricultural Fieldmen Crop Pathology Day, Calumet Hall, Calumet, AB, Canada, August 14, 2014. (Presentation)
- Holtz, M.D., Turkington, T.K., and Xi, K. (2014). "Genetic diversity of the wheat pathogen *Zymoseptoria tritici* in Alberta, Canada.", 35th Plant Pathology Symposium of Alberta, Canmore, AB, Canada, October 27-29, 2014. (Abstract)
- Turkington, T.K. and Xi, K. (2014). "Say cheese: digital photos and effective plant health diagnostics.", Agronomy Update Conference 2014, Capri Centre Hotel, Red Deer, Alberta, Canada, January 14-15, 2014.
- Turkington, T.K., Xi, K., Peng, G., Martin, R.A., Harker, K.N., and O'Donovan, J.T. (2014). "The impact of seed treatment, foliar fungicide, and variety resistance on barley leaf disease severity and productivity.", 1st International Workshop on Barley Leaf Diseases, Salsomaggiore Terme, Italy, June 3-6, 2014, Also in Canadian Journal of Plant Pathology (in press), pp. 18. (Abstract)
- Turkington, T.K., Xi, K., Harker, K.N., O'Donovan, J.T., Blackshaw, R.E., McAllister, T.A., and Lupwayi, N.Z. (2014). "The impact of barley variety monoculture, rotation and mixtures, and intercropping on leaf disease and silage production.", 1st International Workshop on Barley Leaf Diseases, Salsomaggiore Terme, Italy, June 3-6, 2014, pp. 73. (Abstract)
- McLean, M.S., Turkington, T.K., Jalli, M., Smit, F., and Platz, G.J. (2014). "A new international differential set for testing *Pyrenophora teres* f. *maculata*.", 1st International Workshop on Barley Leaf Diseases, Salsomaggiore Terme, Italy, June 3-6, 2014, pp. 16. (Abstract)
- Akhavan, A., Turkington, T.K., Kebede, B., Tekauz, A., Xi, K., Kutcher, H.R., Tucker, J.R., Kirkham, C., and Strelkov, S.E. (2014). "Comparative genetic diversity of *Pyrenophora teres* f. *teres* and *P. teres* f. *maculata* populations on the Canadian Prairies.", 1st International Workshop on Barley Leaf Diseases, Salsomaggiore Terme, Italy, June 3-6, 2014, pp. 12. (Abstract)
- Akhavan, A., Turkington, T.K., Askarian, H., Tekauz, A., Xi, K., Kutcher, H.R., Tucker, J.R., Kirkham, C., Kumar, K., and Strelkov, S.E. (2014). "Pathogenic diversity in *Pyrenophora teres* f. *teres* (net form net blotch of barley) populations from the Canadian Prairies.", 1st International Workshop on Barley Leaf Diseases, Salsomaggiore Terme, Italy, June 3-6, 2014, pp. 57. (Abstract)
- O'Donovan, J.T., Blackshaw, R.E., Grant, C.A., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., and Turkington, T.K. (2014). "Legume crops grown in rotation enhance canola and barley productivity in western Canada.", 13th Congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014, pp. 357-358.
- O'Donovan, J.T., Edney, M.J., MacLeod, A., Turkington, T.K., Grant, C.A., Harker, K.N., Johnson, E.N., Lafond, G.P., May, W.E., Beres, B.L., Kabeta, Y., and Juskiw, P.E. (2014). "Response of new malting barley cultivars to increasing nitrogen rates in western Canada.", 13th Congress of European Society of Agronomy, Debrecen, Hungary, August 25-29, 2014, pp. 141-142. (Poster)
- O'Donovan, J.T., Harker, K.N., Turkington, T.K., Blackshaw, R.E., Beres, B.L., Clayton, G.W., Lafond, G.P., Lupwayi, N.Z., and Dossdall, L.M. (2014). "The role of agronomic research in meeting cropping system challenges in western Canada.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.
- Chen, W., Lewis, C.T., Lévesque, C.A., Zhang, N., Turkington, T.K., Bamforth, J., Gaba, D., Tittlemier, S.A., MacLeod, A., and Gräfenhan, T. (2014). "454 Pyrosequencing revealed geographical distribution and ecological diversification of fungal communities on barley and malt from western Canada.", XVth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada, July 27-August 1, 2014.
- Harker, K.N., O'Donovan, J.T., Turkington, T.K., Baron, V.S., Blackshaw, R.E., Hall, L.M., Johnson, E.N., Willenborg, C.J., Shirliffe, S.J., Gulden, R.H., Kobler, J.F., and Pageau, D. (2014). "Delaying herbicide resistance with integrated wild oat (*Avena fatua*) management.", 2014 Weed Science Society of America (WSSA) and the Canadian Weed Science Society (CWSS) Annual Meeting, Vancouver, B.C., Canada, February 3-6, 2014. (Abstract)
- Turkington, T.K. (2014). "Say cheese: digital photos and effective plant health diagnostics.", IPM in Practice Workshop, Land Sciences Building, Olds College, Olds, AB, Canada, July 28, 2014. (Presentation)
- Turkington, T.K. (2014). "Alberta/Canada Barley Development Agreement 2014-2015 workplan. Alberta Agriculture and Food, Agriculture and Agri-Food Canada, and Alberta Barley Commission. Winter 2014."
- Gräfenhan, T., Chen, W., Lewis, C.T., Lévesque, C.A., Zhang, N., Bamforth, J., Gaba, D., Tittlemier, S.A., MacLeod, A., and Turkington, T.K. (2014). "Composition of fungal communities on barley and malt from western Canada revealed by next generation sequencing.", 2014 North American Barley Researchers Workshop, Minneapolis, MN, USA, June 29-July 2, 2014. (Poster)

Gräfenhan, T., Chen, W., Lewis, C.T., Lévesque, C.A., Zhang, N., Bamforth, J., Gaba, D., Tittlemier, S.A., MacLeod, A., and Turkington, T.K. (2014). "Composition of fungal communities on barley and malt from western Canada revealed by next generation sequencing.", 10th International Mycologists Conference, Bangkok, Thailand, August 3-8, 2014, Oral presentation, pp. 933. (Abstract)

Gräfenhan, T., Chen, W., Lewis, C.T., Lévesque, C.A., Zhang, N., Bamforth, J., Gaba, D., Tittlemier, S.A., MacLeod, A., and Turkington, T.K. (2014). "Geographical distribution and ecological diversification of fungal communities associated with barley seeds in western Canada revealed by next generation sequencing.", 15th International Symposium on Microbial Ecology, August 24-29, 2014. (Abstract)

Beres, B.L., Pageau, D., Dion, Y., Turkington, T.K., Lupwayi, N.Z., Lamey, F.J., Ellert, B.H., and Smith, E.G. (2014). "Rotational Diversity Effects in a Triticale-Based Cropping System.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

Turkington, T.K. (2014). Cereal Research, 2014 Research Report. Alberta Agriculture and Rural Development, Lacombe and Agriculture and Agri-Food Canada, Lacombe. Summer 2014. (Report)

Rauhala, N.E. and Turkington, T.K. (2014). "2013 barley disease survey in central Alberta.", Canadian Plant Disease Survey, 94, pp. 101-102.

Turkington, T.K. (2014). "Spray it and forget it", Invited speaker at the Field Quest (a private agricultural consulting company) spring warm-up meeting, Lacombe Memorial Hall, Lacombe, Alberta, Canada, March 1, 2014. (Presentation)

Turkington, T.K., Buchwaldt, L., Orchard, D., Strelkov, S.E., Ziesman, B.R., and Lange, R. (2014). "Assessing risk and spray timing for sclerotinia stem rot.", Daily interactive workshops, 2014 CanoLAB training event, Bolting and Beyond Session, Olds, Alberta, Canada, February 19-21, 2014. (Presentation)

Turkington, T.K., Xi, K., Kutcher, H.R., Peng, G., Kumar, K., Klein-Gebbinck, H.W., Akhavan, A., and Strelkov, S.E. (2014). "Key strategies for managing barley leaf diseases and fusarium head blight of cereals.", Cereal Leaf Disease Conference, Red Deer Holiday Inn and Suites, Red Deer, AB, Canada, March 18, 2014.

Turkington, T.K., Xi, K., and Kutcher, H.R. (2014). "Understanding the nature and role of fungicides.", Invited speaker at the Crop Production and Marketing Meeting, hosted by the Rumsey & District Agricultural Society, Rumsey Community Hall, Rumsey, AB, Canada, February 12, 2014. (Presentation)

O'Donovan, J.T., Harker, K.N., Turkington, T.K., and Clayton, G.W. (2014). "Combining cultural practices with herbicides reduces wild oat seed in the soil seed bank and improves barley yield.", 2014 Weed Science Society of America (WSSA) and the Canadian Weed Science Society (CWSS) Annual Meeting, Vancouver, B.C., Canada, February 3-6, 2014. (Abstract)

## 2013

Akhavan, A., Turkington, T.K., Kebede, B., Strelkov, I.S., Xi, K., Kumar, K., Tekauz, A., Kutcher, H.R., Tucker, J.R., Kirkham, C., Dunfield, K.E., and Strelkov, S.E. (2013). "Etiology of *Pyrenophora teres* forms causing intermediate symptoms of net blotch in barley fields on the Prairies", 84th Annual Meeting of the Canadian Phytopathological Society, Edmonton, AB, Canada, June 16-19, 2013, Received 2013 Canadian Phytopathological Society Best Student Poster Presentation Award. (Poster)

O'Donovan, J.T., Harker, K.N., Turkington, T.K., Lafond, G.P., Lupwayi, N.Z., Blackshaw, R.E., Clayton, G.W., and Dossall, L.M. (2013). "The Role of Agronomic Research in Meeting Current and Future Cropping System Challenges in Western Canada.", ASA/CSSA/SSSA International annual meeting: Water, Food, Energy and Innovation for a Sustainable World, Tampa, Florida, USA, November 3-6, 2013.

Akhavan, A., Turkington, T.K., Kebede, B., Tekauz, A., Xi, K., Kutcher, H.R., Tucker, J.R., Kirkham, C., Kumar, K., Rennie, D.C., and Strelkov, S.E. (2013). "Assessing the nature and variability of the barley net blotch pathogen on the Canadian Prairies and the ability to adapt to host resistance and fungicides.", 2nd Annual General Meeting of the Alberta Barley Commission, Banff, AB, Canada, December 4-6, 2013, Received 2013 Alberta Barley Commission 2nd Place Student Poster Competition. (Poster)

Akhavan, A., Turkington, T.K., Kebede, B., Tekauz, A., Xi, K., Kutcher, H.R., Tucker, J.R., Kirkham, C., Kumar, K., Rennie, D.C., and Strelkov, S.E. (2013). "Genetic structure of *Pyrenophora teres* f. *teres* (net form net blotch of barley) populations from the Canadian Prairies as revealed by simple sequence repeats analysis.", 34th Annual Meeting of the Plant Pathology Society of Alberta, Brooks, AB, Canada, November 4-6, 2013, oral presentation.

Akhavan, A., Turkington, T.K., Kebede, B., Tekauz, A., Xi, K., Kutcher, H.R., Tucker, J.R., Kirkham, C., Kumar, K., Rennie, D.C., and Strelkov, S.E. (2013). "Genetic diversity of the spot form of the net blotch pathogen of barley (*Pyrenophora teres* f. *maculata*) on the Canadian Prairies as revealed by simple sequence repeats analysis.", 34th Annual Meeting of the Plant Pathology Society of Alberta, Brooks, AB, Canada, November 4-6, 2013, Received 2013 Plant Pathology Society of Alberta Best Student Poster Presentation Award. (Poster)

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2013). "Assessment of crop rotation, resistance and *Bacillus subtilis* for management of clubroot on canola.", Canadian Journal of Plant Pathology, 35, pp. 112. (Abstract)

Peng, G., Pageau, D., Strelkov, S.E., Lahlali, R.L., Gossen, B.D., Anderson, K., Hwang, S.F., McDonald, M.R., Yu, F.Q., Falk, K.C., Turkington, T.K., Hynes, R.K., Boyetchko, S.M., and McGregor, L. (2013). "Management of clubroot disease on canola with crop rotation combined with host resistance or biofungicide seed dressing.", *Canadian Journal of Plant Pathology*, 35, pp. 519. (Abstract)

O'Donovan, J.T., Grant, C.A., Blackshaw, R.E., Harker, K.N., Turkington, T.K., Johnson, E.N., Lafond, G.P., May, W.E., Gan, Y.T., Edney, M., and Juskiw, P.E. (2013). "Effect of legume crops grown two years prior to barley on malting barley yield and quality.", *ASA/CSSA/SSSA International annual meeting: Water, Food, Energy and Innovation for a Sustainable World*, Tampa, Florida, USA, November 3-6, 2013.

O'Donovan, J.T., Turkington, T.K., Edney, M., Juskiw, P.E., May, W.E., Grant, C.A., Smith, E.G., Harker, K.N., Johnson, E.N., Beres, B.L., Kadeta, Y., and Chapman, B. (2013). "Relative responses of malting barley varieties to increasing nitrogen rates.", *16th Australian Barley Technical Symposium*, Melbourne, Australia, September 8-11, 2013, pp. 58.

O'Donovan, J.T., Turkington, T.K., Edney, M., Smith, E.G., Harker, K.N., Beres, B.L., Clayton, G.W., Brandt, S.A., Johnson, E.N., Lafond, G.P., May, W.E., Grant, C.A., McKenzie, R., Juskiw, P.E., Kadeta, Y., Stonehouse, K., and Chapman, B. (2013). "Varietal and agronomic impacts on malting barley yield and quality.", *FarmTech 2013*, Westin Hotel, Edmonton, AB, Canada, January 29-31, 2013.

Akhavan, A., Turkington, T.K., Strelkov, I.S., Xi, K., Kumar, K., Tekauz, A., Kutcher, H.R., Tucker, J.R., Kirkham, C., Dunfield, K.E., and Strelkov, S.E. (2013). "Occurrence of forms and mating type idiomorphs in western Canadian *Pyrenophora teres* (net blotch of barley) populations.", *84th Annual Meeting of the Canadian Phytopathological Society*, Edmonton, AB, Canada, June 16-19, 2013, Received 2013 Canadian Phytopathological Society Graduate Student Travel Award.

## 2012

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., and McGregor, L. (2012). "Control of clubroot on canola with crop rotation in combination with biofungicide seed dressing and varietal resistance.", *Joint Meeting of CPS Saskatchewan Group and Plant Pathological Society of Alberta*, Canada, November, 2012, (Presentation).

Strelkov, S.E., Hwang, S.F., Howard, R.J., Rahman, H., Kutcher, H.R., Turkington, T.K., Gossen, B.D., Peng, G., McLaren, D.L., LeBoldus, J.M., Feng, J., Cao, T., and Mandlii, V.P. (2012). "Clubroot Risk Mitigation Initiative: Pathology Pillar.", *Clubroot Summit 2012*, Edmonton, AB, Canada, March 6, 2012, Invited presentation.

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2012). "Assessment of crop rotation, resistance and *Bacillus subtilis* for management of clubroot on canola.", *Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012*, Published in: *Can. J. Plant Pathol.* (2013) 35(1), pp. 112.

Kutcher, H.R., Turkington, T.K., Gaudet, D.A., Randhawa, H.S., Puchalski, B., Wogsberg, S., and Graf, R.J. (2012). "Managing cereal and canola diseases.", *Crop Talk*, Prince Albert Exhibition Centre, Saskatoon, SK, Canada, March 7, 2012, (Presentation).

Smith, E.G., O'Donovan, J.T., Henderson, W.J., Turkington, T.K., and Clayton, G.W. (2012). "Malting Barley Production: Profitability and Risk", *2012 Annual Meeting of the Canadian Agricultural Economics Society (CAES)*, Niagara Falls, ON, Canada, June 17-19, 2012.

Peng, G., Fernando, W.G.D., Kirkham, C.L., Lange, R., Kutcher, H.R., McLaren, D.L., Johnson, E.N., and Turkington, T.K. (2012). "Mitigating the risk of blackleg disease of canola using fungicide strategies.", *Soils and Crops Workshop 2012*, University of Saskatchewan, Saskatoon, SK, Canada, March 13-14, 2012, [CD], 7 pages.

Peng, G., Lahlali, R.L., Pageau, D., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2012). "Assessment of crop rotation and host resistance in combination with *Bacillus subtilis* for management of clubroot on canola.", *Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012*, Published in: *Canadian Journal of Plant Pathology*, 35(1), pp. 122.

Turkington, T.K., Kutcher, H.R., Jurke, C., Buchwaldt, L., and McLaren, D.L. (2012). "Managing sclerotinia stem rot of canola.", *Webinar, Canola Council of Canada and canola grower's associations (ACPC/SC/MCGA)*, Canada, June 28, 2012. (Presentation)

Peng, G., Lahlali, R.L., Pageau, D., Hwang, S.F., Hynes, R.K., Anderson, K., McDonald, M.R., Gossen, B.D., Strelkov, S.E., Turkington, T.K., Yu, F.Q., Falk, K.C., Boyetchko, S.M., McGregor, L., Hupka, D., and Geissler, H.J. (2012). "Crop rotation, cultivar resistance, and biofungicide seed dressing for clubroot control on canola.", *6th International Symposium on Brassica and 18th Crucifer Genetics Workshop*, Catania, Sicily, Italy, November 12-16, 2012.

Xi, K., Zantinge, J.L., Meadus, W.J., Nyachiro, J.M., and Turkington, T.K. (2012). "Barley cultivar resistance in relation to *Rhynchosporium secalis* virulence in Alberta.", *7th Canadian Barley Symposium*, Calgary, AB, Canada, July 8-10, 2012.

Kutcher, H.R., Eynck, C., Gossen, B.D., Turkington, T.K., Brandt, S.A., and Xi, K. (2012). "Disease implications of canola-intensive crop rotations.", in Beckie, H.J. and Hall, L.M. (eds.) - Topics in Canadian Weed Science. Vol. 9. New Crops and Crops with Second-Generation Traits, Canadian Weed Science Society – Société canadienne de malherbologie, Pinawa, MB, pp. 49-66.

Olfert, O.O., Weiss, R.M., Turkington, T.K., Beckie, H.J., and Kriticos, D.J. (2012). "Bioclimatic approach to assessing the potential impact of climate change on representative crop pests in North America.", Topics in Canadian Weed Science, 8, pp. 47-70.

2011

Kutcher, H.R., Turkington, T.K., Gossen, B.D., Brandt, S.A., Dokken-Bouchard, F.L., and Strelkov, S.E. (2011). "Canola Disease and Fungicide Strategies Based on Crop Rotation.", Strategies for Successful Farming Meeting, Travelodge Hotel, Regina, SK, Canada, March 2, 2011, Invited Presentation and Report Abstract.

Rioux, S., Pouleur, S., Randall, P., Turkington, T.K., Vanasse, A., and Dion, Y. (2011). "La vapeur d'acide acétique et la chaleur sèche comme traitements de semences chez les céréales.", La Journée: Grandes cultures biologiques, Centre communautaire de Saint-Rémi, Saint-Rémi, QC, Canada, December 6, 2011, pp. 17.

Turkington, T.K. (2011). "The disease management messaging for blackleg and clubroot of canola.", Crop Production Issues Team (CPIT), Edmonton, AB, Canada, November 10, 2011. (Presentation)

Turkington, T.K. (2011). "Blackleg of canola strategy.", University of Alberta, Edmonton, AB, Canada, November 9, 2011. (Presentation)

Turkington, T.K. (2011). "Canola disease research update.", Alberta Canola Industry Update 2011, Edmonton, AB, Canada, April 6, 2011.

Turkington, T.K. (2011). "Disease forecasting.", PL SC 495: Integrated Crop Management, AFNS, University of Alberta, Edmonton, AB, Canada, January 25 and 27, 2011. (Presentation)

Klein-Gebbinck, H.W., Turkington, T.K., Olfert, O.O., Weiss, R.M., Kriticos, D.J., Kutcher, H.R., Falk, K.C., and Strelkov, S.E. (2011). "Projected distribution and severity of clubroot of canola in the Canadian prairies under incremental temperature and precipitation, and potential climate change scenarios.", Climate Change and the Implications for Plant Science: The science, the impacts, and the options, University of Guelph, Guelph, ON, Canada, June 7-9, 2011.

Kutcher, H.R., Turkington, T.K., Brandt, S.A., Gossen, B.D., McLaren, D.L., Dokken-Bouchard, F.L., and Strelkov, S.E. (2011). "Canola Disease Management", Annual Indian Head Crop Management Field Day 2011, Indian Head, SK, Canada, July 19, 2011.

Strelkov, S.E., Hwang, S.F., Howard, R.J., Rahman, H., Kutcher, H.R., Turkington, T.K., Gossen, B.D., Peng, G., McLaren, D.L., LeBoldus, J.M., Feng, J., Cao, T., and Mandli, V.P. (2011). "Clubroot Risk Mitigation Initiative: Pathology Pillar.", Clubroot Summit 2011, Saskatoon, SK, Canada, March 9, 2011, Invited presentation.

Kutcher, H.R., Turkington, T.K., Gossen, B.D., Brandt, S.A., Dokken-Bouchard, F.L., and Strelkov, S.E. (2011). "Canola Disease and Fungicide Strategies Based on Crop Rotation.", Strategies for Successful Farming Meeting, Travelodge Hotel, Saskatoon, SK, Canada, March 1, 2011, Invited Presentation and Report Abstract.

Turkington, T.K., Kutcher, H.R., Xi, K., Harker, K.N., O'Donovan, J.T., and Johnson, E.N. (2011). "The impact of fungicide and herbicide timing on barley leaf disease severity, weed management and crop productivity.", The Western Producer, 101(6), pp. S180. (Abstract)

Rauhala, N.E. and Turkington, T.K. (2011). "2011 Barley disease survey in Central Alberta.", Canadian Plant Disease Survey, 92, pp. 63-64.

Rauhala, N.E. and Turkington, T.K. (2011). "2010 Barley disease survey in Central Alberta.", Canadian Plant Disease Survey, 91, pp. 58-59.

Lange, R.M., Platford, R.G., Kutcher, H.R., Hwang, S.F., Howard, R.J., Klein-Gebbinck, H.W., Strelkov, S.E., and Turkington, T.K. (2011). "Survey of blackleg and other canola diseases in Alberta, 2010.", Canadian Plant Disease Survey, 91, pp. 112-119.

Harker, K.N., Turkington, T.K., O'Donovan, J.T., Kutcher, H.R., and Johnson, E.N. (2011). "Barley Herbicide and Fungicide Tank Mixtures?", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 21-24, 2011, pp. 46. (Abstract)

O'Donovan, J.T., Blackshaw, R.E., Grant, C.A., Harker, K.N., Lafond, G.P., Johnson, E.N., Gan, Y.T., May, W.E., Turkington, T.K., and Lupwayi, N.Z. (2011). "Legume Crops to Improve Soil Fertility for Enhanced Canola Production.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Poster)

Kutcher, H.R., Dokken-Bouchard, F.L., Turkington, T.K., Fernando, W.G.D., Boyetchko, S.M., Buchwaldt, L., Hegedus, D.D., and Parkin, I.A.P. (2011). "Managing sclerotinia stem rot in canola.", Canola Research Summit meeting, Winnipeg, MB, Canada, April 12-13, 2011.

Turkington, T.K. (2011). "Disease forecasting.", Integrated Crop Management (PL SC 495), AFNS Program, University of Alberta, Edmonton, AB, Canada, January 25 and 27, 2011. (Presentation)

Harker, K.N., Turkington, T.K., O'Donovan, J.T., Kutcher, H.R., and Johnson, E.N. (2011). "Barley Herbicide and Fungicide Tank-Mixtures?", Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada, November 24, 2011. (Presentation)

O'Donovan, J.T. and Turkington, T.K. (2011). "Effect of farming practices on malting grade barley and brewhouse performance.", Western Barley Growers Association & Master Brewers Association of the Americas Joint Conference, Deerfoot Inn & Casino, Calgary, AB, Canada, February 16-18, 2011.

Turkington, T.K., Klein-Gebbinck, H.W., Olfert, O.O., Weiss, L.M., Kriticos, D.J., Kutcher, H.R., Falk, K.C., and Strelkov, S.E. (2011). "Projected distribution and severity of clubroot of canola in the Canadian prairies.", *Phytopathology*, 101(6), pp. S179. (Abstract)

Tucker, J.R., Turkington, T.K., and Legge, W.G. (2011). "Barley genotype interaction with three virulent scald (*Rhynchosporium secalis*) pathotypes from western Canada.", 4th International Workshop on Barley Leaf Blights (IWBLB), West Park Conference Centre, Dundee, Scotland, UK, June 27-29, 2011.

Turkington, T.K. and O'Donovan, J.T. (2011). "Malt Barley Research Update: The impact of harvest management and seed source", Alberta Barley Commission, Rahr Malting, Inc. and Canadian Wheat Board meeting, Alberta Barley Commission Office, Calgary, AB, Canada, April 19, 2011. (Presentation)

Kutcher, H.R., Turkington, T.K., Gossen, B.D., Brandt, S.A., Dokken-Bouchard, F.L., and Strelkov, S.E. (2011). "Canola Disease Resistance Management.", Crop Talk 2011 Meeting (Ministry of Agriculture and Pineland Coop), Prince Albert Exhibition Centre, Prince Albert, SK, Canada, March 8, 2011, Invited Presentation.



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## Research Publications:

2015

Cliff, M.A., Germain, B., Stanich, K., Gregory, D., and Usher, K.B. (2015). "Tracking the variation of small-batch micro-oxygenated wines using phenolic, anthocyanin and colorimetric determinations.", *Journal of Wine Research*, 26(4), pp. 251-269. doi : 10.1080/09571264.2015.1083952

2013

Ehret, D.L., Usher, K.B., Helmer, T., Block, G.S., Steinke, D., Frey, B., Kuang, T., and Diarra, M.S. (2013). "Tomato fruit antioxidants in relation to salinity and greenhouse climate.", *Journal of Agricultural and Food Chemistry*, 61(5), pp. 1138-1145. doi : 10.1021/jf304660d

2011

Cliff, M.A., Bansal, M., Stanich, K., and Usher, K.B. (2011). "Comparison of new and existing threshold methods for evaluating sulfur compounds in different base wines.", *Journal of Sensory Studies*, 26(3), pp. 184-196. doi : 10.1111/j.1745-459X.2011.00335.x

## Other Science Related Publications:

2012

Bowen, P.A., Bogdanoff, C.P., Usher, K.B., Estergaard, B.F., Cliff, M.A., and Stanich, K. (2012). "Irrigation frequency and rate effects on vine growth, leaf gas exchange, berry composition, and wine sensory quality in red wine grapes.", *American Journal of Enology and Viticulture*, 63(3), pp. 440A. (Abstract)

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## Research Publications:

2015

Rodas-González, A.R., Larsen, I.L., Uttaro, B., Juárez, M., Parslow, J., and Aalhus, J.L. (2015). "Determination of optimum oven cooking procedures for lean beef products.", *Food Science and Nutrition*, 3, pp. 3-15.

Mapiye, C., Vahmani, P., Aalhus, J.L., Rolland, D.C., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R (2015). "Fatty acid composition of beef steers as affected by diet and fat depot.", *South African Journal of Animal Sciences*, 45(4), pp. 386-394.

Smit, M.N., Zamora, V., Young, M.G., Campbell, N.G., Uttaro, B., and Beltranena, E. (2015). "Empiric narrowing of the net energy value of reduced-oil corn distillers' dried grain with solubles for growing-finishing pigs.", *Canadian Journal of Animal Science*, 95(2), pp. 225-241. doi : 10.4141/CJAS-2014-106

Turner, T.D., Aalhus, J.L., Mapiye, C., Rolland, D.C., Larsen, I.L., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R (2015). "Effects of diets supplemented with sunflower or flax seeds on quality and fatty acid profile of hamburgers made with perirenal or subcutaneous fat.", *Meat Science*, 99, pp. 123-131. doi : 10.1016/j.meatsci.2014.08.006

2014

Mapiye, C., Aalhus, J.L., Turner, T.D., Vahmani, P., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R (2014). "Inclusion of sunflower seed and wheat dried distillers' grains with solubles in a red clover silage-based diet enhances steers performance, meat quality and fatty acid profiles.", *Animal*, 8(12), pp. 1999-2010. doi : 10.1017/S1751731114001955

Aalhus, J.L., López-Campos, Ó., Prieto, N., Rodas-Gonzalez, A., Dugan, M.E.R, Uttaro, B., and Juárez, M. (2014). "Review: Canadian beef grading – opportunities to identify carcass and meat quality traits valued by consumers.", *Canadian Journal of Animal Science*, 94(4), pp. 545-556.

Prieto, N., López-Campos, Ó., Zijlstra, R.T., Uttaro, B., and Aalhus, J.L. (2014). "Discrimination of beef dark cutters using visible and near infrared reflectance spectroscopy.", *Canadian Journal of Animal Science*, 94(3), pp. 445-454. doi : 10.4141/CJAS-2014-024

Prieto, N., Uttaro, B., Mapiye, C., Turner, T.D., Dugan, M.E.R, Zamora, V., Young, M., and Beltranena, E. (2014). "Predicting fat quality from pigs fed reduced-oil corn dried distillers grains with solubles by near infrared reflectance spectroscopy: Fatty acid composition and iodine value.", *Meat Science*, 98(4), pp. 585-590. doi : 10.1016/j.meatsci.2014.06.009

Prieto, N., López-Campos, Ó., Aalhus, J.L., Dugan, M.E.R, Juárez, M., and Uttaro, B. (2014). "Use of near infrared spectroscopy for estimating meat chemical composition, quality traits and fatty acid content from cattle fed sunflower or flaxseed.", *Meat Science*, 98(2), pp. 279-288. doi : 10.1016/j.meatsci.2014.06.005

Menon, D.G., Bennett, D.C., Uttaro, B., Schaefer, A.L., and Cheng, K.M.-T. (2014). "Carcass yields and meat quality characteristics of adult emus (*Dromaius novaehollandiae*) transported for 6h before slaughter.", *Meat Science*, 98(2), pp. 240-246. doi : 10.1016/j.meatsci.2014.05.027

Mapiye, C., Aalhus, J.L., Vahmani, P., Rolland, D.C., McAllister, T.A., Block, H.C., Uttaro, B., Proctor, S.D., and Dugan, M.E.R (2014). "Improving beef hamburger quality and fatty acid profiles through dietary manipulation and exploitation of fat depot heterogeneity.", *Journal of Animal Science and Biotechnology*, 5(54). doi : 10.1186/2049-1891-5-54

López-Campos, Ó., Aalhus, J.L., Galbraith, J., Larsen, I.L., Juárez, M., Uttaro, B., and Robertson, W.M. (2014). "The relation of carcass physiological maturity to meat quality in the Canadian Bison Grading System.", *Canadian Journal of Animal Science*, 94(1), pp. 55-62. doi : 10.4141/cjas2013-047

Holdstock, J., Aalhus, J.L., Uttaro, B., López-Campos, Ó., Larsen, I.L., and Bruce, H.L. (2014). "The impact of ultimate pH on muscle characteristics and sensory attributes of the longissimus thoracis within the dark cutting (Canada B4) beef carcass grade.", *Meat Science*, 98(4), pp. 842-849. doi : 10.1016/j.meatsci.2014.07.029

2013

Prieto, N., Dugan, M.E.R, López-Campos, Ó., Aalhus, J.L., and Uttaro, B. (2013). "At line prediction of PUFA and biohydrogenation intermediates in perirenal and subcutaneous fat from cattle fed sunflower or flaxseed by near infrared spectroscopy.", *Meat Science*, 94(1), pp. 27-33. doi: 10.1016/j.meatsci.2012.12.014

Mapiye, C., Aalhus, J.L., Turner, T.D., Rolland, D.C., Basarab, J.A., McAllister, T.A., Block, H.C., Uttaro, B., López-Campos, Ó., Proctor, S.D., and Dugan, M.E.R (2013). "Effects of feeding flaxseed or sunflower-seed in high-forage diets on beef production, quality and fatty acid composition.", *Meat Science*, 95(1), pp. 98-109. doi: 10.1016/j.meatsci.2013.03.033

Meadus, W.J., Turner, T.D., Dugan, M.E.R, Aalhus, J.L., Duff, P., Rolland, D.C., Uttaro, B., and Gibson, L. (2013). "Fortification of pork loins with docosahexaenoic acid (DHA) and its effect on flavour.", *Journal of Animal Science and Biotechnology*, 4(1: Article number 46), pp. 1-9. doi: 10.1186/2049-1891-4-46

Mapiye, C., Turner, T.D., Rolland, D., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Adipose tissue and muscle fatty acid profiles of steers fed red clover silage with and without flaxseed.", *Livestock Science*, 151(1), pp. 11-20. doi: 10.1016/j.livsci.2012.10.021

Mapiye, C., Dugan, M.E.R, Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Aalhus, J.L. (2013). "Erythrocytes assayed early ante mortem can predict adipose tissue and muscle trans-18:1 isomeric profiles of steers fed red clover silage supplemented with flaxseed.", *Canadian Journal of Animal Science*, 93(1), pp. 149-153. doi: 10.4141/CJAS2012-054

2012

Prieto, N., Dugan, M.E.R, López-Campos, Ó., McAllister, T.A., Aalhus, J.L., and Uttaro, B. (2012). "Near infrared reflectance spectroscopy predicts the content of polyunsaturated fatty acids and biohydrogenation products in the subcutaneous fat of beef cows fed flaxseed.", *Meat Science*, 90(1), pp. 43-51. doi: 10.1016/j.meatsci.2011.05.025

Nassu, R.T., Uttaro, B., Aalhus, J.L., Zawadski, S.M., Juárez, M., and Dugan, M.E.R (2012). "Type of packaging affects the colour stability of vitamin e enriched beef.", *Food Chemistry*, 135(3), pp. 1868-1872. doi: 10.1016/j.foodchem.2012.06.055

Juárez, M., Aldai, N., López-Campos, Ó., Dugan, M.E.R, Uttaro, B., and Aalhus, J.L. (2012). "Beef Texture and Juiciness.", in Hui, Y.H. (ed.) - *Handbook of Meat and Meat Processing*. 2nd Edition, CRC Press Taylor & Francis, Boca Raton, FL, USA, Chapter 9, pp. 177-206.

2011

Meadus, W.J., Duff, P., Rolland, D.C., Aalhus, J.L., Uttaro, B., and Dugan, M.E.R (2011). "Feeding docosahexaenoic acid to pigs reduces blood triglycerides and induces gene expression for fat oxidation.", *Canadian Journal of Animal Science*, 91(4), pp. 601-612. doi: 10.4141/cjas2011-055

Juárez, M., Caine, W.R., Dugan, M.E.R, Hidirogrou, N., Larsen, I.L., Uttaro, B., and Aalhus, J.L. (2011). "Effects of dry-ageing on pork quality characteristics in different genotypes.", *Meat Science*, 88(1), pp. 117-121. doi: 10.1016/j.meatsci.2010.12.011

## **Other Science Related Publications:**

2015

Vahmani, P., Meadus, W.J., Uttaro, B., López-Campos, Ó., Mapiye, C., Rolland, D.C., Caine, W.R., Aalhus, J.L., and Dugan, M.E.R (2015). "Effects of feeding beef fat from different body locations, and with different enrichments of biohydrogenation products on barrow performance, meat quality and body composition.", *Banff Pork Seminar*, Banff, Canada, January, 2015. (Presentation)

López-Campos, Ó., Larsen, I.L., Prieto, N., Juárez, M.L., Juárez, M., Dugan, M.E.R, Uttaro, B., and Aalhus, J.L. (2015). "Evaluation of the Canadian and U.S. beef yield equations.", *CMSA*, Ottawa, Canada, May, 2015. (Abstract)

Soladoye, P.O., Aalhus, J.L., López-Campos, Ó., Prieto, N., Uttaro, B., Dugan, M.E.R, Gariépy, C., Zhang, H., Ye, J., Shand, P.J., and Juárez, M. (2015). "Alternative management strategies for pork differentiation in Canada.", *Banff Pork Seminar 2015*, Banff, AB, Canada, January 20-22, 2015.

2014

Mapiye, C., Aalhus, J.L., Vahmani, P., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Proctor, S.D., and Dugan, M.E.R (2014). "Subcutaneous biohydrogenation product profiles of steers fed forage-based diets with sunflower-seed and wheat dried distillers' grains with soubles.", *ICoMST*, Uruguay, August, 2015. (Abstract)

Zhang, H.M., Aalhus, J.L., Larsen, I.L., Dugan, M.E.R, Uttaro, B., López-Campos, Ó., Prieto, N., Soladoye, O.P., Ye, J., and Juárez, M. (2014). "Optimizing Canadian pork chemical composition and eating quality through integrated management strategies.", 2014 Banff Pork Seminar, Banff, Alberta, Canada. (Abstract)

Soladoye, O.P., Juárez, M., Shand, P.J., Dugan, M.E.R, Uttaro, B., López-Campos, Ó., Prieto, N., Zhang, H.M., Larsen, I.L., and Aalhus, J.L. (2014). "Effects of selected pre- and post-slaughter factors on pork carcass quality traits.", 2014 Banff Pork Seminar, Banff, Alberta, Canada. (Abstract)

2013

Turner, T.D., Aalhus, J.L., Mapiye, C., Rolland, D.C., Larsen, I.L., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., and Dugan, M.E.R (2013). "Enriching hamburger with PUFA biohydrogenation products by supplementing steers fed high forage diets with either flaxseed or sunflower seed: Effects of adipose tissue source on palatability and fatty acid composition.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P20, pp. 32. (Poster)

Rodas-González, A.R., López-Campos, Ó., Galbraith, J., Uttaro, B., Juárez, M., and Aalhus, J.L. (2013). "Effects of electrical stimulation on meat quality of Bison strip-loin steaks.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, #1050, P31, pp. 37. (Poster)

Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Composition of biohydrogenation intermediates in intramuscular fat of yearling steers fed forage-based diets with supplemental flaxseed or sunflower seed.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P28, pp. 36. (Poster)

Rodas-González, A.R., Galbraith, J., Uttaro, B., López-Campos, Ó., Juárez, M., Siegel, D., and Aalhus, J.L. (2013). "Effects of electrical stimulation and nitrite film packaging on colour stability of bison steaks and ground meat.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, #1042, P30, pp. 37. (Poster)

Prieto, N., Uttaro, B., Mapiye, C., Dugan, M.E.R, Young, M.G., Zamora, A.M.V., Zijlstra, R.T., Aalhus, J.L., and Beltranena, E. (2013). "Near infrared spectroscopy predicting fatty acid content in backfat from pigs fed reduced-oil corn dried distillers grains with solubles.", 59th International Congress of Meat Science and Technology (ICoMST2013), Izmir, Turkey, August 18-23, 2013.

Prieto, N., Uttaro, B., Mapiye, C., Dugan, M.E.R, Zamora, A.M.V., Young, M., and Beltranena, E. (2013). "Potential of near infrared spectroscopy to predict fatty acid composition in subcutaneous fat from pigs fed reduced-oil corn distillers dried grains with solubles.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013.

Prieto, N., Uttaro, B., Mapiye, C., Dugan, M.E.R, Zamora, A.M.V., Young, M., and Beltranena, E. (2013). "Estimation of pork fatty acid composition from pigs fed reduced-oil corn dried distillers grains with solubles using near infrared spectroscopy and two sample treatments.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013.

Aalhus, J.L., López-Campos, Ó., Prieto, N., Rodas-Gonzalez, A., Dugan, M.E.R, Uttaro, B., Juárez, M., and Juarez, M. (2013). "Meat quality and improving carcass value.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013. (Abstract)

Prieto, N., Dugan, M.E.R, Aalhus, J.L., and Uttaro, B. (2013). "Near infrared reflectance spectroscopy: an alternative technology to predict meat quality.", Prairie Post - Bull Breeders, February, pp. 14-15.

Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Beef production and quality of yearling steers fed high-forage diets with flaxseed or sunflower seed.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P29, pp. 37. (Poster)

Prieto, N., Uttaro, B., Mapiye, C., Dugan, M.E.R, Zamora, A.M.V., Young, M.G., Zijlstra, R.T., Aalhus, J.L., and Beltranena, E. (2013). "Near infrared reflectance spectroscopy predicts fatty acid content in backfat from pigs fed reduced-oil corn dried distillers grains with solubles.", 59th International Congress of Meat Science and Technology (ICoMST2013), Izmir, Turkey, August 18-23, 2013.

Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Effects of feeding flaxseed or sunflower seed in high forage diets on biohydrogenation intermediates in adipose tissues of yearling steers.", ADSA-ASAS Joint Annual Meeting, Indianapolis, USA, July 2013. (Abstract)

Meadus, W.J., Turner, T.D., Dugan, M.E.R, Aalhus, J.L., Duff, P., Rolland, D., Uttaro, B., and Gibson, L.L. (2013). "Injection of pork loins with the long chain fatty acid, docosahexaenoic acid (DHA) and its effect on flavour.", 59th International Congress of Meat Science and Technology (ICoMST2013), Izmir, Turkey, August 18-23, 2013.

Mapiye, C., Turner, T.D., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Aalhus, J.L., and Dugan, M.E.R (2013). "Effects of feeding flaxseed and sunflower seed diets in high forage diets on biohydrogenation intermediates in adipose tissues of yearling steers.", ADSA-ASAS Joint Annual Meeting, Indianapolis, USA, July 2013. (Abstract)

Aalhus, J.L., Dugan, M.E.R, Uttaro, B., and Zijlstra, R.T. (2013). "Development of on-line quantification of beef and pork fatty acid composition.", 2013 ALMA Future Fare. (Poster)

Meadus, W.J., Turner, T.D., Dugan, M.E.R, Aalhus, J.L., Duff, P., Rolland, D., Uttaro, B., and Gibson, L.L. (2013). "Injection of Pork Loins with The Long Chain Fatty Acid Docosahexaenoic Acid (dha) and Its Effect on Flavour", 59th International Congress of Meat Science and Technology (ICoMST2013), Izmir, Turkey, August 18-23, 2013, Poster ID: S10B-9. (Poster)

López-Campos, Ó., Zawadski, S.M., Landry, S., Aalhus, J.L., and Uttaro, B. (2013). "Packaging for retail appearance improvement of dark cutting beef.", 93rd Annual Conference of the Canadian Meat Council, Banff, AB, Canada, May 29-31, 2013, pp. 6.

Aalhus, J.L., Basarab, J.A., Larsen, I.L., López-Campos, Ó., Dugan, M.E.R, Prieto, N., Uttaro, B., Schaefer, A.L., Cook, N.J., Plastow, G., Li, C., Calkins, C.R., and Juárez, M. (2013). "The Phenomic Challenge – Integrating performance, carcass and meat quality data with genomics.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O44, pp. 20.

Puente, J.A., Uttaro, B., Samanta, S., Aalhus, J.L., Elezzabi, A., and Bruce, H.L. (2013). "Interaction Effects of Chiller Temperatures, Electrical Stimulation and Ageing on Beef Quality.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O10-GS, pp. 7.

Turner, T.D., Mapiye, C., Rolland, D.C., Basarab, J.A., Baron, V.S., McAllister, T.A., Block, H.C., Uttaro, B., Lopez-Campos, O., López-Campos, Ó., Aalhus, J.L., and Dugan, F.M. (2013). "Inclusion of perirenal fat to enhance the bioactive fatty acid content of hamburger.", 2013, Banff, Alberta, Canada, June 18-20, 2013.

## 2012

Prieto, N., Dugan, M.E.R, López-Campos, Ó., Aalhus, J.L., and Uttaro, B. (2012). "Rapid prediction of PUFA and biohydrogenation intermediates in perirenal fat by near infrared spectroscopy from cattle fed sunflower or flaxseed.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2012 Annual Conference and Technical Symposium, Québec City, QC, Canada, May 29-June 1, 2012, pp. 7. (Abstract)

López-Campos, Ó., Uttaro, B., Zawadski, S.M., Landry, S., and Aalhus, J.L. (2012). "Preliminary evaluation of beef of different qualities packaged under nitrogen on long term retail appearance.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2012 Annual Conference and Technical Symposium, Québec City, QC, Canada, May 29-June 1, 2012, pp. 5. (Abstract)

Prieto, N., López-Campos, Ó., Aalhus, J.L., Dugan, M.E.R, and Uttaro, B. (2012). "Predicting polyunsaturated fatty acids and biohydrogenation products in perirenal adipose tissue from cattle fed sunflower or flaxseed by near infrared spectroscopy.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012.

Prieto, N., López-Campos, Ó., Juárez, M., Aalhus, J.L., Dugan, M.E.R, and Uttaro, B. (2012). "Potential of near infrared spectroscopy to estimate meat quality attributes from cattle fed sunflower or flaxseed.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012, Paper 223.

López-Campos, Ó., Aalhus, J.L., Uttaro, B., Dugan, M.E.R, and Juárez, M. (2012). "Ten year trends in the Canadian Beef Quality and Lean Meat Yield Grades.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2012 Annual Conference and Technical Symposium, Québec City, QC, Canada, May 29-June 1, 2012, pp. 9. (Abstract)

López-Campos, Ó., Uttaro, B., Zawadski, S.M., Landry, S., and Aalhus, J.L. (2012). "Preliminary evaluation of packaging methods on long term retail appearance of beef of different qualities.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2012 Annual Conference and Technical Symposium, Québec City, QC, Canada, May 29-June 1, 2012, pp. 2. (Abstract)

López-Campos, Ó., Aalhus, J.L., Uttaro, B., Dugan, M.E.R, and Juárez, M. (2012). "Ten year trends in the Canadian Beef Quality and Lean Meat Yield Grades.", Canadian Meat Science Association Newsletter, 2012(June), pp. 22. (Newsletter)

Prieto, N., Dugan, M.E.R, López-Campos, Ó., Aalhus, J.L., and Uttaro, B. (2012). "Near infrared spectroscopy prediction of polyunsaturated fatty acids and biohydrogenation products in perirenal adipose tissue from cattle fed sunflower or flaxseed.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012, Paper 222.

Holdstock, J., Bruce, H.L., Aalhus, J.L., Larsen, I.L., and Uttaro, B. (2012). "Recovering value from Canada B4 dark cutting beef carcasses.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012, Paper 352.

López-Campos, Ó. and Uttaro, B. (2012). "Lacombe Research Centre, Research Update.", Regional Supervisors Conference of the Canadian Beef Grading Agency 2012, Charlottetown, PEI, Canada, September, 2012.

Prieto, N., López-Campos, Ó., Juárez, M., Aalhus, J.L., Dugan, M.E.R, and Uttaro, B. (2012). "Using near infrared spectroscopy to estimate meat quality attributes from cattle fed sunflower or flaxseed.", Canadian Meat Science Association Newsletter (June 2012), pp. 22. (Newsletter)

López-Campos, Ó., Uttaro, B., Zawadski, S.M., Landry, S., and Aalhus, J.L. (2012). "Preliminary evaluation of beef of different qualities packaged under nitrogen on long term retail appearance.", Canadian Meat Science Association Newsletter (June 2012), pp. 27. (Newsletter)

López-Campos, Ó., Uttaro, B., Zawadski, S.M., Landry, S., and Aalhus, J.L. (2012). "Preliminary evaluation of packaging methods on long term retail appearance of beef of different qualities.", Canadian Meat Science Association Newsletter (June 2012), pp. 26. (Newsletter)

Prieto, N., López-Campos, Ó., Juárez, M., Aalhus, J.L., Dugan, M.E.R, and Uttaro, B. (2012). "Using near infrared spectroscopy to estimate meat quality attributes from cattle fed sunflower or flaxseed.", Canadian Meat Science Association (CMSA) and Canadian Meat Council (CMC) 2012 Annual Conference and Technical Symposium, Québec City, QC, Canada, May 29-June 1, 2012, pp. 11. (Abstract)

Prieto, N., Dugan, M.E.R, López-Campos, Ó., Aalhus, J.L., and Uttaro, B. (2012). "Rapid prediction of PUFA and biohydrogenation intermediates in perirenal fat by near infrared spectroscopy from cattle fed sunflower or flaxseed.", Canadian Meat Science Association Newsletter (June 2012), pp. 23. (Newsletter)

## 2011

Holdstock, J., Aalhus, J.L., Uttaro, B., and Bruce, H.L. (2011). "Understanding the grade B4 beef in Alberta.", 64th Annual Reciprocal Meat Conference, Kansas State University, Manhattan, KS, USA, June 19-22, 2011, Published in: Meat Science, 89(4), pp. 350. (Abstract)

Meadus, W.J., Dugan, M.E.R, Uttaro, B., Aalhus, J.L., Rolland, D., and Duff, P. (2011). "Feeding Docosahexaenoic acid in microalgae biomass to pigs reduces triglycerides and induces fat oxidation in liver, adipose and muscle.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011. (Poster)

López-Campos, Ó., Robertson, W.M., Aalhus, J.L., Larsen, I.L., Baron, V.S., Juárez, M., Uttaro, B., Okine, E.K., and Basarab, J.A. (2011). "Effect of production system and implant strategies on steer performance and carcass traits.", Canadian Meat Science Association Annual Meeting, Halifax, NS, Canada, May 4-6, 2011, published in 2011 Annual Meeting Poster Session Abstracts, pp. 17. (Poster)

Prieto, N., Dugan, M.E.R, López-Campos, Ó., McAllister, T.A., Aalhus, J.L., and Uttaro, B. (2011). "Predicting the content of polyunsaturated fatty acids and biohydrogenation products in subcutaneous fat of beef cows fed flaxseed by near infrared reflectance spectroscopy.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.

Holdstock, J., Aalhus, J.L., Uttaro, B., and Bruce, H.L. (2011). "Understanding the Formation of Grade B4 Beef in Alberta.", Canadian Meat Science Association 60th Annual Meeting / Canadian Meat Council Technical Symposium 91st Annual Conference, Halifax, NS, Canada, May 4-7, 2011, pp. 13. (Poster)

Nassu, R.T., Uttaro, B., Aalhus, J.L., Zawadski, S.M., Juárez, M., and Dugan, M.E.R (2011). "Effect of packaging in the colour of beef with different  $\alpha$ -tocopherol levels.", 57th International Congress of Meat Science and Technology (ICoMST), Ghent, Belgium, August 7-12, 2011.

Holdstock, J., Aalhus, J.L., Uttaro, B., and Bruce, H.L. (2011). "Understanding the formation of dark cutting beef.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011.

Aalhus, J.L., Gariépy, C., Basarab, J.A., Dugan, M.E.R, Fitzsimmons, C.J., Caine, W.R., Uttaro, B., and Juárez, M. (2011). "Optimizing Canadian pork quality through integrated management strategies.", 40th Banff Pork Seminar 2011, Banff Centre, Banff, AB, Canada, January 18-21, 2011.

Uttaro, B. (2011). "Meat tenderness: from observation to prediction. How did we get here? Where are we going?", Canadian Meat Science Association Newsletter, 2011 (Spring), pp. 26-30. (Newsletter)

Uttaro, B. (2011). "The cost of colour.", Prairie Post, 2011 (February), pp. A12.

López-Campos, Ó., Uttaro, B., Aalhus, J.L., Zawadski, S.M., and Landry, S. (2011). "Evaluation of packaging methods on long term retail appearance of beef of different qualities: A final report to the Beef Industry.", published by Agriculture and Agri-Food Canada (AAFC), Lacombe Research Centre, AB. (Technology transfer)

López-Campos, Ó., Uttaro, B., and Aalhus, J.L. (2011). "A packaging solution for colour improvement of dark cutting beef.", published by Agriculture and Agri-Food Canada (AAFC), Lacombe Research Centre, AB. (Technology transfer)

López-Campos, Ó., Juárez, M., Larsen, I.L., Aalhus, J.L., Uttaro, B., Robertson, W.M., and Basarab, J.A. (2011). "Effect of production system and implant strategies on steer maturity and carcass characteristics.", Canadian Meat Science Association Annual Meeting, Halifax, NS, Canada, May 4-6, 2011, published in 2011 Annual Meeting Poster Session Abstracts, pp. 18. (Poster)

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## Research Publications:

2015

Theodoridou, K., Zhang, X., Vail, S.L., and Yu, P. (2015). "Magnitude Differences in Bioactive Compounds, Chemical Functional Groups, Fatty Acid Profiles, Nutrient Degradation and Digestion, Molecular Structure, and Metabolic Characteristics of Protein in Newly Developed Yellow-Seeded and Black-Seeded Canola Lines.", *Journal of Agricultural and Food Chemistry*, 63(22), pp. 5476-5484. doi: 10.1021/acs.jafc.5b01577

2011

Vail, S.L., Tullu, A., and Vandenberg, A. (2011). "Field evaluation of resistance to *Colletotrichum truncatum* in *Lens culinaris*, *Lens ervoides*, and *Lens ervoides* x *Lens culinaris* derivatives.", *Field Crops Research*, 126(14), pp. 145-151. doi: 10.1016/j.fcr.2011.10.002

Vail, S.L. and Vandenberg, A. (2011). "Genetic Control of Interspecific-Derived and Juvenile Resistance in Lentil to *Colletotrichum truncatum*.", *Crop Science*, 51(4), pp. 1481-1490. doi: 10.2135/cropsci2010.07.0436

## Other Science Related Publications:

2015

Zhang, Y., Peng, G., Gossen, B.D., Vail, S.L., Strelkov, S.E., Hwang, S.F., and Yu, F.Q. (2015). "Developing near-isogenic Brassica napus lines for resistance to clubroot through introgression of resistance genes from *B. rapa*.", *Canadian Journal of Plant Pathology*, 37, pp. 251-252. (Abstract)

Zhang, Y., Chu, M.G., Falk, K.C., Vail, S.L., Gossen, B.D., Parkin, I.A.P., Strelkov, S.E., Hwang, S.F., Peng, G., and Yu, F. Q. (2015). "Introgression of clubroot resistance gene *Rcr1* from *Brassica rapa* into *B. napus*.", *International Rapeseed Congress*, Saskatoon, Canada, July 2015.

Chu, M.G., Yu, F.Q., Falk, K.C., Gossen, B.D., Parkin, I.A.P., Zhou, R., Vail, S.L., and Peng, G. (2015). "Using a genome-wide SNP array to facilitate the introgression of clubroot resistance from diploid *Brassica rapa* into amphidiploid *B. napus canola*.", *International Rapeseed Congress*, Saskatoon, Canada, July 2015.

2011

Vail, S.L., Olson, T.V., Gugel, R.K., and Rakow, G.F.W. (2011). "Genetic survey of a Canadian collection of *Brassica napus* breeding lines and germplasm.", *13th International Rapeseed Congress*, Prague, Czech Republic, June 5-9, 2011, #P047, pp. 221. (Abstract)

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## Research Publications:

2015

Van Calsteren, M.-R., Gagnon, F., Nishimura, J., and Makino, S. (2015). "Structure determination of the neutral exopolysaccharide produced by *Lactobacillus delbrueckii* subsp. *bulgaricus* OLL1073R-1.", *Carbohydrate Research*, 413(Article number 7016), pp. 115-122. doi : 10.1016/j.carres.2015.05.015

2014

Jedidi, H., Champagne, C.P., Raymond, Y., Farnworth, E.R., Van Calsteren, M.-R., Chouinard, P.Y., and Fliss, I. (2014). "Effect of milk enriched with conjugated linoleic acid and digested in a simulator (TIM-1) on the viability of probiotic bacteria.", *International Dairy Journal*, 37(1), pp. 20-25. doi : 10.1016/j.idairyj.2014.02.006

Jedidi, H., Kheadr, E.E., Gagnon, F., Van Calsteren, M.-R., Farnworth, E.R., and Fliss, I. (2014). "In vitro study of the bioavailability of fatty acids in cow milk containing conjugated linoleic acids produced in vivo or added in synthetic form.", *International Dairy Journal*, 36(2), pp. 95-100. doi : 10.1016/j.idairyj.2014.01.009

2013

Van Calsteren, M.-R., Gagnon, F., Calzas, C., Goyette-Desjardins, G., Okura, M., Takamatsu, D., Gottschalk, M., and Segura, M. (2013). "Structure determination of *Streptococcus suis* serotype 14 capsular polysaccharide.", *Biochemistry and Cell Biology*, 91(2), pp. 49-58. doi : 10.1139/bcb-2012-0036

Calzas, C., Goyette-Desjardins, G., Lemire, P., Gagnon, F., Lachance, C., Van Calsteren, M.-R., and Segura, M. (2013). "Group B *Streptococcus* and *Streptococcus suis* Capsular Polysaccharides Induce Chemokine Production By Dendritic Cells Via TLR2 and MyD88-Dependent and -Independent Pathways.", *Infection and Immunity*. doi : 10.1128/IAI.00113-13

2012

Lecours, M.-P., Fittipaldi, N., Takamatsu, D., Okura, M., Segura, M., Goyette-Desjardins, G., Van Calsteren, M.-R., and Gottschalk, M. (2012). "Sialylation of *Streptococcus suis* serotype 2 is essential for capsule expression but is not responsible for the main capsular epitope.", *Microbes and Infection*, 14(11), pp. 941-950. doi : 10.1016/j.micinf.2012.03.008

Houde, M., Gottschalk, M., Gagnon, F., Van Calsteren, M.-R., and Segura, M. (2012). "Streptococcus suis Capsular Polysaccharide Inhibits Phagocytosis through Destabilization of Lipid Microdomains and Prevents Lactosylceramide-Dependent Recognition.", *Infection and Immunity*, 80(2), pp. 506-517. doi : 10.1128/IAI.05734-11

## Other Science Related Publications:

2012

Goyette-Desjardins, G., Calzas, C., Gagnon, F., Van Calsteren, M.-R., and Segura, M. (2012). "A chemoenzymatic strategy to study sialic acid linkage effects of streptococcal capsular polysaccharide on the immune response", Ottawa Undergraduate Research Poster Competition (CARPCO 2012 OURPC), University of Ottawa/Université d'Ottawa, Ottawa, ON, Canada, January 27, 2012.

Lecours, M.-P., Fittipaldi, N., Takamatsu, D., Okura, M., Goyette-Desjardins, G., Van Calsteren, M.-R., and Gottschalk, M. (2012). "Sialylation of *Streptococcus suis* serotype 2 is essential for capsule expression but is not responsible for the main capsular epitope.", 5e Symposium Annuel du Centre de Recherche en Infectiologie Porcine (CRIP), Université de Montréal, Saint-Hyacinthe, QC, Canada, May 16-17, 2012.

Van Calsteren, M.-R., Peuchot, M., Guertin, N., Cliché, S., and Gariépy, C. (2012). "Low-field 1H nuclear magnetic resonance relaxometry study of pork meat.", MOOT XXV Mini NMR Symposium, Université Laval, Québec City, QC, Canada, October 20-21, 2012.

Van Calsteren, M.-R., Gagnon, F., Lapointe, J., Guertin, N., and LaPointe, G. (2012). "Structure determination of the exopolysaccharide produced by *Lactococcus lactis* subsp. *cremoris* strain JFR1.", MOOT XXV Mini NMR Symposium, Université Laval, Québec City, QC, Canada, October 20-21, 2012.



Roy, D., Segura, M., Calzas, C., Van Calsteren, M.-R., Fittipaldi, N., Okura, M., Takamatsu, D., and Gottschalk, M. (2012). "Construction of a non-encapsulated mutant of *Streptococcus suis* serotype 14 to evaluate the role of the capsule in bacterial pathogenesis.", 5e Symposium Annuel du Centre de Recherche en Infectiologie Porcine (CRIP), Université de Montréal, Saint-Hyacinthe, QC, Canada, May 16-17, 2012.

Goyette-Desjardins, G., Calzas, C., Gagnon, F., Gottschalk, M., Roy, R., Van Calsteren, M.-R., and Segura, M. (2012). "A chemoenzymatic strategy to study sialic acid linkage effects of streptococcal capsular polysaccharide on the immune response.", Portes fermées, AAFC Food Research and Development Centre / AAC Centre de recherche et de développement sur les aliments, Saint-Hyacinthe, QC, Canada, June 22, 2012.

Goyette-Desjardins, G., Calzas, C., Gagnon, F., Gottschalk, M., Roy, R., Van Calsteren, M.-R., and Segura, M. (2012). "A chemoenzymatic strategy to study sialic acid linkage effects of streptococcal capsular polysaccharide on the immune response.", 5e Symposium Annuel du Centre de Recherche en Infectiologie Porcine (CRIP), Université de Montréal, Saint-Hyacinthe, QC, Canada, May 16-17, 2012.

2011

Van Calsteren, M.-R., Gagnon, F., Calzas, C., Goyette-Desjardins, G., Okura, M., Takamatsu, D., Gottschalk, M., and Segura, M. (2011). "Structure determination of *Streptococcus suis* type 14 capsular polysaccharide.", 24th Annual MOOT NMR Conference, Hospital for Sick Children, Toronto, ON, Canada, October 22-23, 2011, P-35.

Goyette-Desjardins, G., Calzas, C., Gagnon, F., Gottschalk, M., Roy, R., Van Calsteren, M.-R., and Segura, M. (2011). "Development of a chemical strategy to study the effects of terminal sialic acid linkage of streptococcal capsular polysaccharides on the modulation of the immune response.", 4e Symposium Annuel du Centre de Recherche en Infectiologie Porcine (CRIP), Université de Montréal, Saint-Hyacinthe, QC, Canada, May 30-31, 2011, A13.

Calzas, C., Gagnon, F., Goyette-Desjardins, G., Guertin, N., Lemire, P., Gottschalk, M., Van Calsteren, M.-R., and Segura, M. (2011). "Effets de la composition et de la structure de polysaccharides capsulaires bactériens sur l'activation des cellules dendritiques murines.", Journée de la recherche de la Faculté de médecine vétérinaire 2011, Saint-Hyacinthe, QC, Canada, March 10, 2011.

Van Calsteren, M.-R., Gagnon, F., Calzas, C., Goyette-Desjardins, G., Okura, M., Takamatsu, D., Gottschalk, M., and Segura, M. (2011). "Détermination de structure du polysaccharide capsulaire de *Streptococcus suis* type 14.", 4e Symposium Annuel du Centre de Recherche en Infectiologie Porcine (CRIP), Université de Montréal, Saint-Hyacinthe, QC, Canada, May 30-31, 2011, A6.

Segura, M., Calzas, C., Lemire, P., Lecours, M.-P., Fittipaldi, N., Goyette-Desjardins, G., Gagnon, F., and Van Calsteren, M.-R. (2011). "Comparative study of two encapsulated streptococci: the capsular polysaccharide differently modulates bacterial interactions with dendritic cells.", XVIII Lancefield International Symposium, Palermo, Italy, September 4-8, 2011.

Goyette-Desjardins, G., Calzas, C., Gagnon, F., Gottschalk, M., Roy, R., Van Calsteren, M.-R., and Segura, M. (2011). "A chemoenzymatic strategy to study sialic acid linkage effects of streptococcal capsular polysaccharide on the immune response.", 7e Journée Scientifique du 1er cycle de la Faculté de médecine et des sciences de la santé (FMSS), Université de Sherbrooke, Sherbrooke, QC, Canada, November 18, 2011.

Van Calsteren, M.-R., Gagnon, F., Guertin, N., Goyette-Desjardins, G., Sabik, H., Fittipaldi, N., and Gottschalk, M. (2011). "Structure determination of the capsular polysaccharide produced by *Streptococcus suis* serotype 2.", Portes fermées, AAFC Food Research and Development Centre / AAC Centre de recherche et de développement sur les aliments, Saint-Hyacinthe, QC, Canada, April 7, 2011.

Calzas, C., Gagnon, F., Guertin, N., Lemire, P., Goyette-Desjardins, G., Gottschalk, M., Van Calsteren, M.-R., and Segura, M. (2011). "Méthodes de purification de la capsule polysaccharidique de streptocoques Gram positifs.", Portes fermées, AAFC Food Research and Development Centre / AAC Centre de recherche et de développement sur les aliments, Saint-Hyacinthe, QC, Canada, April 7, 2011.

Calzas, C., Gagnon, F., Goyette-Desjardins, G., Guertin, N., Lemire, P., Gottschalk, M., Van Calsteren, M.-R., and Segura, M. (2011). "Effets de la composition et de la structure de polysaccharides capsulaires bactériens sur l'activation des cellules dendritiques murines.", Portes fermées, AAFC Food Research and Development Centre / AAC Centre de recherche et de développement sur les aliments, Saint-Hyacinthe, QC, Canada, April 7, 2011.

Bleau, C., Van Calsteren, M.-R., Nadeau, É., Fairbrother, J.M., and Lamontagne, L. (2011). "Sélection d'exopolysaccharides bactériens présentant des propriétés anti-inflammatoires in vitro et ex vivo (IVOC) dans un modèle d'iléon porcin infecté avec *E. coli* AEEC.", 4e Symposium Annuel du Centre de Recherche en Infectiologie Porcine (CRIP), Université de Montréal, Saint-Hyacinthe, QC, Canada, May 30-31, 2011.

Van Calsteren, M.-R., Gagnon, F., Calzas, C., Goyette-Desjardins, G., Okura, M., Takamatsu, D., Gottschalk, M., and Segura, M. (2011). "Structure determination of *Streptococcus suis* type 14 capsular polysaccharide.", 16th European Carbohydrate Symposium, Sorrento, Naples, Italy, July 3-7, 2011, PO-355.

Van Calsteren, M.-R., Gagnon, F., Calzas, C., Goyette-Desjardins, G., Okura, M., Takamatsu, D., Gottschalk, M., and Segura, M. (2011). "Structure determination of *Streptococcus suis* type 14 capsular polysaccharide.", Portes fermées, AAFC Food Research and Development Centre / AAC Centre de recherche et de développement sur les aliments, Saint-Hyacinthe, QC, Canada, June 16, 2011.

Makino, S., Ikegami, S., Uchida, H., Itoh, R., Nagai, T., and Van Calsteren, M.-R. (2011). "Anti-influenza virus effects of yogurt fermented with *Lactobacillus delbrueckii* ssp. *bulgaricus* OLL1073R 1 and its exopolysaccharides.", 10th Symposium on Lactic Acid Bacteria, Egmond aan Zee, The Netherlands, August 28-September 1, 2011.

Goyette-Desjardins, G., Calzas, C., Gagnon, F., Gottschalk, M., Roy, R., Van Calsteren, M.-R., and Segura, M. (2011). "Development of a chemical strategy to study the effects of terminal sialic acid linkage of streptococcal capsular polysaccharides on the modulation of the immune response.", Portes fermées, AAFC Food Research and Development Centre / AAC Centre de recherche et de développement sur les aliments, Saint-Hyacinthe, QC, Canada, June 16, 2011.

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## Research Publications:

2016

Chai, L.L., Kröbel, R., Macdonald, D.J., Bittman, S., Beauchemin, K.A., Janzen, H.H., McGinn, S.M., and VanderZaag, A.C. (2016). "An ecoregion-specific ammonia emissions inventory of Ontario dairy farming: Mitigation potential of diet and manure management practices.", *Atmospheric Environment*, 126, pp. 1-14. doi: 10.1016/j.atmosenv.2015.11.030

2015

Vergé, X.P.C., Maxime, D., Desjardins, R.L., VanderZaag, A.C., and Worth, D.E. (2015). "Allocation factors and issues in agricultural carbon footprint: a case study of the Canadian pork industry.", *Journal of Cleaner Production*, pp. 1-9. doi: 10.1016/j.jclepro.2015.11.046

VanderZaag, A.C., Amon, B., Bittman, S., and Kuczynski, T. (2015). "Ammonia abatement with manure storage and processing techniques.", in Reis, S., Howard, C., and Sutton, M.A. (eds.) - *Costs of ammonia abatement and the climate co-benefits*, Springer, Chapter 5.

2014

Bittman, S., Masse, D., Pattey, E., Courmoyer, M., Qiu, G.-W., Narjoux, A., Sheppard, S.C., and VanderZaag, A.C. (2014). "Effects of Agriculture on Air Quality in Canada.", in Taylor, E and McMillan, A. (eds.) - *Air quality management. Canadian perspectives on a global issue.*, Springer, Chapter 11, pp. 237-259.

Ngwabie, N.M., VanderZaag, A.C., Jayasundara, S., and Wagner-Riddle, C. (2014). "Measurements of emission factors from a naturally ventilated commercial barn for dairy cows in a cold climate.", *Biosystems Engineering*, 127, pp. 103-114. doi: 10.1016/j.biosystemseng.2014.08.016

Gebrehanna, M.M., Gordon, R.J., Madani, A., VanderZaag, A.C., and Wood, J.D. (2014). "Silage effluent management: A review.", *Journal of Environmental Management*, 143, pp. 113-122. doi: 10.1016/j.jenvman.2014.04.012

Wood, J.D., VanderZaag, A.C., Wagner-Riddle, C., Smith, E., and Gordon, R.J. (2014). "Gas emissions from liquid dairy manure: complete versus partial storage emptying.", *Nutrient Cycling in Agroecosystems*, 99(1), pp. 95-105. doi: 10.1007/s10705-014-9620-2

VanderZaag, A.C., Flesch, T.K., Desjardins, R.L., Baldé, H., and Wright, T. (2014). "Measuring methane emissions from two dairy farms: Seasonal and manure-management effects.", *Agricultural and Forest Meteorology*, 194, pp. 259-267. doi: 10.1016/j.agrformet.2014.02.003

2013

VanderZaag, A.C., MacDonald, J.D., Evans, L., Vergé, X.P.C., and Desjardins, R.L. (2013). "Towards an inventory of methane emissions from manure management that is responsive to changes on Canadian farms.", *Environmental Research Letters*, 8(3). doi: 10.1088/1748-9326/8/3/035008

VanderZaag, A.C., MacDonald, J.D., Evans, L., Vergé, X.P.C., and Desjardins, R.L. (2013). "Towards a methane emission inventory that is responsive to changes on Canadian farms.", *Environmental Research Letters*, 8(3).

Vergé, X.P.C., Maxime, D., Dyer, J.A., Desjardins, R.L., Arcand, Y., and VanderZaag, A.C. (2013). "Carbon footprint of Canadian dairy products: Calculations and issues.", *Journal of Dairy Science (JDS)*, 96(9), pp. 6091-6104. doi: 10.3168/jds.2013-6563

2012

Carreau, R., VanAcker, S., VanderZaag, A.C., Madani, A., Drizo, A., Jamieson, R.C., and Gordon, R.J. (2012). "Evaluation of a surface flow constructed wetland treating abattoir wastewater.", *Applied Engineering in Agriculture*, 28(5), pp. 757-766.

2011

VanderZaag, A.C., Jayasundara, S., and Wagner-Riddle, C. (2011). "Strategies to mitigate nitrous oxide emissions from land applied manure.", *Animal Feed Science and Technology*, 166-167, pp. 464-479. doi: 10.1016/j.anifeedsci.2011.04.034

Gordon, R.J., VanderZaag, A.C., Dekker, P.A., and De Haan, R. (2011). "Impact of modified tillage on runoff and nutrient loads from potato fields in Prince Edward Island.", *Agricultural Water Management*, 98(12), pp. 1782-1788. doi: 10.1016/j.agwat.2011.07.007

VanderZaag, A.C., Wagner-Riddle, C., Park, K.-H., and Gordon, R.H.J. (2011). "Methane emissions from stored liquid dairy manure in a cold climate.", *Animal Feed Science and Technology*, 166-167, pp. 581-589. doi: 10.1016/j.anifeedsci.2011.04.041

## Other Science Related Publications:

2015

VanderZaag, A.C., Pattey, E., Smith, W.N., and Desjardins, R.L. (2015). "Farm-scale research to improve Canada's Greenhouse Gas and Ammonia Inventory, Agricultural models, and Sustainability.", *ECORC/ACGEO Agri-Environmental Science Day*. Invited Presentation, Ottawa, ON, Canada, February 10, 2015. (Presentation)

VanderZaag, A.C. (2015). "Carbon and Water Footprints of Canadian Agriculture.", *Carleton University Department of Geography and Environmental Studies Founders Seminar (Invited)*, Ottawa, ON, Canada, March 20, 2015. (Presentation)

Wagner-Riddle, C., Dunfield, K.E., Drury, C.F., Gordon, R.J., Lauzon, J.D., Van Heyst, B.J., and VanderZaag, A.C. (2015). "Farmscale assessment of greenhouse gas mitigation strategies in dairy livestock-cropping-systems.", *Canadian Soil Science Society Conference*, Montreal, QC, Canada, July 5-10, 2015, Presentation.

Little, S.M., Beauchemin, K.A., Benchaar, C., Chai, L.L., Janzen, H.H., Kröbel, R., McGeough, E.J., and VanderZaag, A.C. (2015). "Demonstrating the effect of diet on the carbon footprint of a Canadian dairy scenario using whole-systems analysis and the Holos model: corn silage vs. alfalfa silage.", *LCA Conference XV - A bright green future*, Vancouver, Canada, October 6-8, 2015, Presentation.

VanderZaag, A.C., Crolla, A., Kinsley, C., Ngwabie, M., Burt, S.D., Wagner-Riddle, C., Desjardins, R.L., and Macdonald, D.J. (2015). "Potential For Manure Treatment To Reduce Methane Emissions.", *Dairy Environmental Systems & Climate Adaptation Conference*, Ithaca, NY, USA, July 29-31, 2015. (Poster)

Baldé, H., VanderZaag, A.C., Burt, S.D., Evans, L., Wagner-Riddle, C., Desjardins, R.L., and Macdonald, D.J. (2015). "Farm-scale Measurement of Methane Emissions from Liquid Manure Storages over Two Years.", *Dairy Environmental Systems & Climate Adaptation Conference*, Ithaca, NY, USA, July 29-31, 2015. (Poster)

Fillingham, M., VanderZaag, A.C., Burt, S.D., Baldé, H., Ngwabie, M., Smith, W.N., Hakami, A., Wagner-Riddle, C., and Macdonald, D.J. (2015). "Emissions of methane, ammonia, carbon dioxide, and nitrous oxide from solid-liquid separation and composting of dairy manure.", *Dairy Environmental Systems & Climate Adaptation Conference*, Ithaca, NY, USA, July 29-31, 2015. (Poster)

VanderZaag, A.C. (2015). "Farm-Scale Research on Air and Water Quality.", *Dairy Farmers of Canada Research Meeting*. Invited Presentation, Sherbrook, QC, Canada, March 18, 2015. (Presentation)

Schwager, E., VanderZaag, A.C., Wagner-Riddle, C., Crolla, A., Kinsley, C., and Gregorich, E.G. (2015). "N<sub>2</sub>O emissions and N-Leaching from Spring and Fall Applications of Digestate, Raw Dairy Manure and Urea.", *Joint Assembly AGU-GAC-MAC-CGU*, Montreal, QC, Canada, May 5-6, 2015. (Poster)

Singh, J., VanderZaag, A.C., Crolla, A., Kinsley, C., Wagner-Riddle, C., and Gregorich, E.G. (2015). "The effect of nitrogen fixation on direct and indirect nitrous oxide emissions in dairy crop rotations.", *Canadian Soil Science Society Conference*, Montreal, QC, Canada, July 5-10, 2015. (Poster)

Bosak Zurowsky, V., VanderZaag, A.C., Crolla, A., Kinsley, C., and Gordon, R.J. (2015). "Performance of a Land-Based Treatment System to Treat Potato-Farm Wash-Water.", *Canadian Society for Bioengineering Conference*, Edmonton, AB, Canada, July 5-8, 2015, Presentation.

Bosak Zurowsky, V., VanderZaag, A.C., Gordon, R.J., Crolla, A., and Kinsley, C. (2015). "On-farm treatment of potato wash-water: supplementary treatment with sand filtration.", *Canadian Society for Bioengineering Conference*, Edmonton, AB, Canada, July 5-8, 2015. (Poster)

VanderZaag, A.C., Desjardins, R.L., Burt, S.D., Anderson, D., Balde, H., Worth, D.E., and Singh, J. (2015). "Farm-Scale Research on Air Quality.", *Doors Open Ottawa Central Experimental Farm / Portes Ouvertes Ferme Expérimentale Centrale*, June 6-7, 2015. (Poster)

Watt, D., Rochette, P., Strachan, I.B., Bertrand, N., and VanderZaag, A.C. (2015). "The impact of the oasis effect on wind tunnel measurements of ammonia volatilization from urea-fertilized agricultural land.", *Joint Assembly AGU-GAC-MAC-CGU*, Montreal, QC, Canada, May 5-6, 2015. (Poster)

Piquette, S., VanderZaag, A.C., Humphreys, E.R., Smith, W.N., and Grant, B.B. (2015). "Assessing the predictive accuracy and uncertainty of the CAN-DNDC model to simulate water use efficiency of alfalfa crops.", Joint Assembly AGU-GAC-MAC-CGU, Montreal, QC, Canada, May 5-6, 2015. (Poster)

Dutta, B., Grant, B.B., Congreves, K.A., Smith, W.N., Wagner-Riddle, C., VanderZaag, A.C., and Desjardins, R.L. (2015). "Model development and testing of soil temperature in DNDC for the effects of snow, biomass and residue cover and soil texture.", Canadian Soil Science Society Conference, Montreal, QC, Canada, July 5-10, 2015, Presentation.

2014

Piquette, S., VanderZaag, A.C., Humphreys, E.R., and Pattey, E. (2014). "Do the promises hold true? Assessing the newer class EC155 closed path infrared H<sub>2</sub>O/CO<sub>2</sub> gas analyzer.", Northeast Agricultural and Biological Engineering Conference (NABEC), Kemptville, ON, Canada, July 28, 2014, Presentation.

Singh, J., Fillingham, M., VanderZaag, A.C., MacDonald, J.D., Crolla, A., Kinsley, C., and Burt, S.D. (2014). "Yet another use for ePTFE: Removing and capturing ammonia from stored liquid manure.", Northeast Agricultural and Biological Engineering Conference (NABEC), Kemptville, Canada, July 28, 2014, Presentation.

Desjardins, R.L., Worth, D.E., Srinivasan, R., Pattey, E., VanderZaag, A.C., Mauder, M.R., Worthy, D., Sweeney, C., and Watchorn, J.D. (2014). "Verifying inventory estimates of agricultural methane emissions using direct flux measurements.", IPCC Expert Meeting on Systematic Assessment of TFI Products, Ottawa, Canada, August 25-27, 2014.

Schwager, E., VanderZaag, A.C., Crolla, A., Kinsley, C., Wagner-Riddle, C., and Gregorich, E.G. (2014). "N<sub>2</sub>O emissions from the land application of digestate: synergy or trade-off to the GHG benefits of biogas systems?", Northeast Agricultural and Biological Engineering Conference (NABEC), Kemptville, ON, Canada, July 28, 2014. (Poster)

Desjardins, R.L., Worth, D.E., Mauder, M.R., VanderZaag, A.C., Pattey, E., Smith, W.N., and Grant, B.B. (2014). "Challenges in scaling up flux measurements of carbon dioxide, methane and nitrous oxide emissions.", TERENO International Conference 2014, Bonn, Germany, September 29-October 2, 2014, Keynote Presentation.

Bosak Zurowsky, V., VanderZaag, A.C., Gordon, R.J., Crolla, A., and Kinsley, C. (2014). "Evaluation of a constructed wetland system treating agricultural wash-water from a potato storage facility.", Northeast Agricultural and Biological Engineering Conference (NABEC), Kemptville, Canada, July 28, 2014, Presentation.

Desjardins, R.L., Worth, D.E., Vergé, X.P.C., VanderZaag, A.C., Kröbel, R., Janzen, H.H., Maxime, D., and Dyer, J.A. (2014). "The carbon footprint of agricultural products: A measure of the impact of agricultural production on climate change.", International Conference on Promoting Weather and Climate Information for Agriculture and Food Security, Antalya, Turkey, April 7-9, 2014.

Desjardins, R.L., Worth, D.E., Vergé, X.P.C., VanderZaag, A.C., Smith, W.N., Grant, B.B., Maxime, D., and Dyer, J.A. (2014). "Obtaining Useful and Defensible Estimates of C Footprint of Agricultural Products.", International Conference on Global Agricultural Monitoring and Outlook Service (GLAMOS) Alliance for Better Climate Services to Agriculture and Food Security, Jeju, South Korea, November 25-28, 2014.

Pattey, E., Jégo, G., VanderZaag, A.C., Liu, J., Qian, B., Smith, W.N., Geng, X.Y., Baret, F., Beaudoin, N., Desjardins, R.L., Fernandes, R., Jarvis, I.E., Huffman, E.C., Lacaze, R., and McNairn, H. (2014). "JECAM CFIA-Ottawa.", JECAM/GEOGLAM Science Meeting, Ottawa, Canada, July 21-23, 2014, Oral presentation.

Desjardins, R.L., Worth, D.E., Mauder, M.R., VanderZaag, A.C., Pattey, E., Smith, W.N., and Grant, B.B. (2014). "Challenges in Scaling Up Flux Measurements of Carbon Dioxide, Methane and Nitrous Oxide Emissions from Terrestrial Ecosystems.", 1st TERENO International Conference 2014, Bonn, Germany, September 29-October 2, 2014.

VanderZaag, A.C., Desjardins, R.L., Howard, A., Mkhabela, M., Spittlehouse, D., Amiro, B.D., Tenuta, M., Pattey, E., Wagner-Riddle, C., and Anderson, D. (2014). "Agricultural Meteorology in Canada.", Global Federation of Agricultural Meteorology Societies (GLOBALFAMS), International conference and Commission of Agricultural Meteorology meeting, Antalya, Turkey, April 7-15, 2014. (Poster)

VanderZaag, A.C., MacDonald, J.D., Wagner-Riddle, C., and Desjardins, R.L. (2014). "Making It Count Bridging the Gap between GHG Mitigation Practices and GHG Inventories.", ASA-CSSA-SSSA International Annual Meeting, Long Beach, CA, USA, November 3, 2014, Invited presentation: <https://scisoc.confex.com/scisoc/2014am/webprogram/Paper85882.html>.

VanderZaag, A.C., Desjardins, R.L., Arcand, Y., Vergé, X.P.C., Maxime, D., and Worth, D.E. (2014). "Carbon footprint of dairy and meat production in Canada.", IUFOST 2014 World Congress, Montreal, QC, Canada, August 17-21, 2014, Invited presentation.

Evans, L., VanderZaag, A.C., Gordon, R.J., Wagner-Riddle, C., MacDonald, J.D., Thiam, A., Balde, H., and Desjardins, R.L. (2014). "Influence of anaerobic digestion on ammonia emissions from dairy farms.", Northeast Agricultural and Biological Engineering Conference (NABEC), Kemptville, Canada, July 28, 2014, Presentation.

Baldé, H., VanderZaag, A.C., Evans, L., MacDonald, J.D., and Desjardins, R.L. (2014). "Methane emissions from manure storages on two Canadian dairy farms.", Northeast Agricultural and Biological Engineering Conference (NABEC), Kemptville, Canada, July 28, 2014, Presentation.

Piquette, S., VanderZaag, A.C., Humphreys, E.R., and Pattey, E. (2014). "Experiences using newer EC155 closed-path infrared CO<sub>2</sub>/H<sub>2</sub>O analyzer for measuring eddy covariance fluxes in agriculture and natural ecosystems.", 2nd AMS Conference on Atmospheric Biogeosciences, Portland, OR, USA, May 12-15, 2014.

2013

Johannesson, G.J., Wagner-Riddle, C., VanderZaag, A.C., Gordon, R.J., and Duke, C. (2013). "Continuous measurements of methane fluxes, environmental variables and manure properties from stored dairy manure over 16 months on a commercial farm.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Wagner-Riddle, C., Dunfield, K.E., Drury, C.F., Gordon, R.J., Lauzon, J.D., Van Heyst, B.J., and VanderZaag, A.C. (2013). "Farm-scale assessment of greenhouse gas mitigation strategies in dairy-livestock cropping systems.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Guo, X.-B., Drury, C.F., Chen, C., Crolla, A., Whalen, J.K., VanderZaag, A.C., Yang, X.M., and Wagner-Riddle, C. (2013). "Effect of anaerobically digested manure on nitrous oxide emissions, soil denitrification rates, and denitrifier abundance in short-term incubations.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013. (Poster)

VanderZaag, A.C., MacDonald, J.D., Evans, L., Desjardins, R.L., Verge, X., and Flesch, T.K. (2013). "Towards a methane emission inventory that responds to changes in manure management on Canadian farms.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Schwager, E., VanderZaag, A.C., Crolla, A., Kinsley, C., Wagner-Riddle, C., and Gregorich, E.G. (2013). "Nitrous oxide emissions and nitrogen leaching in Dairy feed crops receiving manure, anaerobically digested manure, and urea.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Wood, J.D., VanderZaag, A.C., Gordon, R.J., Wagner-Riddle, C., and Smith, E.J. (2013). "Assessment of complete vs. incomplete manure slurry storage emptying on gaseous emissions during cold and warm seasons.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Maldaner, L., Wagner-Riddle, C., VanderZaag, A.C., Johannesson, G.J., Gordon, R.J., and Duke, C. (2013). "Greenhouse gas emissions reduction potential of an on-farm biogas system.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013.

Taki, R., Wagner-Riddle, C., Gordon, R.J., and VanderZaag, A.C. (2013). "Evaluation of annual nitrous oxide emissions from annual and perennial crops for dairy livestock.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013.

Wagner-Riddle, C., Ngwabie, M., Maldaner, L., Johannesson, G.J., VanderZaag, A.C., Gordon, R.J., and Evans, L. (2013). "Greenhouse gas emissions from a dairy farm with an operational biogas system.", Greenhouse Gases & Animal Agriculture (GGAA) Conference, Dublin, Ireland, June 24, 2013.

Desjardins, R.L., Worth, D.E., Vergé, X.P.C., Maxime, D., Dyer, J.A., McConkey, B.G., and VanderZaag, A.C. (2013). "A decision tool to evaluate greenhouse gas mitigation policies for the agriculture sector.", Greenhouse Gases & Animal Agriculture (GGAA) Conference, Dublin, Ireland, June 24, 2013.

Crolla, A., Kinsley, C., VanderZaag, A.C., Schwager, E., Wagner-Riddle, C., Duke, C., Sauve, T., and Thiam, A. (2013). "Environmental Impacts from Land Application of Raw Dairy Manure and Digestate.", Canadian Biogas Conference, London, ON, Canada, March 4-6, 2013.

Evans, L., VanderZaag, A.C., Gordon, R.J., Wagner-Riddle, C., MacDonald, J.D., Thiam, A., Balde, H., and Desjardins, R.L. (2013). "Influence of anaerobic digestion on whole farm emissions of ammonia from dairy farms using an inverse dispersion approach.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013.

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## Research Publications:

2015

Murray, C.F., Veira, D.M., Nadalin, A.L., Haines, D.M., Jackson, M.L., Pearl, D.L., and Leslie, K.E. (2015). "The effect of dystocia on physiological and behavioral characteristics related to vitality and passive transfer of immunoglobulins in newborn holstein calves.", *Canadian Journal of Veterinary Research*, 79(2), pp. 109-119.

Burnett, T.A., Madureira, A.M.L., Silper, B.F., Tahmasbi, A., Nadalin, A.L., Veira, D.M., and Cerri, R.L.A. (2015). "Relationship of concentrations of cortisol in hair with health, biomarkers in blood, and reproductive status in dairy cows.", *Journal of Dairy Science (JDS)*, 98(7), pp. 4414-4426. doi : 10.3168/jds.2014-8871

2014

Rawluk, A.A., Crow, G.H., Legesse, G., Veira, D.M., Bullock, P.R., González, L.A., Dubois, M., and Ominski, K.H. (2014). "Off-stream watering systems and partial barriers as a strategy to maximize cattle production and minimize time spent in the riparian area.", *Animals*, 4(4), pp. 670-692. doi : 10.3390/ani4040670

Burnett, T.A., Madureira, A.M.L., Silper, B.F., Nadalin, A.L., Tahmasbi, A., Veira, D.M., and Cerri, R.L.A. (2014). "Short communication: Factors affecting hair cortisol concentrations in lactating dairy cows.", *Journal of Dairy Science (JDS)*, 97(12), pp. 7685-7690. doi : 10.3168/jds.2014-8444

2013

Moya, D., Schwartzkopf-Genswein, K.S.G., and Veira, D.M. (2013). "Standardization of a non-invasive methodology to measure cortisol in hair of beef cattle.", *Livestock Science*, 158(1-3), pp. 138-144. doi : 10.1016/j.livsci.2013.10.007

Neave, H.W., Vickers, L., and Veira, D.M. (2013). "Preparation of a high-immunoglobulin product from bovine colostrum.", *Animal Feed Science and Technology*, 179(1-4), pp. 133-137. doi : 10.1016/j.anifeedsci.2012.11.007

2012

Vickers, L.A., Weary, D.M., Veira, D.M., and von Keyserlingk, M.A.G. (2012). "Feeding a higher forage diet prepartum decreases incidences of subclinical ketosis in transition dairy cows.", *Journal of Animal Science*, 91(2), pp. 886-894. doi : 10.2527/jas.2011-4349

Khan, M.A., Weary, D.M., Veira, D.M., and von Keyserlingk, M.A.G. (2012). "Postweaning performance of heifers fed starter with and without hay during the milk-feeding period.", *Journal of Dairy Science (JDS)*, 95(7), pp. 3970-3976. doi : 10.3168/jds.2011-5027

2011

Veira, D.M., Chapinal, N., and Nadalin, A. (2011). "Does the presence of the cow influence the absorption of immunoglobulins by the neonatal dairy calf?", *Canadian Journal of Animal Science*, 91(3), pp. 349-352. doi : 10.4141/cjas2011-013

Scala, M.J.G., Fregonesi, J.A., Mizubuti, I.Y., Weary, D.M., von Keyserlingk, M.A.G., Veira, D.M., Cestari, A.A., and Steunenberg, L. (2011). "Feeding behavior and performance of dairy cows during the transition period seven days before and after calving [Comportamento e desempenho de vacas leiteiras no período de transição de sete dias antes e após o parto].", *Semina: Ciências Agrárias*, 32(4), pp. 1605-1616. doi : 10.5433/1679-0359.2011v32n4p1605

Collings, L.K.M., Proudfoot, K.L., and Veira, D.M. (2011). "The effects of feeding untreated and formic acid-treated colostrum ad libitum on intake and immunoglobulin levels in dairy calves.", *Canadian Journal of Animal Science*, 91(1), pp. 55-59. doi : 10.4141/CJAS10043

Burfeind, O., Schirrmann, K., von Keyserlingk, M.A.G., Veira, D.M., Weary, D.M., and Heuwieser, W. (2011). "Technical note: Evaluation of a system for monitoring rumination in heifers and calves.", *Journal of Dairy Science (JDS)*, 94(1), pp. 426-430. doi : 10.3168/jds.2010-3239

## Other Science Related Publications:

2013

Thompson, D.J. and Veira, D.M. (2013). "Stockpiling tall fescue for winter grazing by beef cows in interior BC.", in Bittman, S. and Hunt, D. (eds.) - Cool Forages: Advances management of temperate forages.

2012

Cerri, R.L.A., Tabmasbi, A.M., and Veira, D.M. (2012). "Hair cortisol concentrations—Influence of color and location in Holstein cows.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, # W213.

Moya, D., Schwartzkopf-Genswein, K.S.G., and Veira, D.M. (2012). "Development of a novel method for measuring stress in beef cattle.", ADSA-AMPA-ASAS-CSAS-WSASAS Joint Annual Meeting, Pheonix, AZ, USA, July 15-19, 2012, published in Journal of Animal Science, 90(Suppl. 3), pp. 253, #T2. (Presentation)



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## Research Publications:

2014

Malhi, S.S., Vera, C.L., and Brandt, S.A. (2014). "Feasibility of rock phosphate and other amendments in preventing P deficiency in barley on a P-deficient soil in northeastern Saskatchewan.", *Agricultural Sciences*, 5(14), pp. 1491-1500. doi : 10.4236/as.2014.514160

Wang, Y., Xie, Z., Malhi, S.S., Vera, C.L., and Zhang, Y. (2014). "Gravel-sand mulch thickness effects on soil temperature, evaporation, water use efficiency and yield of watermelon yield in semi-arid Loess Plateau, China.", *Acta Ecologica Sinica*, 34(5), pp. 261-265. doi: 10.1016/j.chnaes.2014.05.007

Malhi, S.S., Vera, C.L., and Brandt, S.A. (2014). "Feasibility of a new granular rapid release elemental S fertilizer in preventing S deficiency of canola on an S-deficient soil.", *Agricultural Sciences*, 5, pp. 1025-1036. doi : 10.4236/as.2014.51111

Bing, D.-J., Beauchesne, D., McLaren, D.L., Vera, C.L., and Gehl, D.T. (2014). "AAC Lacombe field pea.", *Canadian Journal of Plant Science*, 94(4), pp. 805-806. doi: 10.4141/cjps2013-365

Bing, D.-J., Beauchesne, D., McLaren, D.L., Vera, C.L., and Gehl, D.T. (2014). "AAC Ardill field pea.", *Canadian Journal of Plant Science*, 94(1), pp. 191-192. doi: 10.4141/cjps2013-213

Foster, A., Vera, C.L., Malhi, S.S., and Clarke, F.R. (2014). "Forage yield of simple and complex grass-legume mixtures under two management strategies.", *Canadian Journal of Plant Science*, 94(1), pp. 41-50. doi : 10.4141/cjps2013-095

Vera, C.L., Irvine, R.B., Duguid, S.D., Rashid, K.Y., Clarke, F.R., and Slaski, J.J. (2014). "Pasm disease and lodging in flax as affected by pyraclostrobin fungicide, N fertility and year.", *Canadian Journal of Plant Science*, 94(1), pp. 119-126. doi : 10.4141/cjps2013-046

Smith, M.A.H., Wise, I.L., Fox, S.L., Vera, C.L., DePauw, R.M., and Lukow, O.M. (2014). "Seed damage and sources of yield loss by sitodiplosis *mosellana* (Diptera: Cecidomyiidae) in resistant wheat varietal blends relative to susceptible wheat cultivars in western Canada.", *The Canadian Entomologist*, 146(3), pp. 335-346. doi : 10.4039/tce.2013.77

2013

Malhi, S.S., Vera, C.L., and Brandt, S.A. (2013). "Relative effectiveness of organic and inorganic nutrient sources in improving yield, seed quality and nutrient uptake of canola.", *Agricultural Sciences*, 4(12A), pp. 1-18. doi : 10.4236/as.2013.412A001

Vera, C.L., Fox, S.L., DePauw, R.M., Smith, M.A.H., Wise, I.L., Clarke, F.R., Procnier, J.D., and Lukow, O.M. (2013). "Relative performance of resistant wheat varietal blends and susceptible wheat cultivars exposed to wheat midge, *Sitodiplosis mosellana* (Géhin).", *Canadian Journal of Plant Science*, 93(1), pp. 59-66. doi : 10.4141/cjps2012-019

Bing, D.-J., Beauchesne, D., McLaren, D.L., Vera, C.L., and Gehl, D.T. (2013). "AAC Peace River field pea.", *Canadian Journal of Plant Science*, 93(2), pp. 337-339. doi: 10.4141/cjps2012-173

2012

Vera, C.L., Duguid, S.D., Fox, S.L., Rashid, K.Y., Dribnenki, J.C.P., and Clarke, F.R. (2012). "Comparative effect of lodging on seed yield of flax and wheat", *Canadian Journal of Plant Science*, 92(1), pp. 39-43. doi : 10.4141/CJPS2011-031

Harker, K.N., O'Donovan, J.T., Turkington, T.K., Blackshaw, R.E., Lupwayi, N.Z., Smith, E.G., Klein-Gebbinck, H.W., Dossall, L.M., Hall, L.M., Willenborg, C.J., Kutcher, H.R., Malhi, S.S., Vera, C.L., Gan, Y.T., Lafond, G.P., May, W.E., Grant, C.A., and McLaren, D.L. (2012). "High-yield no-till canola production on the Canadian prairies.", *Canadian Journal of Plant Science*, 92(2), pp. 221-233. doi : 10.4141/CJPS2011-125

Prashar, S., Wolfe, D., King, M.C., Vera, C.L., Fox, S.L., DePauw, R.M., Chen, G., Smith, M.A.H., Wise, I.L., Clarke, F.R., Lukow, O.M., and Procnier, J.D. (2012). "Stability of midge tolerant varietal blends over 3-4 successive generations: High-speed / high-throughput, SNP-DNA fingerprinting in grain seeds.", *Journal of Plant Biochemistry and Biotechnology*, 3(2), pp. 1-10.

2011

Blackshaw, R.E., Hao, X., Brandt, R.N., Clayton, G.W., Harker, K.N., O'Donovan, J.T., Johnson, E.N., and Vera, C.L. (2011). "Canola response to ESN and urea in a four-year no-till cropping system.", *Agronomy Journal*, 103(1), pp. 92-99. doi : 10.2134/agronj2010.0299

Wang, Y., Xie, Z., Malhi, S.S., Vera, C.L., Zhang, Y., and Guo, Z. (2011). "Effects of gravel-sand mulch, plastic mulch and ridge and furrow rainfall harvesting system combinations on water use efficiency, soil temperature and watermelon yield in a semi-arid Loess Plateau of northwestern China.", *Agricultural Water Management*, 101(1), pp. 88-92. doi : 10.1016/j.agwat.2011.09.006

Bing, D.-J., Beauchesne, D., Sloan, A., McLaren, D.L., and Vera, C.L. (2011). "Earlystar field pea.", *Canadian Journal of Plant Science*, 91(6), pp. 1115-1116. doi : 10.4141/CJPS2011-076

Blackshaw, R.E., Hao, X., Harker, K.N., O'Donovan, J.T., Johnson, E.N., and Vera, C.L. (2011). "Barley productivity response to polymer-coated urea in a no-till production system.", *Agronomy Journal*, 103(4), pp. 1100-1105. doi : 10.2134/agronj2010.0494

## Other Science Related Publications:

2015

O'Donovan, J.T., Turkington, T.K., Harker, K.N., Oatway, L., Grant, C.A., Beres, B.L., Johnson, E.N., May, W.E., Izydorczyk, M.S., MacLeod, A., Anbessa, Y., and Vera, C.L. (2015). "Malting barley cultivar responses to increasing nitrogen rates in western Canada.", *ASA-CSSA-SSSA International Annual Meeting: Synergy in Science. Partnering for Solutions*, Minneapolis, MN, USA, November 15-18, 2015. (Poster)

2014

Ma, B.-L., Frégeau-Reid, J.A., Pageau, D., Vera, C.L., and Yan, W. (2014). " $\beta$ -Glucan, Oil, and Protein of Oats as Affected by Variety, Location, and N Application.", *American Oat Workers Conference 2014*, Ottawa Marriott Hotel, Ottawa, ON, Canada, July 13-16, 2014.

Ma, B.-L., Yan, W., Pageau, D., Vera, C.L., and Herath, A. (2014). "Does Phosphorus Uptake Affect Crop Lodging in Oat Genotypes?", *ASA, CSSA and SSSA International Annual Meeting 2014*, Long Beach, CA, USA, November 2-5, 2014.

Jefferson, P.G., Schoenau, J.J., Coulman, B.E., Nybo, B.X., Foster, A., Larson, K., and Vera, C.L. (2014). "Short Rotation Forage Legume Provide N Fertility for Wheat and Canola Crops.", *Soils and Crops Workshop*, Saskatoon, Canada, March, 2014. (Presentation)

2012

Slaski, J.J. and Vera, C.L. (2012). "Northern Adapted Flax Agronomy Program: 2012 annual progress report and summary of the Phase I study to The Saskatchewan Flax Development Commission."

2011

Blackshaw, R.E., Hao, X., Clayton, G.W., Harker, K.N., O'Donovan, J.T., Johnson, E.N., and Vera, C.L. (2011). "Canola response to polymer-coated urea versus urea in a four-year zero-tillage cropping system on the Canadian prairies.", *13th International Rapeseed Congress*, Prague, Czech Republic, June 5-9, 2011, pp. 61-64.

Fenn, D., Lukow, O.M., Vera, C.L., DePauw, R.M., Fox, S.L., Smith, M.A.H., Wise, I.L., and Procnunier, J.D. (2011). "Kernel quality of hard red spring wheat damaged by the Orange Wheat Blossom Midge insect.", in Chibar, R.N. and Dexter, J. (eds.) - *Wheat Science Dynamics: Challenges and Opportunities*, Agrobias International, Jodhpur, India, pp. 193-198.

Vera, C.L., Irvine, R.B., Duguid, S.D., and Rashid, K.Y. (2011). "Effect of fungicide and N application on lodging and disease in flax.", *Soils and Crops Workshop 2011*, Prairieland Park, Saskatoon, SK, Canada, March 15-16, 2011. (Poster)

Vera, C.L. and Rashid, K.Y. (2011). "Lodging in association with disease in flax breeding plots.", *Soils and Crops Workshop 2011*, Prairieland Park, Saskatoon, SK, Canada, March 15-16, 2011. (Poster)

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## Research Publications:

2015

Traugott, M., Benefer, C.M., Blackshaw, R.P., van Herk, W.G., and Vernon, R.S. (2015). "Biology, ecology, and control of elaterid beetles in agricultural land.", *Annual Review of Entomology*, 60(7), pp. 313-334. doi: 10.1146/annurev-ento-010814-021035

van Herk, W.G., Vernon, R.S., Cronin, E.M.L., and Gaimari, S.D. (2015). "Predation of *Thereva nobilitata* (Fabricius) (Diptera: Therevidae) on *Agriotes obscurus* L. (Coleoptera: Elateridae).", *Journal of Applied Entomology*, 139(1-2), pp. 154-157. doi: 10.1111/jen.12162

Vernon, R.S., van Herk, W.G., Clodius, M., and Tolman, J.H. (2015). "Companion planting attract-and-kill method for wireworm management in potatoes.", *Journal of Pest Science*, pp. 1-15. doi: 10.1007/s10340-015-0707-6

2014

Vernon, R.S., van Herk, W.G., and Tanaka, J.A. (2014). "Blending of pheromone lures for two exotic European pest elaterid beetles.", *Journal of Pest Science*, 87(4), pp. 619-627. doi: 10.1007/s10340-014-0596-0

Vernon, R.S., van Herk, W.G., Blackshaw, R.P., Shimizu, Y., and Clodius, M. (2014). "Mark-recapture of *Agriotes obscurus* and *Agriotes lineatus* with dense arrays of pheromone traps in an undisturbed grassland population reservoir.", *Agricultural and Forest Entomology*, 16(3), pp. 217-226. doi: 10.1111/afe.12045

Vernon, R.S., Blackshaw, R.P., van Herk, W.G., and Clodius, M. (2014). "Masstrapping wild *Agriotes obscurus* and *A. lineatus* males with pheromone traps in a permanent grassland population reservoir.", *Agricultural and Forest Entomology*, 16(3), pp. 227-239. doi: 10.1111/afe.12058

2013

Benefer, C.M., van Herk, W.G., Ellis, J.S., Blackshaw, R.E., Vernon, R.S., and Knight, M.E. (2013). "The molecular identification and genetic diversity of economically important wireworm species (Coleoptera: Elateridae) in Canada.", *Journal of Pest Science*, 86(1), pp. 19-27. doi: 10.1007/s10340-012-0454-x

van Herk, W.G. and Vernon, R.S. (2013). "Response of the dusky wireworm, *Agriotes obscurus* (Coleoptera: Elateridae), to residual levels of bifenthrin in field soil.", *Journal of Pest Science*, 86(1), pp. 125-136. doi: 10.1007/s10340-011-0386-x

Vernon, R.S., van Herk, W.G., Clodius, M., and Harding, C. (2013). "Crop protection and mortality of *Agriotes obscurus* wireworms with blended insecticidal wheat seed treatments.", *Journal of Pest Science*, 86(1), pp. 137-150. doi: 10.1007/s10340-011-0392-z

Vernon, R.S., van Herk, W.G., Clodius, M., and Harding, C. (2013). "Further studies on wireworm management in Canada: Damage protection versus wireworm mortality in potatoes.", *Journal of Economic Entomology*, 106(2), pp. 786-799. doi: 10.1603/EC12180

Vernon, R.S. and van Herk, W.G. (2013). "Physical exclusion of adult click beetles from wheat with an exclusion trench.", *Journal of Pest Science*, 86(1), pp. 77-83. doi: 10.1007/s10340-012-0472-8

van Herk, W.G. and Vernon, R.S. (2013). "Categorization and numerical assessment of wireworm mobility over time following exposure to bifenthrin.", *Journal of Pest Science*, 86(1), pp. 115-123. doi: 10.1007/s10340-011-0381-2

Vernon, R.S. and van Herk, W.G. (2013). "Wireworms as pests of potato.", in Giordanengo, P., Vincent, C., and Alyokhin, A. (eds.) - *Insect Pests of Potato: Global Perspectives on Biology and Management*, Academic Press, San Diego, USA, pp. 103-164.

van Herk, W.G. and Vernon, R.S. (2013). "Wireworm damage to wheat seedlings: effect of temperature and wireworm state.", *Journal of Pest Science*, 86(1), pp. 63-75. doi: 10.1007/s10340-012-0461-y

2012

Blackshaw, R.P., Vernon, R.S., and Prasad, R.P. (2012). "Reduction of *Delia radicum* attack in field brassicas using a vertical barrier.", *Entomologia Experimentalis et Applicata*, 144(2), pp. 145-156. doi: 10.1111/j.1570-7458.2012.01271.x

Zuur, A.F., Blackshaw, R.P., Vernon, R.S., Thiebaud, F., Ieno, E.N., and Saveliev, A.A. (2012). "Analysis of zero inflated click-beetle data.", in Zuur, A.F., Saveliev, A.A., and Ieno, E.N. (eds.) - Zero Inflated Models and Generalized Linear Mixed Models with R. Zuur, Saveliev, Ieno, Highland Statistics Ltd., Chapter 257-276.

2011

van Herk, W.G. and Vernon, R.S. (2011). "Mortality of *Metarhizium anisopliae* infected wireworms (Coleoptera: Elateridae) and feeding on wheat seedlings is affected by wireworm weight.", *Journal of the Entomological Society of British Columbia*, 108(December), pp. 38-40.

Elliott, J.E., Wilson, L.K., and Vernon, R.S. (2011). "Controlling wireworms without killing wildlife in the Fraser River Delta.", in Elliott, J.E., Bishop, C.A., and Morrissey, C.A. (eds.) - *Wildlife Ecotoxicology: Forensic Approaches. Series: Emerging Topics in Ecotoxicology*, Vol. 3, Springer New York, Chapter 7, pp. 213-238.

## **Other Science Related Publications:**

2015

Vernon, R.S., van Herk, W.G., Tolman, J.H., and Clodius, M. (2015). "Erratum to: Companion planting attract-and-kill method for wireworm management in potatoes.", *Journal of Pest Science*, pp. 1-2. doi: 10.1007/s10340-015-0712-9

2012

Vernon, R.S. (2012). "Wireworms: Management perspectives, present and future.", *Entomological Society of America (ESA) 60th Annual Meeting*, Knoxville Convention Centre, Knoxville, TN, USA, November 11-14, 2012, #1133.

Adams, E.M., Roitberg, B.D., and Vernon, R.S. (2012). "Permeability of mesh exclusion fencing to ground beetle (Coleoptera: Carabidae) predators.", *Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting*, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012, #3. (Abstract)

2011

Vernon, R.S. and van Herk, W.G. (2011). "Wireworm management: mitigating environmental risk with the development of new 'push-pull' strategies.", *IOBC - WPRS Bulletin*, 66, pp. 29. (Abstract)

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## Research Publications:

2014

Liplap, P., Toussaint, V., Toivonen, P.M.A., Vigneault, C., Boutin, J., and Raghavan, G.S.V. (2014). "Effect of hyperbaric pressure treatment on the growth and physiology of bacteria that cause decay in fruits and vegetables.", *Food and Bioprocess Technology*, 7(8), pp. 2267-2280. doi : 10.1007/s11947-013-1197-2

Liplap, P., Vigneault, C., Rennie, T.J., Boutin, J., and Raghavan, G.S.V. (2014). "Method for Determining the Respiration Rate of Horticultural Produce Under Hyperbaric Treatment.", *Food and Bioprocess Technology*, 7(9), pp. 2461-2471. doi : 10.1007/s11947-013-1183-8

Liplap, P., Vigneault, C., Boutin, J., Rennie, T.J., and Raghavan, G.S.V. (2014). "Measurement of CO<sub>2</sub> solubility in tomato slurry using manometric method.", *Agricultural Engineering*, 30(1), pp. 59-67. doi : 10.13031/aea.30.10324

2013

Liplap, P., Vigneault, C., Toivonen, P.M.A., Boutin, J., and Raghavan, G.S.V. (2013). "Effect of hyperbaric treatment on respiration rates and quality attributes of sweet corn.", *International Journal of Postharvest Technology and Innovation (IJPTI)*, 3(3), pp. 257-271. doi : 10.1504/IJPTI.2013.059295

Liplap, P., Boutin, J., LeBlanc, D.I., Vigneault, C., and Raghavan, G.S.V. (2013). "Effect of hyperbaric pressure and temperature on respiration rates and quality attributes of Boston Lettuce.", *International Journal of Food Science and Technology*. doi : doi:10.1111/ijfs.12288

Liplap, P., Vigneault, C., Toivonen, P.M.A., Charles, M.T., and Raghavan, G.S.V. (2013). "Effect of hyperbaric pressure and temperature on respiration rates and quality attributes of tomato.", *Postharvest Biology and Technology*, 86, pp. 240-248. doi : 10.1016/j.postharvbio.2013.07.002

2012

Pathare, P.B., Opara, U.L., Vigneault, C., Delele, M.A., and Al-Said, F.A. (2012). "Design of Packaging Vents for Cooling Fresh Horticultural Produce.", *Food and Bioprocess Technology*, 5(6), pp. 2031-2045. doi : 10.1007/s11947-012-0883-9

Dehghannya, J., Ngadi, M.O., and Vigneault, C. (2012). "Transport phenomena modelling during produce cooling for optimal package design: Thermal sensitivity analysis.", *Biosystems Engineering*, 111(3), pp. 315-324. doi : 10.1016/j.biosystemseng.2012.01.001

Vigneault, C., LeBlanc, D.I., Goyette, B., and Jenni, S. (2012). "Engineering aspects of physical treatments to increase fruit and vegetable phytochemical content.", *Canadian Journal of Plant Science*, 92(3), pp. 373-397. doi : 10.4141/CJPS2011-222

LeBlanc, D.I., Vigneault, C., Boutin, J., Toussaint, V., Charlebois, D., Fomey, C.F., Bourgeois, G., Clément, A., and Bezanson, G.S. (2012). "Design and performance of a controlled environment mini-chamber for measuring produce quality deterioration.", *Journal of Agricultural Science and Technology B*, 2, pp. 391-399.

Jenni, S., Vigneault, C., Boutin, J., Dubuc, J.-F., Takasu, F.W., and Rennie, T.J. (2012). "Towards Predicting Rib Discoloration from Field Temperature and Phenology in Crisphead Lettuce.", *Acta Horticulturae (ISHS)*, 936, pp. 113-118.

Goyette, B., Vigneault, C., Charles, M.T., and Raghavan, G.S.V. (2012). "Effect of hyperbaric treatments on the quality attributes of tomato.", *Canadian Journal of Plant Science*, 92(3), pp. 541-551. doi : 10.4141/CJPS2011-168

2011

Li, Z., Wang, N., Raghavan, G.S.V., and Vigneault, C. (2011). "Volatiles evaluation and dielectric properties measurements of chinese spirits for quality assessment.", *Food and Bioprocess Technology*, 4(2), pp. 247-253. doi : 10.1007/s11947-008-0162-y

Goyette, B., Vigneault, C., Raghavan, G.S.V., and Charles, M.T. (2011). "Hyperbaric treatment on respiration rate and respiratory quotient of tomato.", *Food and Bioprocess Technology*, 5(8), pp. 3066-3074. doi : 10.1007/s11947-011-0671-y

Dehghannya, J., Ngadi, M.O., and Vigneault, C. (2011). "Mathematical modeling of airflow and heat transfer during forced convection cooling of produce considering various package vent areas.", *Food Control*, 22(8), pp. 1393-1399. doi : 10.1016/j.foodcont.2011.02.019

Goyette, B., Vigneault, C., Wang, N., and Raghavan, G.S.V. (2011). "Conceptualization, design and evaluation of a hyperbaric respirometer.", *Journal of Food Engineering*, 105(2), pp. 283-288. doi : 10.1016/j.jfoodeng.2011.02.033

Li, Z., Raghavan, G.S.V., Wang, N., and Vigneault, C. (2011). "Drying rate control in the middle stage of microwave drying.", *Journal of Food Engineering*, 104(2), pp. 234-238. doi : 10.1016/j.jfoodeng.2010.12.014

Jagadeesh, S.L., Charles, M.T., Gariépy, Y., Goyette, B., Raghavan, G.S.V., and Vigneault, C. (2011). "Influence of Postharvest UV-C Hormesis on the Bioactive Components of Tomato during Post-treatment Handling.", *Food and Bioprocess Technology*, 4(8), pp. 1463-1472. doi : 10.1007/s11947-009-0259-y

## **Other Science Related Publications:**

2012

Vigneault, C. (2012). "Vorkühlungsverfahren. In: M. Geyer, U. Praeger (eds). Lagerung gartenbaulicher Produkte.", in Geyer, M. and Praeger, U. (eds.) - Lagerung gartenbaulicher Produkte, Kuratorium für Technik und Bauwesen in der Landwirtschaft, Darmstadt, Germany, Chapter 6, pp. 114-128.

2011

Vigneault, C., Boutin, J., and Goyette, B. (2011). Manually Handled Collapsible Reusable Plastic Containers. ANSI/ASABE S600 OCT2011., American Society of Agricultural and Biological Engineers (ASABE).

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## Research Publications:

2015

Guévremont, É., Lamoureux, L., Ward, P., and Villeneuve, S. (2015). "Survival of *Campylobacter jejuni* on fresh spinach stored at 4 °C or 12 °C.", *Food Control*, 50, pp. 736-739. doi : 10.1016/j.foodcont.2014.10.023

Zareifard, M.R., Mondor, M., Villeneuve, S., and Grabowski, S. (2015). "Ohmic Heating: Principle and Application in Thermal Food Processing.", in Varzakas, T. and Tzia, C. (eds.) - *Hand Book of Food Processing: Food Preservation*, CRC Press, pp. 389-416.

Villeneuve, S., Power, K.A., Guévremont, É., Mondor, M., Tsao, R., Wanasundara, P.K.J.P.D., Zarepoor, L., and Mercier, S. (2015). "Effect of a short-time germination process on the nutrient composition, microbial counts and bread-making potential of whole flaxseed.", *Journal of Food Processing and Preservation*, 39(6), pp. 1574-1586. doi : 10.1111/jfpp.12385

Mercier, S., Mondor, M., Villeneuve, S., Marcos, B., and Moresoli, C. (2015). "Assessment of the oxidative stability of flaxseed-enriched lasagna using the Rancimat method.", *Journal of Food Processing and Preservation*, 39(6), pp. 1729-1734. doi : 10.1111/jfpp.12404

Mercier, S., Villeneuve, S., Mondor, M., Moresoli, C., and Marcos, B. (2015). "Modeling of the water absorption during the steeping of yellow peas.", *Food and Bioproducts Processing: Transactions of the Institution of Chemical Engineers, Part C*, 94, pp. 20-28. doi : 10.1016/j.fbp.2014.12.004

Mercier, S., Mondor, M., Moresoli, C., Villeneuve, S., and Marcos, B. (2015). "Drying of durum wheat pasta and enriched pasta : a review of modelling approaches.", *Critical Reviews in Food Science and Nutrition*. doi : 10.1080/10408398.2012.757691

Mercier, S., Marcos, B., Moresoli, C., Mondor, M., and Villeneuve, S. (2015). "Effect of the water content measurements on the estimation and identifiability of water diffusion and convection mass transfer coefficients.", *International Journal of Heat and Mass Transfer*, 90(Article number 12208), pp. 480-490. doi : 10.1016/j.jheatmasstransfer.2015.06.082

Fustier, P., Achouri, A., Tahérian, A.R., Britten, M., Pelletier, M., Sabik, H., Villeneuve, S., and Mondor, M. (2015). "Protein-protein multilayer oil-in-water emulsions for the microencapsulation of flaxseed oil: Effect of whey and fish gelatin concentration.", *Journal of Agricultural and Food Chemistry*, 63(42), pp. 9239-9250. doi : 10.1021/acs.jafc.5b00858

LeBlanc, D.I., Villeneuve, S., Hashemi Beni, L., Otten, A., Fazil, A.M., McKellar, R., and Delaquis, P.J. (2015). "A national produce supply chain database for food safety risk analysis.", *Journal of Food Engineering*, 147(C), pp. 24-38. doi : 10.1016/j.jfoodeng.2014.09.026

2014

Guévremont, É., Lamoureux, L., Loubier, C. B., Villeneuve, S., and Dubuc, J. (2014). "Detection and characterization of *Campylobacter* spp. from forty dairy cattle herds in Quebec, Canada.", *Foodborne Pathogens and Disease*, 11(5), pp. 388-394. doi : 10.1089/fpd.2013.1706

Mondor, M., Guévremont, É., and Villeneuve, S. (2014). "Processing, characterization and bread-making potential of malted yellow peas.", *Food Bioscience*, 7, pp. 11-18. doi : 10.1016/j.fbio.2014.05.002

Mercier, S., Villeneuve, S., Moresoli, C., Mondor, M., Marcos, B., and Power, K.A. (2014). "Production of flaxseed-enriched cereal-based products: a review of the processing conditions impacts.", *Comprehensive Reviews in Food Science and Food Safety*, 13(4), pp. 400-412. doi : 10.1111/1541-4337.12075

Mercier, S., Marcos, B., Moresoli, C., Mondor, M., and Villeneuve, S. (2014). "Modeling of internal moisture transport during durum wheat pasta drying.", *Journal of Food Engineering*, 124, pp. 19-27. doi : 10.1016/j.jfoodeng.2013.09.028

Zarepoor, L., Lu, J.T., Zhang, C., Wu, W., Lepp, D., Robinson, L.E., Wanasundara, P.K.J.P.D., Cui, S.W., Villeneuve, S., Fofana, B., Tsao, R., Wood, G.A., and Power, K.A. (2014). "Dietary flaxseed intake exacerbates acute colonic mucosal injury and inflammation induced by dextran sodium sulfate.", *American Journal of Physiology: Gastrointestinal and Liver Physiology*, 306(12), pp. G1042-G1055. doi : 10.1152/ajpgi.00253.2013

Villeneuve, S. and Mondor, M. (2014). "Processing and bread-making potential of protein isolated from malted yellow pea seeds by ultrafiltration/diafiltration.", *Food Bioscience*, 8, pp. 33-36. doi : 10.1016/j.fbio.2014.10.004

## 2013

Villeneuve, S., Des Marchais, L.-P., Gauvreau, V., Mercier, S., Do, C.B., and Arcand, Y. (2013). "Effect of flaxseed processing on engineering properties and fatty acids profiles of pasta.", *Food and Bioproducts Processing: Transactions of the Institution of Chemical Engineers, Part C*, 91(3), pp. 183-191. doi : 10.1016/j.fbp.2012.09.002

Mercier, S., Moresoli, C., Villeneuve, S., Mondor, M., and Marcos, B. (2013). "Sensitivity analysis of parameters affecting the drying behaviour of durum wheat pasta.", *Journal of Food Engineering*, 118(1), pp. 108-116. doi : 10.1016/j.jfoodeng.2013.03.024

## 2012

Mercier, S., Villeneuve, S., Mondor, M., Drolet, H., Ippersiel, D., Lamarche, F., and Des Marchais, L.-P. (2012). "Mixing Properties and Gluten Yield of Dough Enriched with Pea Protein Isolates.", *Journal of Food Research*, 1(1), pp. 13-23. doi : 10.5539/jfr.v1n1p13

Hashemi Beni, L., Villeneuve, S., LeBlanc, D.I., Côté, K., Fazil, A.M., Otten, A., McKellar, R., and Delaquis, P.J. (2012). "Spatio-temporal Assessment of Food Safety Risks in Canadian Food Distribution Systems using GIS.", *Spatial and Spatio-temporal Epidemiology*, 3(3), pp. 215-223. doi : 10.1016/j.sste.2012.02.009

Bergeron-Quirion, S., Villeneuve, S., LeBlanc, D.I., and Delaquis, P.J. (2012). "Thermophysical properties and thermal behavior of leafy vegetables packaged in clamshells.", *Journal of Food Engineering*, 113(1), pp. 27-32. doi : 10.1016/j.jfoodeng.2012.05.032

## 2011

Des Marchais, L.-P., Foisy, M., Mercier, S., Villeneuve, S., and Mondor, M. (2011). "Bread-making potential of pea protein isolate produced by a novel ultrafiltration/diafiltration process.", *Procedia Food Science*, 1, pp. 1425-1430. doi : 10.1016/j.profoo.2011.09.211

Hashemi Beni, L., Villeneuve, S., LeBlanc, D.I., and Delaquis, P.J. (2011). "A GIS-based approach in support of an assessment of food safety risks.", *Transactions in GIS*, 15(Suppl. 1), pp. 95-108. doi : 10.1111/j.1467-9671.2011.01264.x

Mercier, S., Villeneuve, S., Mondor, M., and Des Marchais, L.-P. (2011). "Evolution of porosity, shrinkage and density of pasta fortified with pea protein concentrate during drying.", *Food Science and Technology - LWT*, 44(4), pp. 883-890. doi : 10.1016/j.lwt.2010.11.032

Mercier, S., Des Marchais, L.-P., Villeneuve, S., and Foisy, M. (2011). "Effect of die material on engineering properties of dried pasta.", *Procedia Food Science*, 1, pp. 557-562. doi : 10.1016/j.profoo.2011.09.084

## Other Science Related Publications:

### 2015

Mercier, S., Marcos, B., Moresoli, C., Mondor, M., and Villeneuve, S. (2015). "Effect of the water content measurement (internal or global) on the identifiability of a food product diffusion and convective mass transfer coefficients.", *International Congress on Engineering and Food, Engineering Challenges: bridging science and food innovations*, Québec city, Canada, June 14-18, 2015. (Poster)

Villeneuve, S., Mondor, M., Des Marchais, L.-P., Gros-Louis, M., and Lévesque, V. (2015). "Thermophysical properties of freshly harvested Labrador tea leaves.", *International Congress on Engineering and Food, Engineering Challenges: bridging science and food innovations*, Québec city, Canada, June 14-18, 2015. (Poster)

Mercier, S., Marcos, B., Moresoli, C., Mondor, M., and Villeneuve, S. (2015). "Identifiabilité structurelle et pratique des paramètres d'un modèle de séchage.", *Rencontre annuelle du Centre de recherche en efficacité énergétique des procédés industriels de l'Université de Sherbrooke (CREEPIUS)*, Sherbrooke, Québec, Canada, January 8, 2015. (Presentation)

Villeneuve, S., LeBlanc, D.I., Hashemi Beni, L., Otten, A., Fazil, A.M., McKellar, R., and Delaquis, P.J. (2015). "CanGRASP: the Canadian GIS-based Risk Assessment, Simulation and Planning tool for food safety.", *International Congress on Engineering and Food, Engineering Challenges: bridging science and food innovations*, Québec city, Canada, June 14-18, 2015, Oral presentation.

Mercier, S., Marcos, B., Moresoli, C., Mondor, M., and Villeneuve, S. (2015). "Identifiabilité des paramètres d'un modèle de séchage.", *Actes du colloque: XIIème Colloque Interuniversitaire Franco-Québécois sur la Thermique des Systèmes*, Sherbrooke, Québec, Canada, 8-10 juin 2015, Oral présentation, pp. 1-6. (Poster)



Guénard Lampron, V., Grabowski, S., Bélanger, G., DesMarchais, L.-P., Villeneuve, S., St-Gelais, D., and Turgeon, S.L. (2015). "Conception et mise en œuvre d'un banc d'essai à l'échelle pilote pour étudier l'effet des opérations de production sur les propriétés du yogourt brassé.", Colloque STELA 2015, Hôtel Le Concorde, Québec, Canada, June 1-2, 2015. (Poster)

Lussier, N., St-Gelais, D., Villeneuve, S., and Turgeon, S.L. (2015). "Rôle de la teneur en matières grasses et du type de brassage sur l'évolution des propriétés rhéologiques du yogourt.", Colloque STELA 2015, Hôtel Le Concorde, Québec, Canada, June 1-2, 2015. (Poster)

Des Marchais, L.-P., Villeneuve, S., L'Hocine, L., and Pitre, M. (2015). "Effect of Navy bean processing on dough rheological properties and bread-making potential.", International Congress on Engineering and Food, Engineering Challenges: bridging science and food innovations, Québec city, Canada, June 14-18, 2015. (Poster)

## 2014

Villeneuve, S. (2014). "Structuration d'aliments enrichis.", Rencontre du Regroupement des Nutritionnistes en CSSS Mission CLSC et Communautaire, Montréal, Québec, Canada, 30 mai 2014. (Présentation)

Mercier, S., Villeneuve, S., Mondor, M., Moresoli, C., and Marcos, B. (2014). "Reducing food product development cost using meta-analysis and modeling.", 17th World Congress of Food Science & Technology (IUFoST 2014), Montréal, Québec, Canada, August 17-21, 2014, Oral presentation.

Mercier, S., Marcos, B., Moresoli, C., Mondor, M., and Villeneuve, S. (2014). "Development of a mechanistic pasta drying model for an accurate prediction of internal moisture profiles and pasta quality.", 28th EFFoST International Conference, Uppsala, Sweden, 25-28 November, 2014, Oral presentation.

Mercier, S., Mondor, M., Villeneuve, S., Marcos, B., and Moresoli, C. (2014). "Quantification of the oxidative stability of flaxseed-enriched lasagna pasta according to the processing conditions.", 28th EFFoST International Conference, Uppsala, Sweden, 25-28 November, 2014. (Poster)

L'Hocine, L., Pitre, M., Villeneuve, S., DesMarchais, L.-P., and Achouri, A. (2014). "Impact of industry-relevant thermal processing on navy bean proteins immunoreactivity.", 8th Workshop on Food Allergen Methodologies, Sheraton Wa Il Centre, Vancouver, BC, Canada, May 2014. (Poster)

Mercier, S., Marcos, B., Moresoli, C., Mondor, M., and Villeneuve, S. (2014). "Effect of sample size on the estimation and identifiability of water mass transfer coefficients for pasta drying.", 17th World Congress of Food Science & Technology (IUFoST 2014), Montréal, Québec, Canada, August 17-21, 2014. (Poster)

## 2013

Villeneuve, S. (2013). "Effet de la matrice en formulation et en transformation des aliments.", De l'ingrédient novateur au produit à valeur ajoutée, Fondation Initia, St-Hyacinthe, QC, Canada, novembre 7, 2013, présentation.

Mercier, S., Villeneuve, S., Mondor, M., Moresoli, C., and Marcos, B. (2013). "Evaluation of the oxidative stability of flaxseed-enriched pasta lipids under Rancimat test.", 15th CSChE Quebec-Ontario Biotechnology Meeting, Université Laval, Québec, Canada, May 30-31.

Villeneuve, S. (2013). "Création d'aliments innovateurs.", Semaine de l'Agriculture, de l'Alimentation et de la Consommation, Centre de foires de Québec, Québec, QC, Canada, janvier 18-20, 2013, présentation.

## 2012

Bergeron-Quirion, S., Villeneuve, S., LeBlanc, D.I., and Delaquis, P.J. (2012). "Thermophysical properties of pre-washed baby-leaf lettuce and brassica greens packaged in clamshells.", 11th Conference of Food Engineering (CoFE 2012), National Conference Center, Leesburg, VA, USA, April 2-4, 2012. (Poster)

Fazil, A.M., Otten, A., Hashemi Beni, L., Villeneuve, S., McKellar, R., Delaquis, P.J., and LeBlanc, D.I. (2012). "A simulation model to predict public health risks of pathogens in a Canadian food distribution system.", Society for Risk Analysis (SRA) 2012 Annual Meeting, San Francisco, CA, USA, December 9-12, 2012, T2-F.4.

Fazil, A.M., Otten, A., Hashemi Beni, L., Villeneuve, S., McKellar, R., Delaquis, P.J., and LeBlanc, D.I. (2012). "Développement d'un outil de simulation permettant de prédire les risques de santé publique associés aux dangers microbiologiques présents dans le système canadien de distribution des aliments.", 3e rencontre annuelle de l'Association Québécoise pour l'Innocuité Alimentaire (AQIA), Centre des Congrès de Lévis, Québec City, QC, Canada, September 13, 2012. (Poster)

Power, K.A., Villeneuve, S., Mondor, M., Fustier, P., Arcand, Y., Lamarche, F., Britten, M., Cui, S.W., Tsao, R., Fofana, B., and Wanasundara, J.P.D. (2012). "Recent progress on the incorporation of flaxseed into cereal based matrices: delivery of bioactives to target sites and a comprehensive assessment of their biological effects.", 64th Flax Institute of the United States, Doublewood Inn, Fargo, ND, USA, March 29-30, 2012. (Presentation)

Des Marchais, L.-P., Do, C.B., Arcand, Y., and Villeneuve, S. (2012). "Effect of flaxseed processing on fatty acids profile of pasta after drying, cooking and in vitro digestion.", 11th Conference of Food Engineering (CoFE 2012), National Conference Center, Leesburg, VA, USA, April 2-4, 2012. (Poster)

Villeneuve, S., Hashemi Beni, L., Côté, K., LeBlanc, D.I., Fazil, A.M., Otten, A., McKellar, R., and Delaquis, P.J. (2012).

"Development of an interactive modeling tool to predict the risks associated with contaminated fresh-cut lettuce in Canadian Distribution Systems.", 101st Annual Meeting of the International Association of Food Protection (IAFP 2012), Rhode Island Convention Center, Providence, RI, USA, July 22-25, 2012.

Mondor, M., Tahérian, A.R., Villeneuve, S., Drolet, H., Ippersiel, D., DesMarchais, L.-P., and Lamarche, F. (2012). "Development of value-added pea protein isolate by membrane technology and its potential uses for functional food formulation.", 11th Conference of Food Engineering (CoFE 2012), National Conference Center, Leesburg, VA, USA, April 2-4, 2012. (Poster)

Mercier, S., Mondor, M., Drolet, H., and Villeneuve, S. (2012). "Oxidative study of freeze-dried flaxseed oil-in-water emulsions prepared by a new premix membrane emulsification technique.", 11th Conference of Food Engineering (CoFE 2012), National Conference Center, Leesburg, VA, USA, April 2-4, 2012. (Poster)

Power, K.A. and Villeneuve, S. (2012). "Recent progress on the incorporation of flaxseed into cereal based matrices: delivery of bioactives to target sites and comprehensive assessment of their biological effects.", 64th Flax Institute of the United States, Doublewood Inn, Fargo, ND, USA, March 29-30, 2012.

Bergeron-Quirion, S., Villeneuve, S., LeBlanc, D.I., and Delaquis, P.J. (2012). "Predicting the temperature of leafy vegetables packaged in clamshells during distribution in the cold chain.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012. (Poster)

Fazil, A.M., Otten, A., Hashemi Beni, L., Villeneuve, S., McKellar, R., Delaquis, P.J., and LeBlanc, D.I. (2012). "Development of a simulation tool to predict the public health risks associated with microbiological hazards in Canadian food distribution systems.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012. (Poster)

Mondor, M., Lamarche, F., Tahérian, A.R., Ippersiel, D., Drolet, H., Villeneuve, S., and DesMarchais, L.-P. (2012). "Production of new health ingredients/ food products by membrane technologies.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012. (Presentation)

Tahérian, A.R., Defosse, S., Mondor, M., DesMarchais, L.-P., Drolet, H., Villeneuve, S., and Sabik, H. (2012). "A study on properties of pea protein-polysaccharides structured flaxseed oil-in-water emulsions using layer by layer deposition technique.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012. (Poster)

Mercier, S., Mondor, M., Moresoli, C., Villeneuve, S., and Marcos, B. (2012). "Impact of pasta effective moisture diffusion coefficient on predicted drying behaviour.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012. (Poster)

Do, C.B., Labranche, J., DesMarchais, L.-P., Arcand, Y., and Villeneuve, S. (2012). "Effect of processing, cooking and mastication on in vitro digestibility of pasta.", 11th Conference of Food Engineering (CoFE 2012), National Conference Center, Leesburg, VA, USA, April 2-4, 2012. (Presentation)

## 2011

Villeneuve, S., Mondor, M., and Arcand, Y. (2011). "An Engineering approach for the incorporation and delivery of bioactive compounds through food matrices.", Plant Bioactives Research in Canada. Canada-United Kingdom Gut and Health Workshop, AAFC-FRDC / AAC-CRDA, Saint-Hyacinthe, QC, Canada, February 24-25, 2011.

Villeneuve, S., DesMarchais, L.-P., Foisy, M., Mercier, S., and Mondor, M. (2011). "Bread-making potential of pea protein isolate produced by a novel ultrafiltration/diafiltration process.", 11th International Congress on Engineering and Food (ICEF11): Food Process Engineering in a Changing World, Athens, Greece, May 22-26, 2011, FPE162, Volume III, p. 2033-2034.

Mercier, S., DesMarchais, L.-P., Villeneuve, S., and Foisy, M. (2011). "Effect of die material on engineering properties of dried pasta.", 11th International Congress on Engineering and Food (ICEF11): Food Process Engineering in a Changing World, Athens, Greece, May 22-26, 2011, EPF144, Volume II, p. 1261-1262.

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## Research Publications:

2015

Saguez, J., Lasnier, J., Schwartz, M.D., and Vincent, C. (2015). "First mention of the zoophytophagous mirid *Atractotomus mali* (Hemiptera: Miridae) in Quebec orchards.", *Phytoprotection*, 95, pp. 38-40.

Saguez, J., Lemoyne, P., Giordanengo, P., Olivier, C.Y., Lasnier, J., Mauffette, Y., and Vincent, C. (2015). "Characterization of the feeding behavior of three *Erythroneura* species on grapevine by histological and DC-electrical penetration graph techniques.", *Entomologia Experimentalis et Applicata*, 157(2), pp. 227-240. doi : 10.1111/eea.12353

Royauté, R., Buddle, C.M., and Vincent, C. (2015). "Under the influence: sublethal exposure to an insecticide affects personality expression in a jumping spider.", *Functional Ecology*. doi : 10.1111/1365-2435.12413

Rodriguez-Saona, C., Vincent, C., Polk, D., and Drummond, F.A. (2015). "A Review of the Blueberry Maggot Fly (Diptera: Tephritidae).", *Journal of Integrated Pest Management*, 6(1: Article 11). doi : 10.1093/jipm/pmv010

2014

Royauté, R., Buddle, C.M., and Vincent, C. (2014). "Inter-population variations in behavioral syndromes of a jumping spider from insecticide-treated and insecticide-free orchards.", *Ethology*, 120(2), pp. 127-139. doi : 10.1111/eth.12185

Dixon, P.L., Cass, L., Vincent, C., and Olfert, O.O. (2014). "Implementation and Adoption of Integrated Pest Management in Canada: Insects.", in Peshin, R. and Pimentel, D. (eds.) - *Experiences with IPM, Transgenic Crops and Pesticide Use*, Springer, Chapter 9, pp. 221-252.

Boiteau, G., Vincent, C., Leskey, T.C., Colpitts, B.G., MacKinley, P.D., and Lee, D.H. (2014). "Impact of host plant connectivity, crop border and patch size on adult Colorado potato beetle retention.", *PLoS ONE*, 9(5:e95717). doi : 10.1371/journal.pone.0095717

Vincent, C., Lemoyne, P., Gaul, S.O., and MacKenzie, K.C. (2014). "Extreme cold temperature to kill blueberry maggot in reusable containers.", *Journal of Economic Entomology*, 107(3), pp. 906-909. doi : 10.1603/EC13524

Olivier, C.Y., Saguez, J., Stobbs, L.W., Lowery, D.T., Galka, B., Whybourne, K.J., Bittner, L.A., Chen, X., and Vincent, C. (2014). "Occurrence of phytoplasmas in leafhoppers and cultivated grapevines in Canada.", *Agriculture, Ecosystems and Environment*, 195, pp. 91-97. doi : 10.1016/j.agee.2014.05.008

Lee, D.H., Park, C.G., Seo, B.Y., Boiteau, G., Vincent, C., and Leskey, T.C. (2014). "Detectability of *Halyomorpha halys* (Hemiptera: Pentatomidae) by portable harmonic radar in agricultural landscapes.", *Florida Entomologist*, 97(3), pp. 1131-1138. doi : 10.1653/024.097.0320

Saguez, J., Olivier, C.Y., Hamilton, A., Lowery, D.T., Stobbs, L.W., Lasnier, J., Galka, B., Chen, X., Mauffette, Y., and Vincent, C. (2014). "Diversity and abundance of leafhoppers in Canadian vineyards.", *Journal of Insect Science*, 14(1: Article 73), pp. 20 pages. doi : 10.1093/jis/14.1.73

Bostanian, N.J., Bourgeois, G., Plouffe, D., and Vincent, C. (2014). "Modeling phytophagous mirid nymphs in cool-climate vineyards.", *Phytoparasitica*, 42(1), pp. 13-22. doi : 10.1007/s12600-013-0332-y

2013

Leskey, T.C., Wright, S.E., Saguez, J., and Vincent, C. (2013). "Impact of insecticide and fungicide residue contact on plum curculio, *Conotrachelus nenuphar* (Herbst), mobility and mortality: implications for pest management.", *Pest Management Science*, 69(4), pp. 464-470. doi : 10.1002/ps.3445

Lee, D.H., Wright, S.E., Vincent, C., Boiteau, G., and Leskey, T.C. (2013). "Effectiveness of Glues for Harmonic Radar Tag Attachment on *Halyomorpha halys* (Hemiptera: Pentatomidae) and Their Impact on Adult Survivorship and Mobility.", *Environmental Entomology*, 42(3), pp. 515-523. doi : 10.1603/EN12320

Saguez, J., Lasnier, J., and Vincent, C. (2013). "First record of *Drosophila suzukii* in Quebec vineyards.", *Journal International des Sciences de la Vigne et du Vin*, 47(1), pp. 69-72.

2012

Regnault-Roger, C., Vincent, C., and Amason, J.T. (2012). "Essential Oils in Insect Control: Low-Risk Products in a High-Stakes World.", *Annual Review of Entomology*, 57, pp. 405-424. doi : 10.1146/annurev-ento-120710-100554

Francis, F., Saguez, J., Cherqui, A., Vandermoten, S., Vincent, C., Versali, M.-F., Dommès, J., De Pauw, E., Giordanengo, P., and Haubruge, E. (2012). "Purification and Characterisation of a 31-kDa Chitinase from the *Myzus Persicae* Aphid: A Target for Hemiptera Biocontrol.", *Applied Biochemistry and Biotechnology*, 166(5), pp. 1291-1300. doi : 10.1007/s12010-011-9517-3

Fréchette, B., Vincent, C., Giordanengo, P., Pelletier, Y., and Lucas, É. (2012). "Do resistant plants provide an enemy-free space to aphids?", *European Journal of Entomology (EJE)*, 109(1), pp. 135-137.

2011

Saguez, J. and Vincent, C. (2011). "A method for continuous rearing of grapevine leafhoppers, *Erythroneura* spp. (Hemiptera: Cicadellidae).", *Canadian Entomologist*, 143(1), pp. 102-104. doi : 10.4039/n10-048

Boiteau, G., Vincent, C., Meloche, F., Leskey, T.C., and Colpitts, B.G. (2011). "Harmonic radar: efficacy at detecting and recovering insects on agricultural host plants.", *Pest Management Science*, 67(2), pp. 213-219. doi : 10.1002/ps.2054

Boiteau, G., Vincent, C., Meloche, F., Leskey, T.C., and Colpitts, B.G. (2011). "Evaluation of tag entanglement as a factor in harmonic radar studies of insect dispersal.", *Environmental Entomology*, 40(1), pp. 94-102. doi : 10.1603/EN10158

## Other Science Related Publications:

2015

Saguez, J., Olivier, C.Y., Lasnier, J., Hamilton, A., Stobbs, L.W., and Vincent, C. (2015). Biology and integrated management of leafhoppers and phytoplasma diseases in vineyards of eastern Canada. Technical Bulletin A59-32/2015E-PDF, Agriculture and Agri-Food Canada, 67 p.

Vincent, C. (2015). "Évolution des technologies de l'information vue à travers les réunions conjointes SEQ-SEC tenues à Montréal en 1991, 2000 et 2006.", *Antennae*, 22(3), pp. 14-17.

Olivier, C.Y., Saguez, J., Dumonceaux, T.J., Lasnier, J., and Vincent, C. (2015). "Fluctuations over time of phytoplasma diseases incidence in grapevines and in leafhoppers in Quebec and Ontario vineyards.", *Entomological Society of America*, Minneapolis, Minnesota, USA, November 18, 2015. (Poster)

Vincent, C. (2015). "La lutte contre les insectes ravageurs.", Dans le cadre du Programme Innovateurs à l'école/ Association des communicateurs scientifiques, École Virginie-Roy, Ile Perrot, QC, Canada, 12 mai 2015. (Presentation)

Olivier, C.Y., Saguez, J., Dumonceaux, T.J., Lasnier, J., and Vincent, C. (2015). "Que transportent les cicadelles de la vigne au Québec?", Joint meeting, Entomological Society of Canada/ Société d'entomologie du Québec, Montréal, QC, Canada, November 10, 2015. (Poster)

Vincent, C. (2015). "Pesticides- Quelles alternatives?", Cœur des Sciences, Université du Québec à Montréal, Montréal, QC, Canada, 8 juillet 2015. (Presentation)

Vincent, C. (2015). "Quelques succès obtenus en entomologie agricole.", Centre de recherche et de développement en horticulture, Agriculture and Agri-Food Canada, Saint-Jean-sur-Richelieu, QC, October 7, 2015. (Presentation)

Vincent, C. (2015). "Evolution of information technologies viewed through Joint Annual Meetings of the ESC/SEQ held in Montreal in 1991, 2000 and 2006.", *Bulletin of the Entomological Society of Canada*, 47(3), pp. 102-107.

Vincent, C., Appleby, M.E., Eaton, A., and Lasnier, J. (2015). "Steps in introducing *Lathrolestes* sensator, a parasite of the apple sawfly, *Hoplocampa testudinea*, in North America.", *International Plant Protection Congress (IPPC) 2015*, Berlin, Germany, August 25-27, 2015, Presentation.

Carisse, O., Kawchuk L.M., Peters, R.D., Bilodeau, G.J., Lévesque, C.A., Vincent, C., and Laforest, M. (2015). "Biovigilance: a framework for effective pest management.", *National Science Day on Biovigilance and Precision Agriculture*, Agriculture and Agri-Food Canada, Saint-Jean-sur-Richelieu, QC, Canada, July 9, 2015. (Presentation)

Vincent, C., Olivier, C.Y., Lasnier, J., and Saguez, J. (2015). "Dix questions sur le système cicadelles/phytoplasmes/vignes.", *Antennae*, 22(2), pp. 3-6.

Vincent, C. (2015). "Alternatives to insecticides: thinking outside the box and about the box.", *University of Vermont*, Burlington, VT, USA, April 10, 2015. (Presentation)

Olivier, C.Y., Saguez, J., Dumonceaux, T.J., Lasnier, J., and Vincent, C. (2015). "New phytoplasma identified from grapevines and leafhoppers collected in vineyards of Quebec.", *International Plant Protection Congress (IPPC) 2015*, Berlin, Germany, August 25-27, 2015, Poster PPI 67. (Poster)

Vincent, C. (2015). "Entomofaune et lutte contre les insectes des vignobles du Québec.", INRA/Sophia -Antipolis, France, 13 février 2015.

Saguez, J., Olivier, C.Y., Lasnier, J., and Vincent, C. (2015). "Phytoplasmes de la vigne: vers des pistes de solutions.", Symposium Vigne et Vin, CRAAQ, Drummondville, QC, 10 février 2015.

Vincent, C. and Lemoyne, P. (2015). "La mouche du bleuet et le froid.", *Antennae*, 22(1), pp. 3-5.

## 2014

Vincent, C. (2014). "La lutte contre les insectes ravageurs.", Dans le cadre du Programme Innovateurs à l'école/ Association des communicateurs scientifiques, Collège Charles-Lemoyne, Longueuil, QC, Canada, 27 mai 2014. (Presentation)

Soufiane, B., Vincent, C., and Côté, J.-C. (2014). "Psychrotolerance as a driver for the development of novel Bt-based insecticides.", Entomological Society of America 2014 Annual Meeting, Portland, Oregon, USA, November 18, 2014.

Vincent, C., Lemoyne, P., and Lafond, J. (2014). "Extreme temperatures and management of blueberry maggot, *Rhagoletis mendax*.", Wild Blueberry Research and Extension Workers (WBREW), Québec, QC, Canada, 22 octobre 2014.

Olivier, C.Y., Vincent, C., Saguez, J., Dumonceaux, T.J., and Lasnier, J. (2014). "Phytoplasma biodiversity in grapevines and leafhoppers sampled in vineyards of Quebec.", Entomological Society of America 2014 Annual Meeting, Portland, Oregon, USA, November 18, 2014. (Poster)

Vincent, C. (2014). "Le technicien en entomologie.", *Antennae*, 21(1), pp. 3-5.

Bensadia, F., Mauffette, Y., Lasnier, J., and Vincent, C. (2014). "La tordeuse de la vigne au Québec.", *Antennae*, 21(1), pp. 14-15.

Lasnier, J., Vincent, C., and Saguez, J. (2014). "Lathrolestes sensor, parasite de l'hoplocampe en verger de pommiers.", Pomiculture: Innovation Estrie. Verger Familial C.R., Magog, QC, Canada, 18 juillet 2014.

Royauté, R., Buddle, C.M., and Vincent, C. (2014). "Effets des insecticides sur les syndromes comportementaux d'une araignée sauteuse.", *Antennae*, 21(3), pp. 3-5.

Saguez, J., Olivier, C.Y., Lasnier, J., and Vincent, C. (2014). "Biodiversity of cicadellids in Quebec vineyards.", Joint meeting, Entomological Society of Canada/ Entomological Society of Saskatchewan, Saskatoon, Sask., Canada, September 30, 2014.

Olivier, C.Y., Stobbs, L.W., Lasnier, J., Saguez, J., and Vincent, C. (2014). "Phytoplasma diseases in Ontario vineyards: Review and future projects.", Ontario Pest Management Conference, University of Guelph, Guelph, ON, Canada, November 13, 2014.

Saguez, J., Giordanengo, P., Olivier, C.Y., Lasnier, J., and Vincent, C. (2014). "Feeding behavior of three *Erythroneuma* spp. (Cicadellidae) on grapevine.", Joint meeting, Entomological Society of Canada / Entomological Society of Saskatchewan, Saskatoon, Sask., Canada, September 30-October 1, 2014.

Vincent, C., Mason, P.G., and Gillespie, D.R. (2014). "Portrait de la lutte biologique au Canada.", Académie d'Agriculture de France, Paris, France, 5 février 2014. (Presentation)

Soufiane, B., Vincent, C., and Côté, J.-C. (2014). "A novel toxin produced by a psychrotolerant *Bacillus thuringiensis* serovar.", Joint meeting, Entomological Society of Canada / Entomological Society of Saskatchewan, Saskatoon, Sask., Canada, September 30-October 1, 2014.

Royauté, R., Ballot, M., Buddle, C.M., and Vincent, C. (2014). "Influence of energy balance on individual variation in boldness in a jumping spider.", 15th International Behavioral Ecology Congress, New York City, NY, USA, August 2, 2014.

Olivier, C.Y., Dumonceaux, T.J., Hammond, C., Saguez, J., and Vincent, C. (2014). "New phytoplasma strains in Quebec vineyards.", Joint meeting, Entomological Society of Canada / Entomological Society of Saskatchewan, Saskatoon, Sask., Canada, September 30-October 1, 2014, Poster 26. (Poster)

Saguez, J., Lasnier, J., and Vincent, C. (2014). "La drosophile à ailes tachetées, *Drosophila suzukii*, est-elle une menace en vignobles québécois?", 141<sup>ème</sup> réunion de la Société d'entomologie du Québec, Wendake, QC., Canada, 7 novembre 2014.

Saguez, J., Lasnier, J., Schwartz, M.D., and Vincent, C. (2014). "Atractotomus mali: une nouvelle punaise présente dans les vergers de pommiers au Québec.", 141<sup>ème</sup> réunion de la Société d'entomologie du Québec, Wendake, QC., Canada, 7 novembre 2014. (Poster)

Saguez, J., Olivier, C.Y., Lasnier, J., and Vincent, C. (2014). "On en sait maintenant plus sur les maladies à phytoplasmes en vignobles Canadiens.", 141<sup>ème</sup> réunion de la Société d'entomologie du Québec, Wendake, QC., Canada, 7 novembre 2014. (Poster)

Vincent, C., Mason, P.G., and Gillespie, D.R. (2014). "La lutte biologique au Canada.", Conférence à l'Unité de recherche FRE 3498-Ecologie et Dynamiques des Systèmes Anthropisés (EDYSAN), Université de Picardie Jules Verne, Amiens, France, 20 février 2014. (Presentation)

2013

Saguez, J., Giordanengo, P., and Vincent, C. (2013). "Aphids as major potato pests.", in Giordanengo, P., Vincent, C., and Alyokhin, A. (eds.) - *Insect Pests of Potato: Global Perspectives on Biology and Management*, Academic Press, San Diego, USA, Chapter 3, pp. 31-63.

Cossentine, J.E., Vincent, C., Smirle, M.J., and Côté, J.-C. (2013). "Choristoneura rosaceana, obliquebanded leafroller (Lepidoptera: Tortricidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Wallingford, UK, pp. 130-134.

Alyokhin, A., Vincent, C., and Giordanengo, P. (Eds.) (2013). *Insect Pests of Potato: Global Perspectives on Biology and Management*, Academic Press, San Diego, USA. (Book)

Vincent, C. (2013). "Sustainable plant protection programs: attempts to fill the gap between concepts and reality.", Entomological Society of America (ESA) Eastern Branch 2013 Annual Meeting: Growing Towards a Sustainable Future: Current Research, and Insights on Sustainable Management, Eden Resort and Suites, Lancaster, PA, USA, March 16-20, 2013.

Alyokhin, A., Vincent, C., and Giordanengo, P. (2013). "Epilogue: The Road to Sustainability.", in Giordanengo, P., Vincent, C., and Alyokhin, A. (eds.) - *Insect Pests of Potato: Global Perspectives on Biology and Management*, Academic Press, San Diego, USA, Chapter 20, pp. 573-575.

Vincent, C., Alyokhin, A., and Giordanengo, P. (2013). "Potato and their Pests - Setting the Stage.", in Giordanengo, P., Vincent, C., and Alyokhin, A. (eds.) - *Insect Pests of Potato: Global Perspectives on Biology and Management*, Academic Press, San Diego, USA, Chapter 1, pp. 3-8.

Lambert, L., Laplante, G., Carisse, O., and Vincent, C. (2013). *Diseases, Pests and Beneficial Insects of Strawberry, Raspberry and Blueberry*, CRAAQ, QC, Canada/APS Press, St-Paul, MN, USA. (Book)

Vincent, C., Huber, J., Gibson, G.A.P., and Goulet, H. (2013). "Spotted Tentiform Leafminer, Phyllorcter blancardella F. (Lepidoptera: Gracillariidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, pp. 244-247.

Vincent, C. (2013). "Regards sur les méthodes alternatives aux insecticides en agriculture.", Académie d'Agriculture de France, Paris, France, 6 février 2013. (Presentation)

Saguez, J., Olivier, C., Hamilton, A., Lasnier, J., and Vincent, C. (2013). "An update on phytoplasma in Canadian vineyards.", Joint meeting, Entomological Society of Canada / Entomological Society of Ontario, Guelph, Ontario, Canada, October 20-22, 2013, CP12. (Poster)

Saguez, J. and Vincent, C. (2013). "Effects of a codling moth granulovirus on the oriental fruit moth, Grapholita molesta.", Joint meeting, Entomological Society of Canada / Entomological Society of Ontario, Guelph, Ontario, Canada, October 20-22, 2013, CP13. (Poster)

Vincent, C. and Pickering, G. (2013). "Multicolored Asian ladybeetle, Harmonia axyridis (Coleoptera: Coccinellidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Wallingford, UK, pp. 192-198.

Vincent, C. and Lasnier, J. (2013). "Vineyard IPM in a Changing World: Adapting to New Pests, Tactics, and Challenges", Joint meeting, Entomological Society of Canada / Entomological Society of Ontario, Guelph, Ontario, Canada, October 20-22, 2013, Symposium "Current success IPM programs- with consideration of unique systems" (H. Fraser, org). (Workshop)

Vincent, C. (2013). "Breadth vs Depth - Preparing the proposal and forming the research team.", Joint meeting, Entomological Society of Canada / Entomological Society of Ontario, Guelph, Ontario, Canada, October 20-22, 2013, "Grant Writing: Success with Preparation", (C. Vincent, B.J. Sinclair, J. F. Gibson, T. A. Wheeler orgs.). (Workshop)

Cossentine, J.E. and Vincent, C. (2013). "Cydia pomonella (L.), Codling Moth (Lepidoptera: Tortricidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CABI Publishing, Wallingford, UK, pp. 139-141.

Saguez, J., Olivier, A., Hamilton, A., Lasnier, J., and Vincent, C. (2013). "Phytoplasmes dans les vignobles: les dernières nouvelles...", Société d'entomologie du Québec, Ste-Adèle, QC, Canada, 21 November, 2013. (Poster)

Royauté, R., Ballot, M., Buddle, C.M., and Vincent, C. (2013). "Influence of energetic state on individual variation in boldness in the jumping spider *Eris militaris* (Araneae: Salticidae).", Annual Meeting, Entomological Society of America, Austin, Texas, USA, November 10-13, 2013, D0674. (Poster)

Royauté, R., Ballot, M., Buddle, C.M., and Vincent, C. (2013). "Does physiological state affect individual variation in boldness in a jumping spider?", Joint meeting, Entomological Society of Canada / Entomological Society of Ontario, Guelph, Ontario, Canada, October 20-22, 2013, PP23. (Poster)

Royauté, R., Buddle, C.M., and Vincent, C. (2013). "Behavioural variations in jumping spiders from apple orchards.", Joint meeting, Entomological Society of Canada / Entomological Society of Ontario, Guelph, Ontario, Canada, October 20-22, 2013. (Poster)

Labrie, G., Mason, P.G., Vincent, C., and Broadbent, A.B. (2013). "Natural enemies of pollen beetle *Brassicoglyphus viridescens* (Coleoptera: Nitidulidae) in Québec and Ontario", Joint meeting, Entomological Society of Canada / Entomological Society of Ontario, Guelph, Ontario, Canada, October 20-22, 2013, CP14. (Poster)

Boiteau, G., Vincent, C., Leskey, T.C., and Colpitts, B.G. (2013). "Role of crop border and host patch size on retention of electronically tagged walking adult Colorado potato beetle.", Annual Meeting, Entomological Society of America, Austin, Texas, USA, November 10-13, 2013, D0344. (Poster)

Boiteau, G., Vincent, C., Leskey, T.C., and Colpitts, B.G. (2013). "Differential impact of mixed crop borders on the walking and flight dispersal of adult Colorado Potato Beetles from the potato patch.", Joint meeting, Entomological Society of Canada / Entomological Society of Ontario, Guelph, Ontario, Canada, October 20-22, 2013, CP11. (Poster)

Vincent, C. (2013). "Le développement d'alternatives durables pour la lutte contre les insectes d'importance horticole.", L'écologie des insectes à l'UdeM, Université de Moncton, A-002 (Rémi-Rossignol), Moncton, NB, Canada, May 6, 2013. (Presentation)

Mason, P.G., Gillespie, D.R., and Vincent, C. (2013). "Proceedings of the Fourth International Symposium on Biological Control of Arthropods (380 pages).", 4th International Symposium on Biological Control of Arthropods, Pucón, Chile, March 4-8, 2013.

Vincent, C., Babendreier, D., Kuhlmann, U., and Lasnier, J. (2013). "European Apple sawfly, *Hoplocampa testudinea* Klug (Hymenoptera: Tenthredinidae).", in Mason, P.G. and Gillespie, D.R. (eds.) - Biological Control Programmes in Canada 2001-2012, CABI Publishing, Wallingford, UK, pp. 198-202.

Vincent, C., Lemoyne, P., Gaul, S.O., and MacKenzie, K.C. (2013). "Blueberry maggot and extreme low temperatures.", Annual Meeting, Entomological Society of America, Austin, Texas, USA, November 10-13, 2013. (Poster)

## 2012

Vincent, C. (2012). "La lutte contre les insectes ravageurs.", Programme Innovateurs à l'école/Association des communicateurs scientifiques, École St-Grégoire-le-Grand, Montréal, QC, Canada, May 8, 2012. (Presentation)

Bostanian, N.J., Vincent, C., and Isaacs, R. (Eds.) (2012). *Arthropod Management in Vineyards: Pests, Approaches, and Future Directions*, Springer Dordrecht, The Netherlands. (Book)

Vincent, C., Isaacs, R., Bostanian, N.J., and Lasnier, J. (2012). "Principles of Arthropod Pest Management in Vineyards.", in Bostanian, N.J., Vincent, C., and Isaacs, R. (eds.) - *Arthropod Management in Vineyards: Pests, Approaches, and Future Directions*, Springer Dordrecht, The Netherlands, Chapter 1, pp. 1-16.

Olivier, C.Y., Vincent, C., Saguez, J., Galka, B., Weintraub, P.G., and Maixner, M. (2012). "Leafhoppers and Planthoppers: Their Bionomics, Pathogen Transmission and Management in Vineyards.", in Bostanian, N.J., Vincent, C., and Isaacs, R. (eds.) - *Arthropod Management in Vineyards: Pests, Approaches, and Future Directions*, Springer Dordrecht, The Netherlands, Chapter 11, pp. 253-270.

Isaacs, R., Vincent, C., and Bostanian, N.J. (2012). "Vineyard IPM in a Changing World: Adapting to New Pests, Tactics, and Challenges.", in Bostanian, N.J., Vincent, C., and Isaacs, R. (eds.) - *Arthropod Management in Vineyards: Pests, Approaches, and Future Directions*, Springer Dordrecht, The Netherlands, Chapter 20, pp. 475-484.

Vincent, C. and Bostanian, N.J. (2012). "Nouveau livre sur la gestion des arthropodes de la vigne.", Journée viticole, St-Rémi, QC, Canada, 6 décembre 2012. (Presentation)

Royauté, R., Buddle, C.M., and Vincent, C. (2012). "Behavioural correlations in the jumping spider *Eris militaris* (Araneae: Salticidae).", Entomology/Wildlife Graduate Seminars, Macdonald College, Saint-Anne-de-Bellvue, QC, Canada, April 23, 2012. (Presentation)

Saguez, J., Lasnier, J., and Vincent, C. (2012). "La drosophile à ailes tachetées (*Drosophila suzukii*) arrive dans les vignobles québécois.", 139e réunion annuelle de la Société d'entomologie du Québec, Boucherville, QC, Canada, November 1-2, 2012.

Bostanian, N.J., Vincent, C., Bourgeois, G., and Plouffe, D. (2012). "Tarnished plant bug dynamics in Québec vineyards.", Entomological Society of America (ESA) 60th Annual Meeting, Knoxville Convention Centre, Knoxville, TN, USA, November 11-14, 2012, D0283. (Poster)

Vincent, C. (2012). "Méthodes de lutte non chimiques au Canada.", Jardin Botanique de Montréal, Montréal, QC, Canada, April 18, 2012. (Presentation)

Vincent, C. (2012). "Risques des alternatives aux insecticides pour la santé humaine.", Congrès de la Société de protection des plantes du Québec (SPPQ): Symposium Spores, toxines et allergènes des espèces nuisibles: Les risques pour la santé humaine, Hôtel Plaza Valleyfield, Salaberry-de-Valleyfield, QC, Canada, June 5-6, 2012. (Abstract)

- Vincent, C., Appleby, M.E., Eaton, A., and Lasnier, J. (2012). "Classical biological control of the European apple sawfly with the ichneumonid *Lathrolestes ensator*: A case of longterm commitment.", Entomological Society of America (ESA) 60th Annual Meeting, Knoxville Convention Centre, Knoxville, TN, USA, November 11-14, 2012, D0314. (Poster)
- Royauté, R., Buddle, C.M., and Vincent, C. (2012). "How does chemical disturbance affects behavioural variation in a jumping spider?", Entomological Society of Canada 62nd and Entomological Society of Alberta 60th joint Annual Meeting, Coast Edmonton Plaza Hotel, Edmonton, AB, Canada, November 4-7, 2012.
- Olivier, C.Y., Saguez, J., Galka, B., Stobbs, L.W., Lowery, D.T., and Vincent, C. (2012). "Prevalence of phytoplasma diseases in Canadian vineyards.", 24th International Congress of Entomology (ICE 2012) and International Organization for Biological Control (IOBC) Global Symposium, Daegu, South Korea, August 19-25, 2012, PS4TH066. (Poster)
- Saguez, J., Vincent, C., Olivier, C.Y., and Giordanengo, P. (2012). "Leafhopper biodiversity in Canadian vineyards and feeding behavior of three *Erythroneura* species.", 24th International Congress of Entomology (ICE 2012) and International Organization for Biological Control (IOBC) Global Symposium, Daegu, South Korea, August 19-25, 2012, PS4TH045. (Poster)
- Royauté, R., Buddle, C.M., and Vincent, C. (2012). "Effect of sublethal insecticide exposure on individual variation in activity and prey capture in the jumping spider *Eris militaris* (Araneae: Salticidae).", 24th International Congress of Entomology (ICE 2012) and International Organization for Biological Control (IOBC) Global Symposium, Daegu, South Korea, August 19-25, 2012, PS4TH044. (Poster)
- Boiteau, G., Vincent, C., Meloche, F., Leskey, T.C., Gui, L.-Y., and Colpitts, B.G. (2012). "Harmonic radar finders as insect monitoring devices.", 24th International Congress of Entomology (ICE 2012) and International Organization for Biological Control (IOBC) Global Symposium, Daegu, South Korea, August 19-25, 2012, PS4TH043. (Poster)
- Royauté, R., Buddle, C.M., and Vincent, C. (2012). "Comparison of behavioral syndrome structure in insecticide-treated and non insecticide-treated orchards for the jumping spider *Eris militaris* (Araneae: Salticidae).", 14th International Behavioral Ecology Congress (ISBE 2012), Lund University, Lund, Sweden, August 12-17, 2012, P046. (Poster)

2011

- Olivier, C.Y., Galka, B., Johnson, R., Green, M., Vincent, C., Saguez, J., Stobbs, L.W., and Greig, N. (2011). "Potential BN vectors in Canadian vineyards and their feeding behaviour on grapevines.", 2nd European Bois Noir Workshop, Castelbrando, Cison Di Valmarini, TV, Italy, February 27-March 1, 2011, pp. 111. (Poster)
- Gaul, S.O., Estabrooks, E.N., Vincent, C., and MacKenzie, K.C. (2011). "Predicted emergence of *Rhagoletis mendax* (Diptera: Tephritidae) in lowbush blueberry and presence in north western New Brunswick, Canada.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011. (Poster)
- Bensadia, F., Vincent, C., and Mauffette, M. (2011). "Performance biologique de la tordeuse de la vigne sur des cultivars de raisins rouges et blancs.", 138e réunion annuelle de la Société d'Entomologie du Québec, Orford, QC, Canada, October 13-14, 2011. (Poster)
- Vincent, C. (2011). "Non chemical methods in Canada: results and trends.", 4e Conférence Internationale sur les Méthodes Alternatives en Protection des Cultures Évolution des cadres réglementaires européen et français Nouveaux moyens et stratégies innovantes, Lille, France, March 8-10, 2011.
- Vincent, C. (2011). "My Professional Alphabet, Seasoned with Personal Remarks.", Bulletin of the Entomological Society of Canada, 43(2), pp. 58-67.
- Royauté, R., Buddle, C.M., and Vincent, C. (2011). "Behavioral correlations differ in a treated and non-treated orchard in the jumping spider *Eris militaris* (Araneae: Salticidae).", 48th Annual Meeting of the Animal Behavior Society, Indiana University, Bloomington, IN, USA, July 25-30, 2011. (Poster)
- Saguez, J., Vincent, C., Olivier, C.Y., and Lasnier, J. (2011). "Cicadelles en vignobles québécois: un bilan.", 138e réunion annuelle de la Société d'Entomologie du Québec, Orford, QC, Canada, October 13-14, 2011, pp. 20. (Presentation)
- Vincent, C., Bostanian, N.J., and Côté, J.-C. (2011). "Issues involved in developing biopesticides with small companies: three case studies from Canada.", OECD Workshop on Integrated Pest Management (IPM): Technology and Information, Berlin, Germany, October 16-19, 2011. (Poster)
- Royauté, R., Buddle, C.M., and Vincent, C. (2011). "Repeatability of behavioural syndromes across life-stages in jumping spider *Eris militaris* (Araneae: Salticidae).", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011.
- Gaul, S.O., Vincent, C., and MacKenzie, K.C. (2011). "Influence of the bioassay and blueberry volatiles on *Rhagoletis mendax* (Diptera: Tephritidae) response.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011.
- Boiteau, G., Vincent, C., Meloche, F., Leskey, T.C., and Colpitts, B.G. (2011). "Validation of harmonic radar finders as insect monitoring devices.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011. (Poster)



Vincent, C., Fleury, D., Mauffette, Y., Lasnier, J., and Bostanian, N.J. (2011). "Tarnished plant bug and cool-climate vineyards.", Entomological Society of America (ESA) 59th Annual Meeting, Reno-Sparks Convention Center, Reno, NV, USA, November 13-16, 2011.

Saguez, J., Vincent, C., Olivier, C.Y., and Giordanengo, P. (2011). "Erythroneura spp. (Cicadellid) feeding behaviour on grapevine.", Entomological Society of America (ESA) 59th Annual Meeting, Reno-Sparks Convention Center, Reno, NV, USA, November 13-16, 2011, D0311. (Poster)

Bensadia, F., Vincent, C., and Mauffette, Y. (2011). "Biological performance of the grape berry moth on red and white vine cultivars.", Entomological Society of America (ESA) 59th Annual Meeting, Reno-Sparks Convention Center, Reno, NV, USA, November 13-16, 2011.

Olivier, C.Y., Galka, B., Vincent, C., Saguez, J., and Stobbs, L.W. (2011). "Biodiversity of Aster Yellow phytoplasma strains in *Macrosteles quadrilineatus* in Canada, based on the 16Sr gene sequencing.", Joint Annual Meeting of the Entomological Society of Canada and Acadian Entomological Society, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011, pp. 76. (Presentation)

Saguez, J., Bostanian, N.J., and Vincent, C. (2011). "Toxicological assays for leafhoppers associated with vineyards.", Entomological Society of Canada 61st and Acadian Entomological Society 71st joint Annual Meeting, Westin Nova Scotian Hotel, Halifax, NS, Canada, November 6-9, 2011. (Poster)

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## Research Publications:

2015

Hoogencamp, H., Kumagai, H., and Wanasundara, J.P.D. (2015). "Rice protein.", .

Marambe, H.K. and Wanasundara, J.P.D. (2015). "Flaxseed proteins.", in Nadathur, S.N., Wanasundara, J.P.D. and Scanlin, L. (eds.) - Sustainable Protein Sources, Elsevier Science LTD.

Marambe, H.K., McIntosh, T.C., Cheng, B.F., and Wanasundara, P.K.J.P.D. (2015). "Structural stability and Sin a 1 anti-epitope antibody binding ability of yellow mustard (*Sinapis alba* L.) napin during industrial-scale myrosinase inactivation process.", *Food & Function*, 6, pp. 2384-2395. doi : 10.1039/c4fo00806e

Nadathur, S.N., Wanasundara, J.P.D., and Scanlin, L. (Eds.) (2015). Sustainable Protein Sources., USA: Elsevier Science LTD. (Book)

Nadathur, S.N., Scanlin, L., and Wanasundara, J.P.D. (2015). "Feeding the globe nutritious food in 2050 - Obligations and ethical choices.", in Nadathur, S.N., Wanasundara, J.P.D. and Scanlin, L. (eds.) - Sustainable Protein Sources, Elsevier Science LTD.

Nadathur, S.N., Scanlin, L., and Wanasundara, J.P.D. (2015). "Proteins in the diet – Challenges of feeding the global population.", in Nadathur, S.N., Wanasundara, J.P.D. and Scanlin, L. (eds.) - Sustainable Protein Sources, Elsevier Science LTD., Chapter Introductory.

Wanasundara, J.P.D., Siong, T., Alashi, A., Pudiel, F., and Blanchard, C. (2015). "Canola/Rapeseed proteins - Current status.", in Nadathur, S.N., Wanasundara, J.P.D. and Scanlin, L. (eds.) - Sustainable Protein Sources, Elsevier Science LTD.

Pathiratne, S.M., Shand, P.J., Pickard, M.A., and Wanasundara, P.K.J.P.D. (2015). "Generating functional property variation in lentil (*Lensculinaris*) flour by seed micronization: Effects of seed moisture level and surface temperature.", *Food Research International*, 76(P1), pp. 122-131. doi : 10.1016/j.foodres.2015.03.026

Ouazib, M., Moussou, N, N., Oomah, B.D., Zaidi, F., and Wanasundara, P.K.J.P.D. (2015). "Effect of processing and germination on nutritional parameters and functional properties of chickpea (*Cicer arietinum* L.) from Algeria.", *Journal of Food Legumes*, 28(2), pp. 35-42.

Villeneuve, S., Power, K.A., Guévremont, É., Mondor, M., Tsao, R., Wanasundara, P.K.J.P.D., Zarepoor, L., and Mercier, S. (2015). "Effect of a short-time germination process on the nutrient composition, microbial counts and bread-making potential of whole flaxseed.", *Journal of Food Processing and Preservation*, 39(6), pp. 1574-1586. doi : 10.1111/jfpp.12385

Cheung, L.L., Wanasundara, P.K.J.P.D., and Nickerson, M.T. (2015). "Effect of pH and NaCl on the Emulsifying Properties of a Napin Protein Isolate.", *Food Biophysics*, 10(1), pp. 30-38. doi : 10.1007/s11483-014-9350-7

2014

Mupondwa, E.K., Wanasundara, P.K.J.P.D., and Li, X. (2014). "Technoeconomic and life cycle analysis of commercial production of high-value canola protein fractions and co-products using aqueous extraction technology.", 105th Annual meeting and expo of American Oil Chemists' Society, San Antonio, USA, May 4-7, 2014, Oral presentation. (Abstract)

Withana-Gamage, T.S., Hegedus, D.D., Qiu, X., and Wanasundara, P.K.J.P.D. (2014). "Solubility, Heat-Induced Gelation and Pepsin Susceptibility of Cruciferin Protein as Affected by Subunit Composition.", *Food Biophysics*, 10(2), pp. 103-115. doi : 10.1007/s11483-014-9370-3

Marambe, H.K., McIntosh, T.C., Cheng, B.F., and Wanasundara, P.K.J.P.D. (2014). "Quantification of major 2S allergen protein of yellow mustard using anti-Sin a 1 epitope antibody.", *Food Control*, 44, pp. 233-241. doi : 10.1016/j.foodcont.2014.03.053

Cheung, L.L., Wanasundara, P.K.J.P.D., and Nickerson, M.T. (2014). "The effect of pH and NaCl levels on the physicochemical and emulsifying properties of a cruciferin-rich protein isolate.", *Food Biophysics*, 9(2), pp. 105-113. doi : 10.1007/s11483-013-9323-2

Zarepoor, L., Lu, J.T., Zhang, C., Wu, W., Lepp, D., Robinson, L.E., Wanasundara, P.K.J.P.D., Cui, S.W., Villeneuve, S., Fofana, B., Tsao, R., Wood, G.A., and Power, K.A. (2014). "Dietary flaxseed intake exacerbates acute colonic mucosal injury and inflammation induced by dextran sodium sulfate.", *American Journal of Physiology: Gastrointestinal and Liver Physiology*, 306(12), pp. G1042-G1055. doi: 10.1152/ajpgi.00253.2013

## 2013

Marambe, H.K., Shand, P.J., and Wanasundara, P.K.J.P.D. (2013). "In vitro digestibility of flaxseed (*Linum usitatissimum* L.) protein: Effect of seed mucilage, oil and thermal processing.", *International Journal of Food Science and Technology*, 48(3), pp. 628-635. doi: 10.1111/ijfs.12008

Withana-Gamage, T.S., Hegedus, D.D., Qiu, X., Yu, P., May, T., Lydiate, D.J., and Wanasundara, P.K.J.P.D. (2013). "Characterization of Arabidopsis thaliana lines with altered seed storage protein profiles using synchrotron-powered FT-IR spectromicroscopy.", *Journal of Agricultural and Food Chemistry*, 61(4), pp. 901-912. doi: 10.1021/jf304328n

Withana-Gamage, T.S., Hegedus, D.L., Qiu, X., McIntosh, T.C., and Wanasundara, P.K.J.P.D. (2013). "Structural and physico-chemical property relationships of cruciferin homohexamers.", *Journal of Agricultural and Food Chemistry*, 61(24), pp. 5848-5859. doi: 10.1021/jf400559x

## 2012

Withana-Gamage, T.S. and Wanasundara, P.K.J.P.D. (2012). "Molecular modelling for investigating structure - function relationships of soy glycinin.", *Trends in Food Science & Technology*, 28(2), pp. 153-167. doi: 10.1016/j.tifs.2012.06.014

Wanasundara, P.K.J.P.D., Abeysekera, S.J., McIntosh, T.C., and Falk, K.C. (2012). "Solubility Differences of Major Storage Proteins of Brassicaceae Oilseeds.", *Journal of the American Oil Chemists Society (JAOCS)*, 89(5), pp. 869-881. doi: 10.1007/s11746-011-1975-9

## 2011

Wanasundara, P.K.J.P.D. (2011). "Proteins of Brassicaceae oilseeds and their potential as a plant protein source.", *Critical Reviews in Food Science and Nutrition*, 51(7), pp. 635-677. doi: 10.1080/10408391003749942

Withana-Gamage, T.S., Hegedus, D.D., Qiu, X., and Wanasundara, P.K.J.P.D. (2011). "In Silico Homology Modeling To Predict Functional Properties of Cruciferin.", *Journal of Agricultural and Food Chemistry*, 59(24), pp. 12925-12938. doi: 10.1021/jf201979a

Withana-Gamage, T.S., Wanasundara, P.K.J.P.D., Pietrasik, Z., and Shand, P.J. (2011). "Physicochemical, thermal and functional characterisation of protein isolates from Kabuli and Desi chickpea (*Cicer arietinum* L.): a comparative study with soy (*Glycine max*) and pea (*Pisum sativum* L.).", *Journal of the Science of Food and Agriculture*, 91(6), pp. 1022-1031. doi: 10.1002/jsfa.4277

Marambe, H.K., Shand, P.J., and Wanasundara, J.P.D. (2011). "Release of angiotensin I-converting enzyme inhibitory peptides from flaxseed (*Linum usitatissimum* L.) protein under simulated gastrointestinal digestion.", *Journal of Agricultural and Food Chemistry*, 59(17), pp. 9596-9604. doi: 10.1021/jf202000e

## Other Science Related Publications:

### 2015

Wanasundara, J.P.D., McIntosh, T.C., and Mupondwa, E.K. (2015). "Recovering canola protein and other products.", 106th Annual Meeting and Expo of American Oil Chemists' Society, Orlando, FL, USA, May 3-6, 2015, Oral presentation.

Perera, S.P., McIntosh, T.C., Tyler, R.T., and Wanasundara, J.P.D. (2015). "Proteins of *Camelina sativa* (L) oilseed - investigation of protein types and their structure.", 106th Annual Meeting and Expo of American Oil Chemists' Society, Orlando, FL, USA, May 3-6, 2015. (Poster)

Wanasundara, J.P.D. and McIntosh, T.C. (2015). "Changes in canola seed protein structure and properties during pre-press solvent extraction process.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. (Poster)

Mupondwa, E.K., Li, X., Wanasundara, J.P.D., and Tabil, L.G. (2015). "Technoeconomic analysis of bio-ethanol and co-product production from Triticale feedstocks in Western Canada.", 106th Annual Meeting and Expo of American Oil Chemists' Society, Orlando, FL, USA, May 3-6, 2015.

Perera, S.P., Withana-Gamage, T.S., McIntosh, T.C., and Wanasundara, J.P.D. (2015). "Major proteins of canola have distinct structural and physico-chemical properties.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015. (Poster)

Wanasundara, J.P.D. and McIntosh, T.C. (2015). "Properties of napin from scaled-up canola meal fractionation process.", 14th International Rapeseed Congress, Saskatoon, SK, Canada, July 5-9, 2015, Oral presentation.

Li, H., Wanasundara, J.P.D., and Shand, P.J. (2015). "Enzymes of lentil seed components and the Effect of micronization.", 2015 Institute of Food Technologists Meeting, Chicago, IL, USA, July 11-14, 2015. (Poster)

## 2014

Perera, S.P., McIntosh, T.C., Tyler, R.T., and Wanasundara, P.K.J.P.D. (2014). "Oil body proteins of *Camelina sativa* (L) Crantz (False flax).", 105th Annual meeting and expo of American Oil Chemists' Society, San Antonio, USA, May 4-7, 2014. (Poster)

## 2013

Pathiratne, S.M., Shand, P.J., and Wanasundara, P.K.J.P.D. (2013). "Changes in protein-related functional properties of lentil due to micronization.", 104th Annual meeting and expo of American Oil Chemists' Society, Montreal, QC, Canada, April 29 - May 02, 2013, Poster.

Wanasundara, P.K.J.P.D. (2013). "Lentils give beef a boost to improve consumer appeal.", Western Producer, March 14, 2013.

Marambe, H.K., McIntosh, T.C., Cheng, B.F., and Wanasundara, P.K.J.P.D. (2013). "Denaturation of 2S Albumin Napin and Implication of Structural Changes on Allergenic Properties of Yellow Mustard (*Sinapis alba*).", Agricultural biotechnology International Conference, Calgary, Canada, September 15-18, 2013.

Mitra, P., McIntosh, T.C., and Wanasundara, P.K.J.P.D. (2013). "Unique functionalities of napin protein of canola: A comparative study.", Canadian Society of Bioengineering Conference, Saskatoon, Canada, July 7-10, 2013.

Mitra, P. and Wanasundara, J.P.D. (2013). "Canola protein-based thermo plastic polymers.", 104th Annual meeting and expo of American Oil Chemists' Society (AOCS), Montreal, QC, Canada, April 28 - May 02, 2013, Oral.

Cheung, L.L., Wanasundara, P.K.J.P.D., and Nickerson, M. (2013). "Effect of pH and salt on the physicochemical and emulsifying properties of cruciferin and napin-rich protein isolates.", 104th Annual meeting and expo of American Oil Chemists' Society (AOCS), Montreal, QC, Canada, April 28 - May 02, 2013, Poster.

Mitra, P., McIntosh, T.C., and Wanasundara, P.K.J.P.D. (2013). "Processing proteins from Canola.", 104th Annual meeting and expo of American Oil Chemists' Society, Montreal, QC, Canada, April 29 - May 02, 2013, Poster.

## 2012

Pathiratne, S.M., Wanasundara, P.K.J.P.D., and Shand, P.J. (2012). "Enhancing stability of red colour and unsaturated lipids of fresh beef burgers with micronized lentil flour.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Poster)

Marambe, H.K., McIntosh, T.C., Cheng, B.F., and Wanasundara, P.K.J.P.D. (2012). "P-Ab based ELISA quantitation of Sin a 1 allergen in yellow mustard (*S. alba*) seed.", 7th Workshop on Food Allergen Methodologies, Montréal, QC, Canada, May 6-9, 2012. (Poster)

Pathiratne, S.M., Wanasundara, P.K.J.P.D., and Shand, P.J. (2012). "Effect of micronization conditions on lentil flour properties.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Poster)

Wanasundara, P.K.J.P.D., Shand, P.J., Nickerson, M., and Aliani, M. (2012). "Thermal pretreatment of pulses for meat industry applications.", Pulse Science Cluster Scientific Meeting 2012, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 5-6, 2012.

L'Hocine, L., Pitre, M., and Wanasundara, P.K.J.P.D. (2012). "Assessment of protein and IgE-binding profiles of select Canadian mustard seeds.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012. (Poster)

Marambe, H.K., McIntosh, T.C., Cheng, B.F., and Wanasundara, P.K.J.P.D. (2012). "Anti-peptide antibody-based ELISA quantitation of Sin a 1 allergen in yellow mustard (*Sinapis alba* L.) seeds.", 7th Workshop on Food Allergen Methodologies, Montréal, QC, Canada, May 6-9, 2012.

Power, K.A., Villeneuve, S., Mondor, M., Fustier, P., Arcand, Y., Lamarche, F., Britten, M., Cui, S.W., Tsao, R., Fofana, B., and Wanasundara, J.P.D. (2012). "Recent progress on the incorporation of flaxseed into cereal based matrices: delivery of bioactives to target sites and a comprehensive assessment of their biological effects.", 64th Flax Institute of the United States, Doublewood Inn, Fargo, ND, USA, March 29-30, 2012. (Presentation)

## 2011

Wanasundara, P.K.J.P.D., Sanjeeva, W.G.T., Argyre, K., and Shand, P.J. (2011). "Proteins of chickpea and lentil for meat industry applications.", 102nd Annual Meeting of the American Oil Chemists' Society (AOCS) & Expo, Duke Energy Center, Cincinnati, OH, USA, May 1-4, 2011. (Presentation)

Sanjeewa, W.G.T., Hegedus, D.D., Yu, P., Qiu, X., McIntosh, T.C., May, T.W., and Wanasundara, P.K.J.P.D. (2011). "Influence of seed storage protein composition on structural features of major crucifer proteins: Protein secondary structure study of *Arabidopsis thaliana*.", 102nd Annual Meeting of the American Oil Chemists' Society (AOCS) & Expo, Duke Energy Center, Cincinnati, OH, USA, May 1-4, 2011.

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## Research Publications:

2016

Li, Y., Cui, H., Cui, X., and Wang, A.M. (2016). "The altered photosynthetic machinery during compatible virus infection.", *Current Opinion in Virology*, 17, pp. 19-24. doi : 10.1016/j.coviro.2015.11.002

2015

Chen, G.H., Yan, W., Yang, S.P., Wang, A.M., Gai, J.Y., and Zhu, Y.L. (2015). "Overexpression of Rice Phosphate Transporter Gene OsPT2 Enhances Tolerance to Low Phosphorus Stress in Soybean.", *Journal of Agricultural Science and Technology B*, 17(2), pp. 469-482.

Liu, J., Zhang, X., Zhang, F., Hong, N., Wang, G.P., Wang, A.M., and Wang, L.P. (2015). "Identification and characterization of microRNAs from in vitro-grown pear shoots infected with Apple stem grooving virus in response to high temperature using small RNA sequencing.", *BMC Genomics*, 16(945), pp. 1-16. doi : 10.1186/s12864-015-2126-8

Wang, A.M., Tian, L.-N., Brown, D.C.W., Svircev, A.M., Stobbs, L.W., and Sanfaçon, H. (2015). "Generation of efficient resistance to Plum pox virus (PPV) in *Nicotiana benthamiana* and *Prunus domestica* expressing triple-intron-spanned double-hairpin RNAs simultaneously targeting 5' and 3' conserved genomic regions of PPV.", *Acta Horticulturae (ISHS)*, 1063, pp. 77-84.

Deng, P., Wu, Z., and Wang, A.M. (2015). "The multifunctional protein CI of potyviruses plays interlinked and distinct roles in viral genome replication and intercellular movement.", *Virology Journal*, 12(1: Article Number: 369), pp. 1-11. doi : 10.1186/s12985-015-0369-2

Khabbaz, S.E., Zhang, L., Cáceres, L.A., Sumarah, M.W., Wang, A.M., and Abbasi, P.A. (2015). "Characterization of antagonistic *Bacillus* and *Pseudomonas* strains for biocontrol potential and suppression of damping-off and root rot diseases.", *Annals of Applied Biology*, 166(3), pp. 456-471. doi : 10.1111/aab.12196

Zhang, L., Khabbaz, S.E., Wang, A.M., Li, H., and Abbasi, P.A. (2015). "Detection and characterization of broad-spectrum anti-pathogen activity of novel rhizobacterial isolates and suppression of *Fusarium* crown and root rot disease of tomato.", *Journal of Applied Microbiology*, 118(3), pp. 685-703. doi : 10.1111/jam.12728

Chen, Hui, Zhang, L.R., Yu, K., and Wang, A.M. (2015). "Pathogenesis of Soybean mosaic virus in soybean carrying Rsv1 gene is associated with miRNA and siRNA pathways, and breakdown of AGO1 homeostasis.", *Virology*, 476, pp. 395-404. doi : 10.1016/j.virol.2014.12.034

Zhang, L.R., Chen, Hui, Brandizzi, F., Verchot, J., and Wang, A.M. (2015). "The UPR Branch IRE1-bZIP60 in Plants Plays an Essential Role in Viral Infection and Is Complementary to the Only UPR Pathway in Yeast.", *PLoS Genetics*, 11(4: e1005164), pp. 37 pages. doi : 10.1371/journal.pgen.1005164

Wang, A.M. (2015). "Dissecting the Molecular Network of Virus-Plant Interactions: The Complex Roles of Host Factors.", *Annual Review of Phytopathology*. doi : 10.1146/annurev-phyto-080614-120001

Ma, X., Cui, H., Bernardy, M.G., Tian, L.-N., Abbasi, P.A., and Wang, A.M. (2015). "Molecular characterization of a Strawberry mild yellow edge virus isolate from Canada.", *Canadian Journal of Plant Pathology*, 37(3), pp. 369-375. doi : 10.1080/07060661.2015.1053990

Cheng, X., Deng, P., Cui, H., and Wang, A.M. (2015). "Visualizing double-stranded RNA distribution and dynamics in living cells by dsRNA binding-dependent fluorescence complementation.", *Virology*, 485(Article number 7888), pp. 439-451. doi : 10.1016/j.virol.2015.08.023

Chen, B., Bernards, M.A., and Wang, A.M. (2015). "Complete genome sequence of a bell pepper endomavirus isolate from Canada.", *Genome Announcements*, 3(4: e00905-15), pp. 1-2.

Elhiti, M., Wang, H.Y., Austin, R.S., Chen, B., Brown, D.C.W., and Wang, A.M. (2015). "Generation of chemically induced mutations using in vitro propagated shoot tip tissues for genetic improvement of fruit trees.", *Plant Cell, Tissue and Organ Culture: Journal of Plant Biotechnology*. doi : 10.1007/s11240-015-0894-0

2014

Jia, D., Mao, Q.-Z., Chen, H., Wang, A.M., Liu, Y., Wang, H., Xie, L., and Wei, T. (2014). "Virus-Induced Tubule: a Vehicle for Rapid Spread of Virion through Basal Lamina from Midgut Epithelium in the Insect Vector.", *Journal of Virology*, 88(18), pp. 10488-10500. doi: 10.1128/JVI.01261-14

Wang, Y., Cheng, X., Wu, X., Wang, A.M., and Wu, X. (2014). "Characterization of complete genome and small RNA profile of pagoda yellow mosaic associated virus, a novel badnavirus in China.", *Virus Research*, 188, pp. 103-108. doi : 10.1016/j.virusres.2014.04.006

2013

Laliberte, J-F., Moffett, P., Sanfaçon, H., Wang, A.M., Nelson, R.S., and Schoelz, J.E. (2013). "e-Book on plant virus infection-a cell biology perspective.", *Frontiers in Plant Science*, 4(Article 203). doi: 10.3389/fpls.2013.00203

Elhiti, M., Hebelstrup, K.H., Wang, A.M., Li, C.L., Cui, Y., Hill, R.D., and Stasolla, C. (2013). "Function of type -2 Arabidopsis hemoglobin in the auxin-mediated formation of embryogenic cells during morphogenesis.", *Plant Journal*. doi : 10.1111/tpj.12181

Wei, T., Zhang, C., Hou, X., Sanfaçon, H., and Wang, A.M. (2013). "The SNARE protein Syp71 is essential for Turnip mosaic virus infection by mediating fusion of virus-induced vesicles with chloroplasts.", *PLoS Pathogens*, 9(5), pp. e1003378. doi : 10.1371/journal.ppat.1003378

Elhiti, M., Stasolla, C., and Wang, A.M. (2013). "Molecular regulation of plant somatic embryogenesis.", *In Vitro Cellular & Developmental Biology - Plant*. doi: 10.1007/s11627-013-9547-3

Xiong, R. and Wang, A.M. (2013). "SCE1, the SUMO-conjugating enzyme in plants that interacts with Nib, the RNA-dependent RNA polymerase of Turnip mosaic virus is required for viral infection.", *Journal of Virology*, 87(8), pp. 4704-4715. doi : 10.1128/JVI.02828-12

Wang, X., Kohalmi, S.E., Svircev, A.M., Wang, A.M., Sanfaçon, H., and Tian, L.-N. (2013). "Silencing of the Host Factor eIF(iso)4E Gene Confers Plum Pox Virus Resistance in Plum.", *PLoS ONE*, 8(1), Article No. e50627. doi : 10.1371/journal.pone.0050627

Cui, H., Hong, N., Wang, G.P., and Wang, A.M. (2013). "Genomic segments RNA1 and RNA2 of Prunus necrotic ringspot virus codetermine viral pathogenicity to adapt to alternating natural Prunus hosts.", *Molecular Plant-Microbe Interactions*, 26(5), pp. 515-527. doi: 10.1094/MPMI-12-12-0282-R

Wang, A.M. (2013). "Molecular isolation and functional characterization of host factors required in the virus infection cycle for disease control in plants.", *CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources*, 8(29), pp. 1-8. doi: 10.1079/PAVSNNR20138029

2012

Tang, X., Lim, M.-H., Pelletier, J., Tang, M., Nguyen, V., Keller, W.A., Tsang, E.W.T., Wang, A.M., Rothstein, S.J., Harada, J.J., and Cui, Y. (2012). "Synergistic repression of the embryonic programme by SET DOMAIN GROUP 8 and EMBRYONIC FLOWER 2 in Arabidopsis seedlings.", *Journal of Experimental Botany*, 63(3), pp. 1391-1404. doi : 10.1093/jxb/err383

Wang, A.M. and Krishnaswamy, S. (2012). "Eukaryotic translation initiation factor 4E-mediated recessive resistance to plant viruses and its utility in crop improvement.", *Molecular Plant Pathology*, 13(7), pp. 795-803. doi : 10.1111/j.1364-3703.2012.00791.X

Cui, H., Hong, N., Wang, G.P., and Wang, A.M. (2012). "Molecular characterization of two prunus necrotic ringspot virus isolates from Canada.", *Archives of Virology*, 157(5), pp. 999-1001. doi: 10.1007/s00705-1247-5

Cui, H., Hong, N., Wang, G.P., and Wang, A.M. (2012). "Detection and genetic diversity of Prunus necrotic ringspot virus in the Niagara Fruit Belt, Canada.", *Canadian Journal of Plant Pathology*, 34(1), pp. 104-113. doi : 10.1080/07060661.2012.661768

Tang, X., Bian, S., Tang, M., Lu, Q.S., Li, S., Liu, X., Tian, G., Nguyen, V., Tsang, E.W.T., Wang, A.M., Rothstein, S.J., Chen, X., and Cui, Y. (2012). "MicroRNA-Mediated Repression of the Seed Maturation Program during Vegetative Development in Arabidopsis.", *PLoS Genetics*, 8(11), Article No. e1003091. doi: 10.1371/journal.pgen.1003091

Zhang, L.R. and Wang, A.M. (2012). "Virus-induced ER stress and the unfolded protein response.", *Frontiers in Plant Science*, 3(293), pp. 1-16. doi: 10.3389/fpls.2012.00293

2011

Wang, A.M., Wang, D.J., Chowda-Reddy, R.V., Chen, H., and Ma, S. (2011). "Development of a Plant-based Vaccine against Porcine reproductive and respiratory syndrome virus: Research Progress and Future Prospects.", *The Americas Journal of Plant Science and Biotechnology*, 5(Spec. Issue 1), pp. 127-131.

Chowda-Reddy, R.V., Sun, H., Chen, H., Poysa, V., Ling, H., Gijzen, M., and Wang, A.M. (2011). "Mutations in the P3 Protein of Soybean mosaic virus G2 Isolates Determine Virulence on Rsv4-Genotype Soybean.", *Molecular Plant-Microbe Interactions*, 24(1), pp. 37-43. doi: 10.1094/MPMI-07-10-0158

Chowda-Reddy, R.V., Sun, H., Poysa, V., and Wang, A.M. (2011). "Simultaneous Mutations in Multi-Viral Proteins Are Required for Soybean mosaic virus to Gain Virulence on Soybean Genotypes Carrying Different R Genes.", *PLoS ONE*, 6(11, Article No. e28342). doi: 10.1371/journal.pone.0028342

## Other Science Related Publications:

2015

Chen, B., Hernández-Sebastià, C., and Wang, A.M. (2015). "Molecular identification of viral pathogens infecting greenhouse cucumber plants in Ontario using next generation sequencing and determination of the entire genome sequence of the causal pathogen Cucumber green mottle mosaic virus.", 34th Annual Meeting of American Society for Virology, London, Ontario, Canada, July 11-15, 2015.

Wang, A.M. (2015). "Towards development of next generation resistance to viral diseases in legume and vegetable crops.", 5th conference of the International Working Group on Legume and Vegetable Viruses, Haarlem, The Netherlands, August 30 - September 3, 2015.

Dai, Z., Bernards, M.A., and Wang, A.M. (2015). "Molecular characterization of the viral coat protein (CP) in Turnip mosaic virus cell-to-cell movement", 34th Annual Meeting of American Society for Virology, London, Ontario, Canada, July 11-15, 2015.

Wang, A.M. (2015). "Develop genetic resistance to potyviruses.", 3rd Beijing International Symposium on Molecular Plant Pathology (BISMPP), Beijing, China, July 28-30, 2015.

Ding, X., Hernández-Sebastià, C., Abbasi, P.A., Celetti, M.J., Fisher, P., and Wang, A.M. (2015). "Occurrence, distribution and incidence of viruses infecting strawberry in Ontario.", 34th Annual Meeting of American Society for Virology, London, Ontario, Canada, July 11-15, 2015.

Cui, X., Song, P., Chen, X., and Wang, A.M. (2015). "Identification and functional characterization for host factors interaction with soybean mosaic virus encoded P3N-PiPo.", 34th Annual Meeting of American Society for Virology, London, Ontario, Canada, July 11-15, 2015.

Cheng, X., Xiong, R., and Wang, A.M. (2015). "The SUMOylation pathway plays an essential role in potyvirus infection.", 34th Annual Meeting of American Society for Virology, London, Ontario, Canada, July 11-15, 2015.

Li, Y., Bernards, M.A., and Wang, A.M. (2015). "Molecular identification and characterization of plant DEAD-box RNA helicases that are associated with potyviral infection.", 34th Annual Meeting of American Society for Virology, London, Ontario, Canada, July 11-15, 2015.

Chen, H., Arsofski, A.A., and Wang, A.M. (2015). "Genome-wide investigation of sRNA-seq, degradome-seq and transcriptome-seq reveals strain-specific regulation of microRNAs and differential transcriptional response to Soybean mosaic virus (SMV) infection in soybean.", 34th Annual Meeting of American Society for Virology, London, Ontario, Canada, July 11-15, 2015.

Simkovich, A., Kohalmi, S.E., and Wang, A.M. (2015). "Small RNA sequencing leads to the first report of Cherry virus A in Ontario, Canada.", 34th Annual Meeting of American Society for Virology, London, Ontario, Canada, July 11-15, 2015.

Xiong, R., Cheng, X., and Wang, A.M. (2015). "The SUMOylation Pathway Plays an Essential Role in Potyvirus Infection.", 4th International Conference on Biotic Plant Interactions, Nanjing, China, August 1-3, 2015.

Chen, H. and Wang, A.M. (2015). "The potyviral 6K1 protein is indispensable for viral replication.", 34th Annual Meeting of American Society for Virology, London, Ontario, Canada, July 11-15, 2015.

2014

Khabbaz, S.E., Zhang, L., Wang, A.M., and Abbasi, P.A. (2014). "Mechanisms of biological suppression of damping-off and root rot diseases of cucumber and radish with soil bacteria.", XVth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada.

Zhang, L., Khabbaz, S.E., Wang, A.M., and Abbasi, P.A. (2014). "Broad-spectrum anti-pathogen activity of new isolates of *Bacillus* and *Pseudomonas* bacteria and their suppression of Fusarium crown and root rot disease of tomato.", XVth International Congress of Virology - International Union of Microbiological Societies (IUMS 2014), July 27 - August 1, 2014, Montréal, Québec, Canada, July 27-August 1, 2014, BAM-PM 1126.

Deng, P., Wu, Z., and Wang, A.M. (2014). "The potyviral CI protein plays an essential role in viral replication, cell-to-cell movement and systemic infection.", 33rd Annual Meeting of American Society for Virology, Fort Collins, USA, June 21-25, 2014.



Chen, H. and Wang, A.M. (2014). "Global investigation of microRNAs involved in soybean innate immune response to different strains of Soybean Mosaic Virus (SMV) infection by deep sequencing.", American Phytopathological Society (APS) and Canadian Phytopathological Society (CPS) Joint Meeting 2014, Hilton Minneapolis, Minneapolis, MN, USA, August 9-13, 2014.

Wang, A.M. (2014). "Towards a better understanding of potyviral infection process.", 16th conference of the International Society for Molecular Plant-Microbe Interactions, Rhodes, Greece, July 6-10, 2014. (Abstract)

Tran, H.-H., Chen, H., Wang, H., Menassa, R., Hüner, N.P.A., and Wang, A.M. (2014). "Developing a Bean pod mottle virus-based expression system for the expression of proteins of interest in plants.", 33rd Annual Meeting of American Society for Virology, Fort Collins, USA, June 21-25, 2014.

Zhang, L. and Wang, A.M. (2014). "IRE1/bZIP60 mediated unfolded protein response plays an important role in TuMV infection.", American Phytopathological Society (APS) and Canadian Phytopathological Society (CPS) Joint Meeting 2014, Hilton Minneapolis, Minneapolis, MN, USA, August 9-13, 2014.

## 2013

Wang, A.M., Elhiti, M., Wang, H., Li, Y., Tian, L.-N., Svircev, A.M., Sanfaçon, H., and Brown, D.C.W. (2013). "Development of genetic resistance to Plum pox virus in Canada.", 2nd International Symposium on Plum Pox Virus, Olomouc, Czech Republic, September 3-6, 2013.

Zhang, L. and Wang, A.M. (2013). "TuMV induces the unfolded protein response via IRE1/bZIP60 mediated signalling pathway.", 32nd Annual Meeting of the American Society for Virology, Pennsylvania State University, University Park, Pennsylvania, USA, July 20-24, 2013.

Wang, A.M. (2013). "Dissecting molecular network of virus-plant interactions: the complex roles of host factors.", 10th International Congress of Plant Pathology, Beijing International Convention Center, Beijing, China, August 25-30, 2013.

Elhiti, M., Wang, H., Chen, B., Xu, A., Austin, R.S., Brown, R., and Wang, A.M. (2013). "Towards generation of peach (*Prunus persica* L. Batsch) mutants resistant to Plum pox virus (PPV).", 2013 CSPB/SCBV Annual General Meeting, Quebec City, Canada, June 25-28, 2013.

Bashar, T., Belfrage, R., Macneil, J., Bernard, M., and Wang, A.M. (2013). "A preliminary study on soybean mosaic virus transmission via soybean seeds.", Annual Meeting of Canadian Phytopathological Society - Southwestern Ontario Region Association, London, Ontario, Canada, November 2, 2013, Abstract and poster presentation.

Chen, H. and Wang, A.M. (2013). "The AGO1-miR168 feedback regulation is involved in Rsv1-mediated resistance to Soybean mosaic virus in soybean.", 32nd Annual Meeting of the American Society for Virology, Pennsylvania State University, University Park, Pennsylvania, USA, July 20-24, 2013.

Tian, L.-N., Wang, X., Svircev, A.M., Wang, A.M., Sanfaçon, H., Brown, D.C.W., Kohalmi, S.E., and Lu, M. (2013). "Development of Plum pox virus resistance in plum grown in Canada via plant biotechnology.", 2nd International Symposium on Plum Pox Virus, Olomouc, Czech Republic, September 3-6, 2013.

Deng, P., Wu, Z., and Wang, A.M. (2013). "The potyviral CI protein plays an essential role in viral replication, cell-to-cell movement and systemic infection.", Annual Meeting of Canadian Phytopathological Society - Southwestern Ontario Region Association, London, Ontario, Canada, November 2, 2013.

## 2012

Wang, A.M. and Ma, S. (2012). "Preface.", in Wang, A. and Ma, S. (eds.) - *Molecular Farming in Plants: Recent Advances and Future Prospects*, Springer, pp. v-vi.

Wang, A.M. (2012). "Towards Developing Novel Strategies against Plant Potyviruses.", Seminar, INRA, Bordeaux, Canada, March 6, 2012. (Presentation)

Wang, A.M. (2012). "Molecular Understanding of Plant Potyviruses.", Nanjing Agricultural University, Nanjing, China, November 6, 2012. (Presentation)

Wang, A.M. (2012). "Plant Virus-Mediated Expression in Molecular Farming.", in Wang, A. and Ma, S. (eds.) - *Molecular Farming in Plants: Recent Advances and Future Prospects*, Springer Berlin / Heidelberg, Chapter 10, pp. 199-216.

Wang, A.M. (2012). "Developing Genetic Resistance to Fruit Tree Viruses via Advanced Biotechnology.", Ontario Tender Fruit Producers Annual General Meeting, Hemder Estates Winery, St. Catharines, ON, March 28, 2012. (Presentation)

Brown, D.C.W. and Wang, A.M. (2012). "Recent Progress in Developing genetic Resistance against Plum Pox Virus.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012.

Wang, A.M. (2012). "Developing Genetic Resistance to Plant Viruses via Advanced Biotechnology.", Fuji Academy of Agricultural Sciences, Fuzhou, China, October 29, 2012. (Presentation)

Wang, A.M. and Xiong, R. (2012). "Post-translational modification of the potyviral RNA-dependent RNA polymerase by Arabidopsis SUMO3.", 31st Annual Meeting of American Society for Virology, University of Wisconsin-Madison, Madison, WI, USA, July 21-25, 2012.

Wang, A.M. and Ma, S. (Eds.) (2012). *Molecular Farming in Plants: Recent Advances and Future Prospects.*, Springer. (Book)

Wang, A.M. (2012). "Understanding and control of plant potyviruses.", 50th anniversary celebration of the Korean Society of Plant Pathology, Seoul, South Korea, October 24-26, 2012.

Wang, A.M. (2012). "Developing Genetic Resistance to Plant Viruses via Advanced Biotechnology.", Jiangsu Academy of Agricultural Sciences, Nanjing, China, November 5, 2012. (Presentation)

Tian, L.-N., Wang, X., Kohalmi, S.E., Svircev, A.M., Wang, A.M., Sanfaçon, H., Brown, D.C.W., and Schneider, K.E. (2012). "Control of the expression of the host factor eIF(iso)4E gene for Plum Pox Virus resistance.", Joint Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012. (Presentation)

Li, Y., Bernards, M.A., and Wang, A.M. (2012). "Molecular identification and characterization of Arabidopsis DEAD box RNA helicases associated with turnip mosaic virus infection.", 31st Annual Meeting of American Society for Virology, University of Wisconsin-Madison, Madison, WI, USA, July 21-25, 2012. (Presentation)

Cui, H. and Wang, A.M. (2012). "Virus against virus: development of a Prunus necrotic ringspot virus-based vector against Plum pox virus.", 31st Annual Meeting of American Society for Virology, University of Wisconsin-Madison, Madison, WI, USA, July 21-25, 2012. (Presentation)

Ma, S. and Wang, A.M. (2012). "Molecular Farming in Plants: An Overview.", in Wang, A. and Ma, S. (eds.) - *Molecular Farming in Plants: Recent Advances and Future Prospects*, Springer, Chapter 1, pp. 1-20.

## 2011

Cui, H. and Wang, A.M. (2011). "Virus against virus: Development of a Prunus necrotic ringspot virus-based vector against Plum pox virus.", 8th Canadian Plant Genomics Workshop, Niagara Falls, ON, Canada, August 22-25, 2011. (Poster)

Wang, A.M., Chen, X., and Cui, X. (2011). "Detection, Understanding and Control of Soybean Mosaic Virus.", in Sudaric, A. (ed.) - *Soybean - Molecular Aspects of Breeding*, InTech, Open Access Publisher, Chapter 15, pp. 335-354.

Li, Y., Chowda-Reddy, R.V., Bernards, M.A., and Wang, A.M. (2011). "Molecular identification of host membrane-associated proteins that interact with the potyviral P3 protein.", 29th Annual Meeting of American Society for Virology, Montana State University, Bozeman, MT, USA, July 17-21, 2010. (Poster)

Xiong, R. and Wang, A.M. (2011). "The potyviral RNA-dependent RNA polymerase is a potential SUMO substrate in plants.", 30th Annual Meeting of American Society for Virology, University of Minnesota, Minneapolis, MN, USA, July 16-20, 2011. (Poster)

Wang, A.M. (2011). "Understanding and control of plant potyviruses.", *Journal of Antivirals & Antiretrovirals*, 3(4), pp. 179. (Abstract)

Wang, A.M. and Cui, H. (2011). "Development of a Prunus necrotic ringspot virus-based viral vector for characterization of gene functions and control of viral diseases in stone fruits.", Canadian Phytopathological Society (CPS) South Western Ontario Regional 2011 Meeting, London, ON, Canada, November 5, 2011. (Poster)

Pan, Q., Bernards, M.A., and Wang, A.M. (2011). "Molecular characterization of the first protein of tobacco etch virus.", 8th Canadian Plant Genomics Workshop, Niagara Falls, ON, Canada, August 22-25, 2011. (Poster)

Wang, A.M. (2011). "Understanding and control of plant viruses.", Canadian Phytopathological Society (CPS) South Western Ontario Regional 2011 Meeting, London, ON, Canada, November 5, 2011.

Chowda-Reddy, R.V. and Wang, A.M. (2011). "Molecular interactions between soybean genotypes and SMV.", Annual Ontario Oil and Protein Seed Crop Committee (OOPSCC) and Ontario Soybean Growers's Research Meeting, London, ON, Canada, June 28, 2011. (Presentation)

Chowda-Reddy, R.V., Sun, S., Wang, A.M., and Poysa, V. (2011). Soybean mosaic virus isolate Rsv4-RB3, complete genome sequence. GenBank accession #: JN416770.

Wang, A.M. (2011). "Understanding and control of plant potyviruses.", International conference and exhibition on virology, Baltimore, MD, USA, September 5-7, 2011. (Presentation)

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## Research Publications:

2015

Qin, X., Li, Y., Wang, H., Li, J., Wan, Y., Li, Y., Liao, Y., Fan, M., Zhu, J., Gao, Q., and Liu, S. (2015). "Impact of biochar amendment on carbon emissions intensity in double rice field in South China.", *Transactions of the Chinese Society of Agricultural Engineering*, 31(5), pp. 226-234. doi: 10.3969/j.issn.1002-6819.2015.05.032

Huffman, E.C., Qian, B., DeJong, R., Liu, J., Wang, H., McConkey, B.G., Brierley, J.A., and Yang, J.Y. (2015). "Upscaling modelled crop yields to regional scale: A case study using DSSAT for spring wheat on the Canadian Prairies.", *Canadian Journal of Soil Science*, 95(1), pp. 49-61. doi: 10.4141/cjss-2014-076

Li, Z., Han, G.D., Zhao, M.L., Wang, J., Wang, Z.W., Kemp, D.R., Michalk, D.L., Wilkes, A., Behrendt, K., Wang, H., and Langford, C. (2015). "Identifying management strategies to improve sustainability and household income for herders on the desert steppe in Inner Mongolia, China.", *Agricultural Systems*, 132, pp. 62-72. doi: 10.1016/j.agsy.2014.08.011

Wang, H., Gan, Y.T., Brandt, K., He, Y., Qin, X., and Li, Z. (2015). "Can surface residue alleviate water and heat stress?", *Canadian Journal of Plant Science*, 95. doi: 10.4141/CJPS-2014-269

Qin, X., Li, Y., Wang, H., Wan, Y., Li, J., Gao, Q., Liao, Y., and Fan, M. (2015). "Effect of rice cultivar on yield-scaled methane emission in a double rice field in South China.", *Journal of Integrative Environmental Sciences (JIES)*, pp. 1-20. doi: 10.1080/1943815X.2015.1118388

Qian, B., Wang, H., He, Y., Liu, J., and DeJong, R. (2015). "Projecting spring wheat yield changes on the Canadian Prairies: effects of resolutions of a regional climate model and statistical processing.", *International Journal of Climatology*. doi: 10.1002/joc.4571

Ning, Q., Gu, Q., Shen, J., Lv, X., Yang, J., Zhang, X., He, J., Huang, J., Wang, H., Xu, Z., and Han, X. (2015). "Effects of nitrogen deposition rates and frequencies on the abundance of soil nitrogen-related functional genes in temperate grassland of northern China.", *Journal of Soils and Sediments*, 15(3), pp. 694-704. doi: 10.1007/s11368-015-1061-2

Qian, B., DeJong, R., Huffman, E.C., Wang, H., and Yang, J.Y. (2015). "Projecting yield changes of spring wheat under future climate scenarios on the Canadian Prairies.", *Theoretical and applied climatology*. doi: 10.1007/s00704-015-1378-1

2014

Fernandez, M.R., Wang, H., and Singh, A. (2014). "Impact of seed discoloration on emergence and early plant growth of durum wheat at different soil gravimetric water contents.", *Canadian Journal of Plant Pathology*, 36(4), pp. 509-516. doi: 10.1080/07060661.2014.957242

Kröbel, R., Lemke, R.L., Campbell, C.A., Zentner, R.P., McConkey, B.G., Steppuhn, H., De Jong, R., and Wang, H. (2014). "Water use efficiency of spring wheat in the semi-arid Canadian Prairies: Effect of legume green manure, type of spring wheat, and cropping frequency.", *Canadian Journal of Soil Science*, 94(2), pp. 223-235. doi: 10.4141/CJSS2013-016

Ruan, E.D., Wang, H., Ruan, Y.Y., and Juárez, M. (2014). "Characteristics of glycation and glycation sites of lysozyme by matrix-assisted laser desorption/ionization time-of-flight/time-of-flight mass spectrometry and liquid chromatography-electrospray ionization tandem mass spectrometry.", *European Journal of Mass Spectrometry*, 20(4), pp. 327-336.

He, Y., Hou, L., Wang, H., Hu, K.L., and McConkey, B.G. (2014). "A modelling approach to evaluate the long-term effect of soil texture on spring wheat productivity under a rain-fed condition.", *Scientific Reports*, 4(Article # 5736). doi: 10.1038/srep05736

2013

Qian, B., De Jong, R., Gameda, S.B., Huffman, E.C., Neilsen, D., Desjardins, R.L., Wang, H., and McConkey, B.G. (2013). "Impact of climate change scenarios on Canadian agroclimatic indices.", *Canadian Journal of Soil Science*, 93(2), pp. 243-259. doi: 10.4141/CJSS2012-053

He, Y., Wei, Y., DePauw, R.M., Qian, B., Lemke, R.L., Singh, A.K., Cuthbert, R.D., McConkey, B.G., and Wang, H. (2013). "Yield production of spring wheat in the semiarid prairie: effect of timing of precipitation and soil texture over 30 years.", *Field Crops Research*, 149, pp. 329-337. doi : 10.1016/j.fcr.2013.05.013

Qin, X., Wang, H., Li, Y., Li, Y., McConkey, B.G., Lemke, R.L., Li, C.H., Brandt, K., Gao, Q., Wan, Y., Liu, S., Liu, Y., and Xu, C. (2013). "A long-term sensitivity analysis of the denitrification and decomposition model.", *Environmental Modelling and Software*, 43, pp. 26-36. doi : 10.1016/j.envsoft.2013.01.005

He, Y., Hu, K.L., Wang, H., Li, B.G., Huang, Y.F., Chen, D.L., and Li, Y. (2013). "Modeling of water and nitrogen utilization of layered soil profiles under a wheat-maize cropping system.", *Mathematical and Computer Modelling*, 58(3-4), pp. 596-605. doi : 10.1016/j.mcm.2011.10.060

Ruan, E.D., Wang, H., Ruan, Y.Y., and Juárez, M. (2013). "Study of fragmentation behavior of Amadori rearrangement products in lysine-containing peptide model by tandem mass spectrometry.", *European Journal of Mass Spectrometry*, 19(4), pp. 295-303.

## 2012

Qin, X., Li, Y., Wan, Y., Shi, S., Li, Y., Wang, H., Gao, Q., Ma, X., Liu, S., Liu, Y., and Xu, C. (2012). "Relationships between methane emissions and soil microorganisms in a double-rice field in southern subtropical China.", *Journal of Integrative Environmental Sciences (JIES)*, 9(Suppl. 1, Non-CO<sub>2</sub> Greenhouse Gasses), pp. 97-111. doi : 10.1080/1943815X.2012.702673

Wang, H., He, Y., Qian, B., McConkey, B.G., Cutforth, H.W., McCaig, T.N., McLeod, G.J., Zentner, R.P., DePauw, R.M., Lemke, R.L., Brandt, K., Liu, T.T., Qin, X., White, J., Hunt, T., and Hoogenboom, G. (2012). "Climate change and biofuel wheat: A case study of southern Saskatchewan.", *Canadian Journal of Plant Science*, 92(3), pp. 421-425. doi : 10.4141/CJPS2011-192

Gan, Y.T., Liang, C., Campbell, C.A., Zentner, R.P., Lemke, R.L., Wang, H., and Yang, C. (2012). "Carbon footprint of spring wheat in response to fallow frequency and soil carbon changes over 25 years on the semiarid Canadian prairie.", *European Journal of Agronomy*, 43, pp. 175-184. doi : 10.1016/j.eja.2012.07.004

He, Y., Wang, H., Qian, B., McConkey, B.G., and DePauw, R.M. (2012). "How Early Can the Seeding Dates of Spring Wheat Be under Current and Future Climate in Saskatchewan, Canada?", *PLoS ONE*, 7(10, Article No. e45153). doi : 10.1371/journal.pone.0045153

Tian, D., Pan, Q., Simmons, M., Chaolu, H., Du, B., Bai, Y., Wang, H., and Han, X. (2012). "Hierarchical reproductive allocation and allometry within a perennial bunchgrass after 11 years of nutrient addition.", *PLoS ONE*, 7(9, Article No. e42833). doi : 10.1371/journal.pone.0042833

He, Y., Wang, H., Hu, K.L., Huang, Y.F., Li, B.G., Chen, D., Si, B., and Beaubier, A. (2012). "Accuracy Assessment of Sequential Indicator Simulation in Three-dimensional Prediction of Soil Texture.", *Soil Science*, 177(5), pp. 355-359. doi : 10.1097/SS.0b013e31824c0327

Lemke, R.L., Campbell, C.A., Zentner, R.P., and Wang, H. (2012). "Old Rotation Study - Swift Current, Saskatchewan.", *Prairie Soils and Crops*, 5, pp. 59-66.

Lemke, R.L., Campbell, C.A., Zentner, R.P., and Wang, H. (2012). "New Rotation Study - Swift Current, Saskatchewan.", *Prairie Soils and Crops*, 5, pp. 67-73.

He, Y., Wang, H., Qian, B., McConkey, B.G., Cutforth, H.W., Lemke, R.L., DePauw, R.M., Brandt, K., Hu, K.L., and Hoogenboom, G. (2012). "Effects of climate change on killing frost in the Canadian prairies.", *Climate Research*, 54(3), pp. 221-231. doi : 10.3354/cr01114

## 2011

Fernandez, M.R., Sissons, M.J., Conner, R.L., Wang, H., and Clarke, J.M. (2011). "Influence of biotic and abiotic factors on dark discoloration of durum wheat kernels.", *Crop Science*, 51(3), pp. 1205-1214. doi : 10.2135/cropsci2010.07.0433

Gan, Y.T., Liang, C., Hamel, C., Cutforth, H.W., and Wang, H. (2011). "Strategies for reducing the carbon footprint of field crops for semiarid areas. A review.", *Agronomy for Sustainable Development*, 31(4), pp. 643-656. doi : 10.1007/s13593-011-0011-7

Fernandez, M.R., Ulrich, D.J., Brandt, K., Zentner, R.P., Wang, H., Thomas, A.G., and Olfert, O.O. (2011). "Crop management effects on root and crown rot of wheat in West-Central Saskatchewan, Canada.", *Agronomy Journal*, 103(3), pp. 756-765. doi : 10.2134/agronj2010.0190

Qian, B., DeJong, R., Yang, J.Y., Gameda, S.B., and Wang, H. (2011). "Comparing simulated crop yields with observed and synthetic weather data.", *Agricultural and Forest Meteorology*, 151(12), pp. 1781-1791. doi : 10.1016/j.agrformet.2011.07.016

## Other Science Related Publications:

2015

Wang, H. (2015). "Supporting global food security and protecting the environment under the future climate on the Canadian Prairies.", 2nd International Conference on Global Food Security, Ithaca, NY, USA, October 11-14, 2015.

Wang, H. (2015). "Analyzing strategies to support global food security and protect the environment under the future climate.", 16th Cross-Strait symposium on Environmental Resources and Ecological Conservation, Taipei, Taiwan, July 7-16, 2015.

Visvalingam, J., Wang, H., Youssef, M.A., Devos, J., Gill, C.O., and Yang, X.Q. (2015). "Determination of genetic diversity of the *Escherichia coli* population on beef trimmings from a large beef packaging plant.", Portland, Oregon, USA, July 25-28, 2015. (Poster)

2014

Wang, H., Zou, J.W., DePauw, R.M., Knox, R.E., Cuthbert, R.D., Ruan, Y., Qian, B., Gopalan, Y.S., Cutler, A., He, Y., and Qin, X. (2014). "Heat stress in wheat: Beat it or avoid it?", Heat and Drought Wheat Improvement Consortium -HeDWIC, Frankfurt, Germany, December 2014. (Poster)

Wang, H., Tran, F., and Yang, X.Q. (2014). "Comparison of six DNA extraction methods with minimum elution volumes for recovery of DNA from small numbers of *Escherichia coli*.", 17th IUFOST World Congress of Food Science and Technology, Montreal, QC, Canada, August 17-22, 2014.

Biswas, D.K., Ashe, P., Shaterian, H., Sudarshan, G.P., He, Y., Knox, R.E., DePauw, R.M., Wang, H., Cuthbert, R.D., Singh, A. K., and Selvaraj, G. (2014). "Phenotypic, physiological and molecular responses of a selected collection of common wheat (*Triticum aestivum* L.) and durum wheat [*Triticum turgidum* L. ssp. *Durum* (Desf.) Husn.] lines to drought stress under laboratory conditions.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014.

Iwaasa, A.D., Baron, V.S., Lemke, R.L., Wang, H., Kröbel, R., Schellenberg, M.P., and McConkey, B.G. (2014). "AGGP Cropping System-Grassland Research and Extension: Semiarid Ecoregion.", AGGP cropping system – grassland research and extension: Semiarid Ecoregion, AAFC-Saskatoon, Saskatoon, Canada, March 20, 2014.

2012

DePauw, R.M., He, Y., Wang, H., Cutforth, H.W., Cuthbert, R.D., Singh, A.K., and Knox, R.E. (2012). "Pressures On Wheat To Produce Safe, Nutritious And Affordable Quantities At Sustainable Prices For Producers – Adapting to Change. Adapting Crops to Change — Technology Transfer in the 21st Century.", CSA-CSHS-CCA-AIC Conference, University of Saskatchewan, Saskatoon, Saskatchewan, Canada, July 16-19, 2012.

2011

Wang, H., He, Y., Qian, B., McConkey, B.G., Cutforth, H.W., McCaig, T.N., McLeod, G.J., Zentner, R.P., Campbell, C.A., DePauw, R.M., Lemke, R.L., Brandt, K., Liu, T.T., Qin, X., Hoogenboom, G., White, J., and Hunt, T. (2011). "Impact of Climate Change on Dual-Purpose Wheat Production in Western Canada.", World Renewable Energy Congress, Linköping, Sweden, May 8-13, 2011.

DePauw, R.M., Malhi, S.S., Bullock, P.R., Gan, Y.T., McKenzie, R.H., Lamey, F.J., Janzen, H.H., Cutforth, H.W., and Wang, H. (2011). "Wheat Production in Northern High Latitudes – Canadian example.", in Bonjean, A., Angus, W., and Van Ginkel, M. (eds.) - *The World Wheat Book A History of Wheat Breeding*. Vol. 2, Lavoisier Techet Doc, Paris, France, pp. 607-651.

Wang, H. (2011). "Modeling climate change impacts on grassland ecosystem.", *Climate Affects Grasslands in Canadian Prairie and Tibet Workshop*, Xining, China, October 18-20, 2011. (Presentation)

ElLouze, W., He, Y., Hamel, C., Wang, H., Hanson, K.G., and Singh, A.K. (2011). "Arbuscular mycorrhiza interaction with historical and modern wheat genotypes.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011. (Poster)

Liu, T.T., McConkey, B.G., Smith, S., McGregor, B., Huffman, E.C., Kulshreshtha, S.N., and Wang, H. (2011). "Potential Renewable Bioenergy Production from Canadian Agriculture.", *World Renewable Energy Congress*, Linköping, Sweden, May 8-13, 2011, Published in: *Linköping Electronic Conference Proceedings*, Article #027, pp. 2485-2492.

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## Research Publications:

2016

Liu, H., Gong, J., Chabot, D., Miller, S.S., Miller, S.S., Cui, S.W., Ma, J., Zhong, F., and Wang, Q. (2016). "Incorporation of polysaccharides into sodium caseinate-low melting point fat microparticles improves probiotic bacteria survival during simulated gastrointestinal digestion and storage.", *Food Hydrocolloids*, 54(Part B), pp. 328-337. doi : 10.1016/j.foodhyd.2015.10.016

Hussain, M.A., Liu, H., Wang, Q., Zhong, F., Guo, Q., and Balamurugan, S. (2016). "Use of Encapsulated Bacteriophages to Enhance Farm to Fork Food Safety.", *Critical Reviews in Food Science and Nutrition*. doi : 10.1080/10408398.2015.1069729

2015

Yin, J.-Y., Nie, S.-P., Guo, Q., Wang, Q., Cui, S.W., and Xie, M.-Y. (2015). "Effect of calcium on solution and conformational characteristics of polysaccharide from seeds of *Plantago asiatica* L.", *Carbohydrate Polymers*, 124(Article number 9687), pp. 331-336. doi : 10.1016/j.carbpol.2015.02.017

Kang, J., Guo, Q., Wang, Q., Phillips, G.O., and Cui, S.W. (2015). "New studies on gum ghatti (*Anogeissus latifolia*) part VI: Physicochemical characteristics of the protein moiety of gum ghatti.", *Food Hydrocolloids*, 44, pp. 237-243. doi : 10.1016/j.foodhyd.2014.09.013

Guo, Q., Cui, S.W., Kang, J., Ding, H., Wang, Q., and Wang, C. (2015). "Non-starch polysaccharides from American ginseng: Physicochemical investigation and structural characterization.", *Food Hydrocolloids*, 44, pp. 320-327. doi : 10.1016/j.foodhyd.2014.09.031

Kang, J., Guo, Q., Wang, Q., Phillips, G.O., and Cui, S.W. (2015). "New studies on gum ghatti (*Anogeissus latifolia*) part V: The conformational properties of gum ghatti.", *Food Hydrocolloids*, 43, pp. 25-30. doi : 10.1016/j.foodhyd.2014.04.042

Tang, Z.X., Huang, X.Q., Sabour, P.M., Chambers, J.R., and Wang, Q. (2015). "Preparation and characterization of dry powder bacteriophage K for intestinal delivery through oral administration.", *Food Science and Technology - LWT*, 60(1), pp. 263-270. doi : 10.1016/j.lwt.2014.08.012

Yang, Y., Cui, S.W., Gong, J., Miller, S.S., Wang, Q., and Hua, Y.F. (2015). "Stability of citral in oil-in-water emulsions protected by a soy protein-polysaccharide Maillard reaction product.", *Food Research International*, 69, pp. 357-363. doi : 10.1016/j.foodres.2015.01.006

Yang, Y., Cui, S.W., Gong, J., Guo, Q., Wang, Q., and Hua, Y. (2015). "A soy protein-polysaccharides Maillard reaction product enhanced the physical stability of oil-in-water emulsions containing citral.", *Food Hydrocolloids*, 48, pp. 155-164. doi : 10.1016/j.foodhyd.2015.02.004

Ding, H., Cui, S.W., Goff, H.D., Chen, J., Wang, Q., and Han, N.F. (2015). "Arabinan-rich rhamnogalacturonan-I from flaxseed kernel cell wall.", *Food Hydrocolloids*, 47, pp. 158-167. doi : 10.1016/j.foodhyd.2015.01.011

Dong, D., Li, X., Hua, Y.F., Chen, Y.M., Kong, X.Z., Zhang, C.M., and Wang, Q. (2015). "Mutual titration of soy proteins and gum arabic and the complexing behavior studied by isothermal titration calorimetry, turbidity and ternary phase boundaries.", *Food Hydrocolloids*, 46, pp. 28-36. doi : 10.1016/j.foodhyd.2014.11.019

Liu, H., Gong, J., Chabot, D., Miller, S.S., Cui, S.W., Ma, J., Zhong, F., and Wang, Q. (2015). "Protection of heat-sensitive probiotic bacteria during spray-drying by sodium caseinate stabilized fat particles.", *Food Hydrocolloids*, 51, pp. 459-467. doi : 10.1016/j.foodhyd.2015.05.015

Mei, J., Tang, Z., Yi, Y., Wang, H., Wang, H., Wang, Q., and Ying, G. (2015). "Purification and characterization of  $\beta$ -agarase from *Paenibacillus* sp.", *Food Science and Biotechnology*, 23(5), pp. 1605-1609. doi : 10.1007/s10068-014-0218-x

Bissonnette, N., Jiang, X.-R., Matte, J.J., Talbot, G., Guay, F., Gong, J., Wang, Q., Bontempo, V., and Lessard, M. (2015). "Effect of a post-weaning diet supplemented with gut health-enhancing feed additives on ileum transcriptome activity and serum cytokines in piglets challenged with lipopolysaccharides (LPS).", *Journal of Dairy Science (JDS)*, 98(Suppl. 2), pp. 659. (Abstract)

2014

Yang, X.J., Brisbin, J.T., Yu, H., Wang, Q., Yin, F.G., Zhang, Y., Sabour, P.M., Sharif, S., and Gong, J. (2014). "Selected lactic acid-producing bacterial isolates with the capacity to reduce Salmonella translocation and virulence gene expression in chickens.", *PLoS ONE*, 9(4:e93022). doi : 10.1371/journal.pone.0093022

Zhang, Y., Gong, J., Yu, H., Guo, Q., Defelice, C., Hernandez, M., Yin, Y.L., and Wang, Q. (2014). "Alginate-whey protein dry powder optimized for target delivery of essential oils to the intestine of chickens.", *Poultry Science*, 93(10), pp. 2514-2525. doi : 10.3382/ps.2013-03843

Xing, X.-H., Cui, S.W., Nie, S-P., Phillips, G.O., Goff, H.D., and Wang, Q. (2014). "Study on *Dendrobium officinale* O-acetylglucosaminan (Dendronan®): Part I. Extraction, purification, and partial structural characterization.", *Bioactive Carbohydrates and Dietary Fibre*, 4(1), pp. 74-83. doi : 10.1016/j.bcdf.2014.06.004

Wang, Q. and Ellis, P.R. (2014). "Oat  $\beta$ -glucan: Physico-chemical characteristics in relation to its blood-glucose and cholesterol-lowering properties.", *British Journal of Nutrition*, 112(Supplement S2), pp. S4-S13. doi : 10.1017/S0007114514002256

Liu, Y.F., Zhang, J.S., Tang, Q.J., Yang, Y., Guo, Q., Wang, Q., Wu, D., and Cui, S.W. (2014). "Physicochemical characterization of a high molecular weight bioactive  $\beta$ -D-glucan from the fruiting bodies of *Ganoderma lucidum*.", *Carbohydrate Polymers*, 101, pp. 968-974. doi : 10.1016/j.carbpol.2013.10.024

Lin, X., Wang, Q., Li, W., and Wright, A.J. (2014). "Emulsification of algal oil with soy lecithin improved DHA bioaccessibility but did not change overall in vitro digestibility.", *Food & Function*, 5(11), pp. 2913-2921. doi : 10.1039/c4fo00577e

Ding, H., Cui, S.W., Goff, H.D., Wang, Q., Chen, J., and Han, N.F. (2014). "Soluble polysaccharides from flaxseed kernel as a new source of dietary fibres: Extraction and physicochemical characterization.", *Food Research International*, 56, pp. 166-173. doi : 10.1016/j.foodres.2013.12.005

2013

Xing, X.-H., Cui, S.W., Nie, S-P., Phillips, G.O., Goff, H.D., and Wang, Q. (2013). "A review of isolation process, structural characteristics, and bioactivities of water-soluble polysaccharides from *Dendrobium* plants", *Bioactive Carbohydrates and Dietary Fibre*, 1(2), pp. 131-147. doi : 10.1016/j.bcdf.2013.04.001

Nie, S-P., Wang, C., Cui, S.W., Wang, Q., Xie, M-Y., and Phillips, G.O. (2013). "The core carbohydrate structure of *Acacia seyal* var. *seyal* (Gum arabic).", *Food Hydrocolloids*, 32(2), pp. 221-227. doi : 10.1016/j.foodhyd.2012.12.027

Guo, Q., Wang, Q., Cui, S.W., Kang, J., Hu, X., Xing, X.-H., and Yada, R.Y. (2013). "Conformational properties of high molecular weight heteropolysaccharide isolated from seeds of *Artemisia sphaerocephala* Krasch.", *Food Hydrocolloids*, 32(1), pp. 155-161. doi : 10.1016/j.foodhyd.2012.12.014

Ying, X., Gong, J., Goff, D.H., Yu, H., Wang, Q., and Cui, S.W. (2013). "Effects of pig colonic digesta and dietary fibres on in vitro microbial fermentation profiles.", *Bioactive Carbohydrates and Dietary Fibre*, 1(2), pp. 120-130. doi : 10.1016/j.bcdf.2013.03.002

Nie, S-P., Wang, C., Cui, S.W., Wang, Q., Xie, M-Y., and Phillips, G.O. (2013). "A further amendment to the classical core structure of gum arabic (*Acacia senegal*).", *Food Hydrocolloids*, 31(1), pp. 42-48. doi : 10.1016/j.foodhyd.2012.09.014

Tang, Z.X., Huang, X.Q., Baxi, S., Chambers, J.R., Sabour, P.M., and Wang, Q. (2013). "Whey protein improves survival and release characteristics of bacteriophage Felix O1 encapsulated in alginate microspheres.", *Food Research International*, 52(2), pp. 460-466. doi : 10.1016/j.foodres.2012.12.037

Dong, D., Hua, Y.F., Chen, Y.M., Kong, X.Z., Zhang, C.M., and Wang, Q. (2013). "Charge compensation, phase diagram, and protein aggregation in soy protein-gum Arabic complex formation.", *Journal of Agricultural and Food Chemistry*, 61(16), pp. 3934-3940. doi : 10.1021/jf400305z

Mei, J., Shao, J., Wang, Q., Wang, H., Yi, Y., and Ying, G. (2013). "Separation and quantification of neoagaro-oligosaccharides.", *Journal of Food Science and Technology*, 50(6), pp. 1217-1221. doi : 10.1007/s13197-011-0448-3

2012

Zheng, X., Li, L., and Wang, Q. (2012). "Properties of arabinoxylans from wheat bran, shorts and flour.", *Advanced Materials Research*, 365, pp. 342-347. doi : 10.4028/www.scientific.net/AMR.365.342

Wei, L., Cui, S.W., Wang, Q., and Yada, R.Y. (2012). "Study of conformational properties of cereal  $\beta$ -glucans by computer modeling.", *Food Hydrocolloids*, 26(2), pp. 377-382. doi : 10.1016/j.foodhyd.2011.02.019

Ma, Y., Pacan, J.C., Wang, Q., Sabour, P.M., Huang, X.Q., and Xu, Y. (2012). "Enhanced alginate microspheres as means of oral delivery of bacteriophage for reducing *Staphylococcus aureus* intestinal carriage.", *Food Hydrocolloids*, 26(2), pp. 434-440. doi : 10.1016/j.foodhyd.2010.11.017

Kang, J., Cui, S.W., Guo, Q., Chen, J., Wang, Q., Phillips, G.O., and Nikiforuk, J. (2012). "Structural investigation of a glycoprotein from gum ghatti.", *Carbohydrate Polymers*, 89(3), pp. 749-758. doi : 10.1016/j.carbpol.2012.04.004

Wu, Y., Cui, S.W., Wu, J., Ai, L., Wang, Q., and Tang, J. (2012). "Structure characteristics and rheological properties of acidic polysaccharide from boat-fruited *sterculia* seeds.", *Carbohydrate Polymers*, 88(3), pp. 926-930. doi : 10.1016/j.carbpol.2012.01.035

Guo, Q., Cui, S.W., Wang, Q., Hu, X., Kang, J., and Yada, R.Y. (2012). "Structural characterization of a low-molecular-weight heteropolysaccharide (glucomannan) isolated from *Artemisia sphaerocephala* Krasch.", *Carbohydrate Research*, 350, pp. 31-39. doi : 10.1016/j.carres.2011.10.020

Zheng, X., Li, L., and Wang, Q. (2012). "The properties of  $\beta$ -glucans from different fractions of hull-less barley.", *Advanced Materials Research*, 356, pp. 338-341. doi : 10.4028/www.scientific.net/AMR.365.338

## 2011

Kang, J., Cui, S.W., Phillips, G.O., Chen, J., Guo, Q., and Wang, Q. (2011). "New studies on gum ghatti (*Anogeissus latifolia*) Part III: Structure characterization of a globular polysaccharide fraction by 1D, 2D NMR spectroscopy and methylation analysis.", *Food Hydrocolloids*, 25(8), pp. 1999-2007. doi : 10.1016/j.foodhyd.2010.11.020

Guo, Q., Cui, S.W., Wang, Q., Hu, X., Kang, J., and Yada, R.Y. (2011). "Structure characterization of high molecular weight heteropolysaccharide isolated from *Artemisia sphaerocephala* Krasch seed.", *Carbohydrate Polymers*, 86(2), pp. 742-746. doi : 10.1016/j.carbpol.2011.05.018

Zheng, X., Li, L., and Wang, Q. (2011). "Distribution and Molecular Characterization of  $\beta$ -Glucans from Hull-Less Barley Bran, Shorts and Flour.", *International Journal of Molecular Sciences*, 12(3), pp. 1563-1574. doi : 10.3390/ijms12031563

Hu, X.-Z., Xing, X.-H., Zhang, Z.-M., Wu, R.-Q., Guo, Q., Cui, S.W., and Wang, Q. (2011). "Antioxidant effects of *Artemisia sphaerocephala* Krasch. Gum, on streptozotocin-induced type 2 diabetic rats.", *Food Hydrocolloids*, 25(2), pp. 207-213. doi : 10.1016/j.foodhyd.2009.12.006

Guo, Q., Cui, S.W., Wang, Q., Hu, X., Guo, Q., Kang, J., and Yada, R.Y. (2011). "Extraction, fractionation and physicochemical characterization of water-soluble polysaccharides from *Artemisia sphaerocephala* Krasch seed.", *Carbohydrate Polymers*, 86(2), pp. 831-836. doi : 10.1016/j.carbpol.2011.05.034

Kang, J., Cui, S.W., Chen, J., Phillips, G.O., Wu, Y., and Wang, Q. (2011). "New studies on gum ghatti (*Anogeissus latifolia*) part I. Fractionation, chemical and physical characterization of the gum.", *Food Hydrocolloids*, 25(8), pp. 1984-1990. doi : 10.1016/j.foodhyd.2010.12.011

Chang, Y.H., Cui, S.W., Roberts, K.T., Ng, P.K.W., and Wang, Q. (2011). "Evaluation of extrusion-modified fenugreek gum.", *Food Hydrocolloids*, 25(5), pp. 1296-1301. doi : 10.1016/j.foodhyd.2010.12.003

Zhang, M., Zhu, L., Cui, S.W., Wang, Q., Zhou, T., and Shen, H.S. (2011). "Fractionation, partial characterization and bioactivity of water-soluble polysaccharides and polysaccharide-protein complexes from *Pleurotus geesteranus*", *International Journal of Biological Macromolecules*, 48(1), pp. 5-12. doi : 10.1016/j.ijbiomac.2010.09.003

Qian, H.F., Cui, S.W., Wang, Q., Wang, C., and Zhou, H.M. (2011). "Fractionation and physicochemical characterization of peach gum polysaccharides.", *Food Hydrocolloids*, 25(5), pp. 1285-1290. doi : 10.1016/j.foodhyd.2010.09.027

## Other Science Related Publications :

### 2015

Wang, Q., Liu, H., Gong, J., Chabot, D., Miller, S.S., Miller, S.S., Cui, S.W., and Zhong, F. (2015). "A novel encapsulation method to protect probiotic bacteria during spray drying", 23th International Conference on Bioencapsulation, Delft, The Netherlands, September 2-4, 2015. (Poster)

### 2014

Lessard, M., Bergeron, N., Deschêne, K., Matte, J.J., Guay, F., Bissonnette, N., Talbot, B.G., Gong, J., Wang, Q., Quessy, S., and Letellier, A. (2014). "Intestinal gene expression involved in innate and acquired immune responses of pigs affected by *Salmonella* infection and diets supplemented with gut health-enhancing feed additives.", 23rd International Pig Veterinary Society Congress, Cancun, México, June 8-11, 2014, Abstract A1387. (Poster)

Gong, J., Wang, Q., Yang, Y., Yu, H., Diarra, M.S., and Cui, S.W. (2014). "Novel preparation of citral encapsulated with special soybean-derived polymers as a feed additive for controlling necrotic enteritis caused by *Clostridium perfringens* in poultry. Filed on March 21, 2014." (Patent)



Liu, H., Wang, Q., Gong, J., Yu, H., Guo, Q., Cui, S.W., and Miller, S.A. (2014). A novel microencapsulation method for protecting probiotic bacteria during spray drying. (Filed on April 1st, 2014. It is in the process of patent application).

Lin, X., Wang, Q., Li, W., and Wright, A.J. (2014). "In vitro digestive stability, lipolysis and bioaccessibility of an algal oil emulsion stabilized with soy lecithin.", 105th AOCS Annual Meeting and Short Courses, San Antonio, Texas, USA, May 4-7, 2014. (Poster)

Zhang, Y., Guo, T.C., Yu, H., Gong, J., and Wang, Q. (2014). "Alginate-whey protein dry powder optimized for intestinal delivery of essential oils in chickens.", 12th International Hydrocolloids Conference, Taiwan, May 5-9, 2014, Oral presentation.

Guo, T.C., Yang, Y., Zhang, Y., Yu, H., Gong, J., and Wang, Q. (2014). "In vitro and in vivo release of carvacrol encapsulated in calcium alginate microspheres in chickens.", 41st Annual Meeting & Exposition of the Controlled Release Society, Chicago, USA, July 13-16, 2014, Oral presentation.

Ding, H. et al. (2014). "Flaxseed kernel dietary fibre: Partial structure and physicochemical characterization.", 17th International Gums and Stabilizers for the Food Industry Conference, pp. 90-99.

## 2012

Islam, G., Wang, Q., Sabour, P.M., and Warriner, K. (2012). "Microencapsulation of bio-control bacteriophage by spray drying method.", 20th International Conference on Bioencapsulation, Orillia, ON, Canada, September 21-24, 2012.

Yin, F.G., Farzan, V., Wang, Q., Yu, H., Yin, Y.L., Friendship, R.M., and Gong, J. (2012). "Evaluation of Lactobacillus fermented diets for controlling Salmonella Typhimurium in newly-weaned pigs.", 8th INRA-Rowett Symposium on Gut Microbiology, Gut microbiota: friend or foe?, Clermont, France, June 17-20, 2012.

Zhang, Y., Yu, H., Marta, H., Wang, Q., Yin, Y.L., and Gong, J. (2012). "Evaluation of antimicrobial effects of encapsulated carvacrol against salmonella typhimurium pt193 in chicken gut digesta.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012.

Ma, Y., Wang, Q., Sabour, P.M., Chambers, J.R., and Wu, Y. (2012). "Encapsulation of bacteriophage for enhanced delivery to chicken intestine in vitro vs in vivo.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012.

Tang, Z.X., Ma, Y., Wang, Q., Sabour, P.M., and Wu, X. (2012). "Microencapsulation of bacteriophages for oral delivery to chicken intestines.", 11th International Hydrocolloids Conference, Stewart Center, Purdue University, West Lafayette, IN, USA, May 14-18, 2012.

Ma, Y., Wang, Q., Tang, Z.X., Sabour, P.M., Chambers, J.R., and Griffith, M. (2012). "Microencapsulation of Bacteriophage for Enhanced Delivery to Chicken Intestine.", 10th Annual OMAFRA Food Safety Research Forum, Guelph, ON, Canada, May 2, 2012.

Wang, Q., Ma, Y., Zhang, Y., Gong, J., Sabour, P.M., Chambers, J.R., and de Lange, C.F.M. (2012). "Application of microencapsulation in the development of alternatives for antibiotics in food animal production.", 20th International Conference on Bioencapsulation, Orillia, ON, Canada, September 21-24, 2012.

Wang, Q. (2012). "Microencapsulation in the development of alternatives for antibiotics for food animals.", Guelph Food Research Center, Guelph, ON, Canada, June 21, 2012. (Presentation)

## 2011

Zheng, X., Li, L., and Wang, Q. (2011). "Properties of arabinoxylans from wheat bran, shorts and flour.", 2011 International Conference on Future Materials Engineering and Industry Application (ICFMEIA 2011), Bali, Indonesia, August 4-5, 2011.

Zheng, X., Li, L., and Wang, Q. (2011). "The properties of  $\beta$ -glucans from different fractions of hull-less barley.", 2011 International Conference on Future Materials Engineering and Industry Application (ICFMEIA 2011), Bali, Indonesia, August 4-5, 2011.

Ma, Y., Wang, Q., Gong, J., and Wu, X.Y. (2011). "Towards replacement of antibiotics in feed: encapsulation of cinnamaldehyde oil for delivery to the gastrointestinal tract of pigs.", Canadian Society of Microbiologists (CSM) 61st Annual Conference / Conférence annuelle de la Société Canadienne des Microbiologistes (SCM), Memorial University of Newfoundland, St. John's, NL, Canada, June 20-23, 2011, AE25.

Zhang, Y., Yu, H., Marta, H., Yin, Y.L., Wang, Q., and Gong, J. (2011). "Antimicrobial activity of carvacrol towards *E. coli* K88 in different sections of the intestine of growing pigs.", Guelph Food Safety Seminar Series (GFSSS) 8th Annual Symposium: Evidence to Decisions: Turning Knowledge into Practice, Guelph, ON, Canada, October 25, 2011.

Zhang, Y., Yu, H., Marta, H., Yin, Y.L., Wang, Q., and Gong, J. (2011). "Effects of pig digesta from different intestinal regions on the antimicrobial activity of carvacrol towards *E. coli* K88.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012.

Ma, Y., Wang, Q., Tang, Z.X., Sabour, P.M., Chambers, J.R., and Pacan, J.C. (2011). "Encapsulation of bacteriophage for enhanced delivery to chicken intestine.", 2011 Federal Food Safety and Nutrition Research (FFSNR) Web-based Seminar Series, Canada, November 29-December 15, 2011.

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## Research Publications:

2015

Kouazounde, J.B., Jin, L., Assogba, F.M., Ayedoun, M.A., Wang, Y., Beauchemin, K.A., McAllister, T.A., and Gbenou, J.D. (2015). "Effects of essential oils from medicinal plants acclimated to Benin on in vitro ruminal fermentation of *Andropogon gayanus* grass.", *Journal of the Science of Food and Agriculture*, 95(5), pp. 1031-1038. doi: 10.1002/jsfa.6785

Jin, L., Wang, Y., Iwaasa, A.D., Li, Y., Xu, Z.J., Schellenberg, M.P., Liu, X.-L., McAllister, T.A., and Stanford, K.I.M. (2015). "Purple prairie clover (*Dalea purpurea* Vent) reduces fecal shedding of *Escherichia coli* in pastured cattle.", *Journal of Food Protection*, 78(8), pp. 1434-1441. doi: 10.4315/0362-028X.JFP-14-426

Badhan, A., Wang, Y., Gruninger, R.J., Patton, D., Powlowski, J., Tsang, A., and McAllister, T.A. (2015). "Improvement in saccharification yield of mixed rumen enzymes by identification of recalcitrant cell wall constituents using enzyme fingerprinting.", *BioMed Research International*, 2015(Article number 562952). doi: 10.1155/2015/562952

Jin, L., Duniere, L., Lynch, J.P., McAllister, T.A., Baah, J., and Wang, Y. (2015). "Impact of ferulic acid esterase producing lactobacilli and fibrolytic enzymes on conservation characteristics, aerobic stability and fiber degradability of barley silage.", *Animal Feed Science and Technology*, 207, pp. 62-74. doi: 10.1016/j.anifeedsci.2015.06.011

Huang, Q., Wei, Y., Lv, Y., Wang, Y., and Hu, T. (2015). "Effect of dietary inulin supplements on growth performance and intestinal immunological parameters of broiler chickens.", *Livestock Science*, 180(Article number 2819), pp. 172-176. doi: 10.1016/j.livsci.2015.07.015

Ribeiro Jr, G.O., Gonçalves, L., Pereira, L.G.R., Chaves, A.V., Wang, Y., Beauchemin, K.A., and McAllister, T.A. (2015). "Effect of fibrolytic enzymes added to a *Andropogon gayanus* grass silage-concentrate diet on rumen fermentation in batch cultures and the artificial rumen (Rusitec).", *Animal*, 9(7), pp. 1153-1162. doi: 10.1017/S1751731115000221

Huang, Q.Q., Jin, L., Xu, Z.J., Barbieri, L.R., Acharya, S.N., Hu, T.M., McAllister, T.A., Stanford, K.I.M., and Wang, Y. (2015). "Effects of purple prairie clover (*Dalea purpurea* Vent.) on feed intake, nutrient digestibility and faecal shedding of *Escherichia coli* O157:H7 in lambs.", *Animal Feed Science and Technology*, 207, pp. 51-61. doi: 10.1016/j.anifeedsci.2015.06.009

Wang, Y., McAllister, T.A., and Acharya, S.N. (2015). "Condensed Tannins in Sainfoin: Composition, Concentration, and Effects on Nutritive and Feeding Value of Sainfoin Forage.", *Crop Science*, 55(1), pp. 13-22. doi: 10.2135/cropsci2014.07.0489

Kouazounde, J.B., Gbenou, J.D., He, M.L., Jardim, T., Jin, L., Wang, Y., Beauchemin, K.A., and McAllister, T.A. (2015). "Effects of essential oils from african basil on fermentation of *andropogon gayanus* grass in the artificial rumen (RUSITEC).", *Canadian Journal of Animal Science*, 95(3), pp. 425-431. doi: 10.4141/CJAS-2014-189

Zhang, Y.L., Liu, Q., Wang, C., Pei, C.X., Li, H.Y., Wang, Y., Yang, W.-Z., Bai, Y.S., Shi, Z.G., and Liu, X.N. (2015). "Effects of supplementation of Simmental steers with 2-methylbutyrate on rumen microflora, enzyme activities and methane production.", *Animal Feed Science and Technology*, 199, pp. 84-92. doi: 10.1016/j.anifeedsci.2014.11.003

He, M.L., Long, J., Wang, Y., Penner, G.B., and McAllister, T.A. (2015). "Effect of replacing barley with wheat grain in finishing feedlot diets on nutrient digestibility, rumen fermentation, bacterial communities and plasma metabolites in beef steers.", *Livestock Science*, 176, pp. 104-110. doi: 10.1016/j.livsci.2015.03.024

2014

Narvaez, N., Alazeh, A.Y., Wang, Y., and McAllister, T.A. (2014). "Effect of *Propionibacterium acidipropionici* P169 on growth performance and rumen metabolism of beef cattle fed a corn- and corn dried distillers' grains with solubles-based finishing diet.", *Canadian Journal of Animal Science*, 94(2), pp. 363-369. doi: 10.4141/CJAS2013-130

Badhan, A., Jin, L., Wang, Y., Han, S., Kowalczyk, K., Brown, D.C.W., Ayala, C.J., Latoszek-Green, M., Miki, B.L.A., Tsang, A., and McAllister, T.A. (2014). "Expression of a fungal ferulic acid esterase (FaeB) in alfalfa modifies cell wall digestibility.", *Biotechnology for Biofuels*, 7(1: Article number 39). doi: 10.1186/1754-6834-7-39

Li, Y., Iwaasa, A.D., Wang, Y., Jin, L., Han, G.D., and Zhao, M.G. (2014). "Condensed tannins concentration of selected prairie legume forages as affected by phenological stages during two consecutive growth seasons in western Canada.", *Canadian Journal of Plant Science*, 94(5), pp. 817-826. doi: 10.4141/CJPS2013-234

Li, C., Xu, B., Wang, Y., Yang, Z.B., and Yang, W.R. (2014). "Protein content in larval diet affects adult longevity and antioxidant gene expression in honey bee workers.", *Entomologia Experimentalis et Applicata*, 151(1), pp. 19-26. doi : 10.1111/eea.12167

Zhang, G.G., Yang, Z.B., Wang, Y., Yang, W.R., and Zhou, H. (2014). "Effects of dietary supplementation of multi-enzyme on growth performance, nutrient digestibility, small intestinal digestive enzyme activities, and large intestinal selected microbiota in weanling pigs.", *Journal of Animal Science*, 92(5), pp. 2063-2069. doi : 10.2527/jas.2013-6672

Liu, Q., Wang, C., Pei, C.X., Li, H.Y., Wang, Y., Zhang, S.L., Zhang, Y.L., He, J.P., Wang, H., Yang, W.-Z., Bai, Y.S., Shi, Z.G., and Liu, X.N. (2014). "Effects of isovalerate supplementation on microbial status and rumen enzyme profile in steers fed on a corn stover based diet.", *Livestock Science*, 161(1), pp. 60-68. doi : 10.1016/j.livsci.2013.12.034

Badhan, A., Wang, Y., Gruninger, R.J., Patton, D., Powlowski, J., Tsang, A., and McAllister, T.A. (2014). "Formulation of enzyme blends to maximize the hydrolysis of alkaline peroxide pretreated alfalfa hay and barley straw by rumen enzymes and commercial cellulases.", *BMC Biochemistry*, 14(31). doi : 10.1186/1472-6750-14-31

## 2013

Zhang, G.G., Yang, Z.B., Wang, Y., and Yang, W.R. (2013). "Effects of *Astragalus membranaceus* root processed to different particle sizes on growth performance, antioxidant status, and serum metabolites of broiler chickens.", *Poultry Science*, 92(1), pp. 178-183. doi : 10.3382/ps.2012-02432

Wang, Y., Jin, L., Ominski, K.H., He, M.L., Xu, Z.J., Krause, D.O., Acharya, S.N., Wittenberg, K.M., Liu, X.-L., and McAllister, T.A. (2013). "Screening of condensed tannins from Canadian Prairie forages for anti-*Escherichia coli* O157:H7, with an emphasis on purple prairie clover (*Dalea purpurea* Vent)", *Journal of Food Protection*, 76(4), pp. 560-567. doi : 10.4315/0362-028X.JFP-12-259

Narvaez, N., Wang, Y., Xu, Z.J., Alexander, T.W., Garden, S., and McAllister, T.A. (2013). "Effects of hop varieties on ruminal fermentation and bacterial community in an artificial rumen (rusitec).", *Journal of the Science of Food and Agriculture*, 93(1), pp. 45-52. doi : 10.1002/jsfa.5725

Acharya, S.N., Sottie, E.T., Coulman, B., Iwaasa, A.D., McAllister, T.A., Wang, Y., and Liu, J.-H. (2013). "New Sainfoin Populations for Bloat-free Alfalfa Pasture Mixtures in Western Canada.", *Crop Science*, 53(5), pp. 2283-2293. doi : 10.2135/cropsci.2012.10.0591

Alazeh, A.Y., Sultana, H., Beauchemin, K.A., Wang, Y., Holo, H., Harstad, O.M., and McAllister, T.A. (2013). "Using Strains of Propionibacteria to Mitigate Methane Emissions In vitro.", *Acta Agriculturae Scandinavica, Section A - Animal Science*, 62(4), pp. 263-272. doi : 10.1080/09064702.2013.773056

Narvaez, N., Wang, Y., and McAllister, T.A. (2013). "Effects of extracts of *Humulus lupulus* (hops) and *Yucca schidigera* applied alone or in combination with monensin on rumen fermentation and microbial populations in vitro.", *Journal of the Science of Food and Agriculture*. doi : 10.1002/jsfa.6068

Liu, X.-L., Hao, Y.-Q., Jin, L., Xu, Z.J., McAllister, T.A., and Wang, Y. (2013). "Anti-*Escherichia coli* O157:H7 properties of purple prairie clover and sainfoin condensed tannins.", *Molecules*, 18(2), pp. 2183-2199. doi : 10.3390/molecules18022183

Wang, W.J., Yang, W.R., Wang, Y., Song, E.L., Liu, X.M., and Wan, F.C. (2013). "Effects of soybean small peptides on rumen fermentation and on intestinal and total tract digestion of Luxi Yellow cattle.", *Asian-Australasian Journal of Animal Science*, 26(1), pp. 72-81. doi : 10.5713/ajas.2012.12277

Narvaez, N., Wang, Y., Xu, Z.J., and McAllister, T.A. (2013). "Effects of California chaparral plants on in vitro ruminal fermentation of forage and concentrate diet.", *Journal of Food Biochemistry*, 93(3), pp. 550-559. doi : 10.1002/jsfa.5828

## 2012

Jiang, S.Z., Yang, Z.B., Yang, W.R., Wang, S.J., Wang, Y., Broomhead, J., Johnston, S.L., and Chi, F. (2012). "Effect on hepatonephric organs, serum metabolites and oxidative stress in post-weaning piglets fed purified zearalenone-contaminated diets with or without Calibrin-Z.", *Journal of Animal Physiology and Animal Nutrition*, 96(6), pp. 1147-1156. doi : 10.1111/j.1439-0396.2011.01233.x

Zuo, Z.Y., Yang, W.R., Wang, Y., Yang, Z.B., Jiang, S.Z., and Zhang, G.G. (2012). "Effects of *Astragalus membranaceus* on laying performance and antioxidant status of laying hens.", *Journal of Applied Poultry Research (JAPR)*, 21(2), pp. 243-250. doi : 10.3382/japr.2011-00351

Wang, Y., Ramirez-Bribiesca, J.E., Yanke, L.J., Tsang, A., and McAllister, T.A. (2012). "Effect of Exogenous Fibrolytic Enzyme Application on the Microbial Attachment and Digestion of Barley Straw In vitro.", *Asian-Australasian Journal of Animal Science*, 25(1), pp. 66-74. doi : 10.5713/ajas.2011.11158

Jonker, A., Gruber, M.Y., Wang, Y., Narvaez, N., Coulman, B.E., McKinnon, J.J., Christensen, D.A., Azarfar, A., and Yu, P. (2012). "Fermentation, degradation and microbial nitrogen partitioning for three forage colour phenotypes within an anthocyanidin-accumulating *Lc*-alfalfa progeny.", *Journal of the Science of Food and Agriculture*, 92(11), pp. 2265-2273. doi : 10.1002/jsfa.5619

Chaves, A.V., Baah, J., Wang, Y., McAllister, T.A., and Benchaar, C. (2012). "Effects of cinnamon leaf, oregano and sweet orange essential oils on fermentation and aerobic stability of barley silage.", *Journal of the Science of Food and Agriculture*, 92(4), pp. 906-915. doi: 10.1002/jsfa.4669

Jiang, S.Z., Yang, Z.B., Yang, W.R., Liu, F.X., Johnston, L.A., Chi, F., and Wang, Y. (2012). "Effect of purified zeaxarone with or without modified montmorillonite on nutrient availability, genital organs and serum hormones in post-weaning piglets.", *Livestock Science*, 144(1-2), pp. 110-118. doi: 10.1016/j.livsci.2011.11.004

Wang, Y., Majak, W., and McAllister, T.A. (2012). "Frothy bloat in ruminants: Cause, occurrence, and mitigation strategies.", *Animal Feed Science and Technology*, 172(1-2), pp. 103-114. doi: 10.1016/j.anifeeds.2011.12.012

Jin, L., Wang, Y., Iwaasa, A.D., Xu, Z.J., Schellenberg, M.P., Zhang, Y.G., Liu, X.-L., and McAllister, T.A. (2012). "Effect of condensed tannins on ruminal degradability of purple prairie clover (*Dalea purpurea* Vent.) harvested at two growth stages.", *Animal Feed Science and Technology*, 176(1-4), pp. 17-25. doi: 10.1016/j.anifeeds.2012.07.003

Bach, S.J., Cook, S.R., Wang, Y., Stanford, K.I.M., Johnson, R.P., and McAllister, T.A. (2012). "Escherichia coli O157 bacteriophages: Lytic activity and effects on fermentation in ruminal batch culture.", *Canadian Journal of Animal Science*, 92(4), pp. 545-550. doi: 10.4141/cjas2012-084

## 2011

Avila, J.S., Chaves, A.V., Hernandez-Calva, L.M., Beauchemin, K.A., McGinn, S.M., Wang, Y., Harstad, O.M., and McAllister, T.A. (2011). "Effects of replacing barley grain in feedlot diets with increasing levels of glycerol on in vitro fermentation and methane production.", *Animal Feed Science and Technology*, 166-167, pp. 265-268. doi: 10.1016/j.anifeeds.2011.04.016

Wang, H., Yang, W.R., Wang, Y., Yang, Z.B., and Cui, Y. (2011). "The Study on the Effects of Chinese Herbal Mixtures on Growth, Activity of Post-Ruminal Digestive Enzymes and Serum Antioxidant Status of Beef Cattle.", *Agricultural Sciences in China*, 10(3), pp. 448-455. doi: 10.1016/S1671-2927(11)60024-2

Ramirez-Bribiesca, J.E., Wang, Y., Jin, L., Canam, T., Town, J.R., Tsang, A., Dumonceaux, T.J., and McAllister, T.A. (2011). "Chemical characterization and in vitro fermentation of Brassica straw treated with the aerobic fungus, *Trametes versicolor*.", *Canadian Journal of Animal Science*, 91(4), pp. 695-702. doi: 10.4141/CJAS2011-067

Narvaez, N., Wang, Y., Xu, Z.J., and McAllister, T.A. (2011). "Effects of hops on in vitro ruminal fermentation of diets varying in forage content.", *Livestock Science*, 138(1-3), pp. 193-201. doi: 10.1016/j.livsci.2010.12.028

Wang, Y., Gibb, D.J., Greer, D., and McAllister, T.A. (2011). "Effects of moisture and a saponin-based surfactant during barley processing on growth performance and carcass quality of feedlot steers and on in vitro ruminal fermentation.", *Asian-Australasian Journal of Animal Science*, 24(12), pp. 1690-1698. doi: 10.5713/ajas.2011.10437

Zhao, X., Yang, Z.B., Yang, W.R., Wang, Y., Jiang, S.Z., and Zhang, G.G. (2011). "Effects of ginger root (*Zingiber officinale*) on laying performance and antioxidant status of laying hens and on dietary oxidation stability.", *Poultry Science*, 90(8), pp. 1720-1727. doi: 10.3382/ps.2010-01280

Berard, N.C., Wang, Y., Wittenberg, K.M., Krause, D.O., Coulman, B.E., McAllister, T.A., and Ominski, K.H. (2011). "Condensed tannin concentrations found in vegetative and mature forage legumes grown in western Canada.", *Canadian Journal of Plant Science*, 91(4), pp. 669-675. doi: 10.4141/cjps10153

Jonker, A., Gruber, M.Y., Wang, Y., Coulman, B.E., Azarfar, A., McKinnon, J.J., Christensen, D.A., and Yu, P. (2011). "Modeling degradation ratios and nutrient availability of anthocyanidin-accumulating Lc-alfalfa populations in dairy cows.", *Journal of Dairy Science (JDS)*, 94(3), pp. 1430-1444. doi: 10.3168/jds.2010-3604

Gaudet, D.A., Wang, Y., Frick, M., Puchalski, B., Penniket, C., Ouellet, T., Robert, L.S., Singh, J., and Laroche, A. (2011). "Low temperature induced defence gene expression in winter wheat in relation to resistance to snow moulds and other wheat diseases.", *Plant Science*, 180(1), pp. 99-110. doi: 10.1016/j.plantsci.2010.07.023

## Other Science Related Publications:

### 2013

Iwaasa, A.D., Li, Y., and Wang, Y. (2013). "Forage and grazing evaluations of purple prairie clover (*Dalea purpurea* Vent.) and white prairie clover (*Dalea candida* Michx. ex Willd) at AAFC-SPARC.", Intermountain native plant summit VII, Boise State University, March 26-27, 2013.

Jin, L., Lynch, J.P., Duniere, L., Wang, Y., Baah, J., Beauchemin, K.A., and McAllister, T.A. (2013). "Effect of inoculant containing *L. buchneri* on ensiling fermentation of whole barley crop.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P64, pp. 51. (Poster)

## 2012

Narvaez, N., Wang, Y., and McAllister, T.A. (2012). "Effects of monensin and extracts of hops and *Yucca schidigera* applied alone or in combination on rumen fermentation in vitro.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, W374. (Poster)

Jin, L., Xu, Z.J., Iwaasa, A.D., Zhang, Y.G., Schellenberg, M.P., McAllister, T.A., and Wang, Y. (2012). "Mixing purple prairie clover with alfalfa reduced alfalfa N transforming to ammonia-N.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

Alazzeh, A.Y., McAllister, T.A., Beauchemin, K.A., Wang, Y., Holo, H., and Harstad, O.M. (2012). "Potential of Propionibacteria to Mitigate Methane In Vitro.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

Wang, Y., Xu, Z.J., Acharya, A., and McAllister, T.A. (2012). "Effect of sainfoin condensed tannins on the N transformation of alfalfa forage preserved as silage.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

Alazzeh, A.Y., Sultana, H., McAllister, T.A., Beauchemin, K.A., Wang, Y., Holo, H., and Harstad, O.M. (2012). "In Vitro Methane Mitigation by Different Strains of Propionibacteria.", NJF Nordic Association of Agricultural Scientists: Seminar no. 453., Climate and Pollution Agency (KLIF), Oslo, Norway, November 5-6, 2012. (Presentation)

## 2011

Jin, L., Zhang, Y.G., Iwaasa, A.D., Schellenberg, M.P., Xu, Z.J., McAllister, T.A., and Wang, Y. (2011). "Fecal shedding of *Escherichia coli* of cattle grazing pastures with and without purple prairie clover (*Petalostemon purpureum*).", Canadian Journal of Animal Science, 91(3), pp. 503. (Abstract)

Jin, L., Zhang, Y.G., Iwaasa, A.D., Schellenberg, M.P., Xu, Z.J., McAllister, T.A., and Wang, Y. (2011). "Fecal shedding of *Escherichia coli* of cattle grazing pastures with and without purple prairie clover (*Petalostemon purpureum*).", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011, TDC-2. (Poster)

Jin, L., Zhang, Y.G., Iwaasa, A.D., Schellenberg, M.P., Xu, Z.J., McAllister, T.A., and Wang, Y. (2011). "Effect of incorporation of purple prairie clover (*Petalostemon purpureum*) into cool season grasses mixture on in vitro ruminal fermentation.", 60th Annual Meeting of the Canadian Society of Animal Science (CSAS), Atlantica Hotel, Halifax, NS, Canada, May 4-5, 2011, FPE-3. (Poster)

Jin, L., Zhang, Y.G., Iwaasa, A.D., Schellenberg, M.P., Xu, Z.J., McAllister, T.A., and Wang, Y. (2011). "Effect of incorporation of purple prairie clover (*Petalostemon purpureum*) into cool season grasses mixture on in vitro ruminal fermentation.", Canadian Journal of Animal Science, 91(3), pp. 476. (Abstract)

Jin, L., Xu, Z.J., Iwaasa, A.D., Zhang, Y.G., Schellenberg, M.P., McAllister, T.A., and Wang, Y. (2011). "Nutrient and tannin contents of purple prairie clover (*Petalostemon purpureum*) harvested at different growth stages.", ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 11-14, 2011, M#127. (Poster)

Jin, L., Xu, Z.J., Iwaasa, A.D., Schellenberg, M.P., Zhang, Y.G., McAllister, T.A., and Wang, Y. (2011). "Nutrient and tannin contents of purple prairie clover (*Petalostemon purpureum*) harvested at different growth stages.", Journal of Animal Science, 89(E-Suppl. 1), pp. 48. (Abstract)

Jin, L., Xu, Z.J., Iwaasa, A.D., Zhang, Y.G., Schellenberg, M.P., McAllister, T.A., and Wang, Y. (2011). "Effect of tannins on in vitro ruminal degradability of purple prairie clover (*Petalostemon purpureum*) harvested at two growth stages in the Daisy II Fermentation System.", Journal of Animal Science, 89(E-Suppl. 1), pp. 387. (Abstract)

Jin, L., Xu, Z.J., Iwaasa, A.D., Zhang, Y.G., Schellenberg, M.P., McAllister, T.A., and Wang, Y. (2011). "Effect of tannins on in vitro ruminal degradability of purple prairie clover (*Petalostemon purpureum*) harvested at two growth stages in the Daisy II Fermentation System.", ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 11-14, 2011, T356. (Poster)

Acharya, S.N., Iwaasa, A.D., Coulman, B., Jefferson, P.G., McAllister, T.A., and Wang, Y. (2011). "New sainfoin keepspace with alfalfa for safe grazing.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

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## Research Publications:

2015

Zhang, T.Q., Tan, C.S., Zheng, Z.M., Welacky, T.W., and Reynolds, W.D. (2015). "Impacts of soil conditioners and water table management on phosphorus loss in tile drainage from a clay loam soil.", *Journal of Environmental Quality*, 44(2), pp. 572-584. doi: 10.2134/jeq2014.04.0154

Hao, X.J., Zhang, T.Q., Tan, C.S., Welacky, T.W., Wang, Y.T., Lawrey, J.D., and Hong, J.P. (2015). "Crop yield and phosphorus uptake as affected by phosphorus-based swine manure application under long-term corn-soybean rotation.", *Nutrient Cycling in Agroecosystems*, 103(2), pp. 217-228. doi: 10.1007/s10705-015-9735-0

2014

Drury, C.F., Tan, C.S., Welacky, T.W., Reynolds, W.D., Zhang, T.Q., Oloya, T.O., McLaughlin, N.B., and Gaynor, J.D. (2014). "Reducing nitrate loss in tile drainage water with cover crops and water-table management systems.", *Journal of Environmental Quality*, 43(2), pp. 587-598. doi: 10.2134/jeq2012.0495

2013

Beauregard, M.S., Gauthier, M.-P., Hamel, C., Zhang, T.Q., Welacky, T.W., Tan, C.S., and St-Arnaud, M. (2013). "Various forms of organic and inorganic P fertilizers did not negatively affect soil- and root-inhabiting AM fungi in a maize-soybean rotation system.", *Mycorrhiza*, 23(2), pp. 143-154. doi: 10.1007/s00572-012-0459-6

2012

Drury, C.F., Reynolds, W.D., Yang, X.M., McLaughlin, N.B., Welacky, T.W., Calder, W., and Grant, C.A. (2012). "Nitrogen source, application time and tillage effects on soil nitrous oxide emissions and corn grain yields.", *Soil Science Society of America Journal*, 76(4), pp. 1268-1279. doi: 10.2136/sssaj2011.0249

2011

Shi, X.H., Yang, X.M., Drury, C.F., Reynolds, W.D., McLaughlin, N.B., Welacky, T.W., and Zhang, X.-P. (2011). "Zone Tillage Impact on Organic Carbon of a Clay Loam in Southwestern Ontario.", *Soil Science Society of America Journal*, 75(3), pp. 1083-1089. doi: 10.2136/sssaj2010.0319

## Other Science Related Publications:

2014

Zhang, T.Q., Tan, C.S., and Welacky, T.W. (2014). "Environmental evaluation of soil phosphorus and agronomic performance with continuous draw-down on drained soils with corn and soybean rotation.", *American Society of Agricultural and Biological Engineers Annual International Meeting 2014, Montreal, Canada, July 13-16, 2014, Paper #1894458*, pp. 1004-1012.

Zhang, T.Q., Tan, C.S., and Welacky, T.W. (2014). "Phosphorus draw-down strategy: a fundamental approach for reducing P loss from tile drainage.", *RDT Guelph-Harrow Nutrient Management Workshop, April 7, 2014. (Presentation)*

Zhang, T.Q., Tan, C.S., Welacky, T.W., and Hao, X.J. (2014). "Utilization of soil legacy P, a potential strategy for sustaining crop production and reducing P loss to water resource.", *Sustainable Phosphorus Summit, Montpellier, France, September 1-3, 2014.*

Zhang, T.Q., Tan, C.S., Drury, C.F., and Welacky, T.W. (2014). "Phosphorus loss from tile drained agricultural lands in Canada, an Overview on Research Progress.", *20th World Congress of Soil Science, Jeju, South Korea, June 8-13, 2014.*

Hao, X.J., Zhang, T.Q., Tan, C.S., Welacky, T.W., and Hong, J.P. (2014). "Crop yield response to phosphorus-based application of various forms of swine manure under long-term corn-soybean rotation.", *5th International Symposium on Phosphorus in Soil and Plant, Montpellier, France, August 26-29, 2014.*

Zhang, T.Q., Tan, C.S., and Welacky, T.W. (2014). "Phosphorus draw-down strategy: a fundamental approach for reducing P loss from tile drainage.", NCERA 217 Meeting and ADMs Task Force Meeting, Findlay, OH, USA, April 1-3, 2014. (Presentation)

Welacky, T.W. (2014). Annual Ontario Soybean Variety Trials (Annual Reports of Project J-000895). (Report)

Zhang, T.Q., Tan, C.S., and Welacky, T.W. (2014). "Crop performance and soil phosphorus losses in surface runoff and tile drainage as related to organic manure, chemical fertilizer and drainage water management.", American Society of Agricultural and Biological Engineers Annual International Meeting 2014, Montreal, Canada, July 13-16, 2014, Paper #1894486, pp. 1029-1038.

## 2013

Zhang, T.Q., Tan, C.S., and Welacky, T.W. (2013). "Agronomic and water quality evaluation of the phosphorus draw-down approach in tile drained soils.", SERA-17 Annual Meeting, Tampa, Florida, USA, November 6-8, 2013, Invited speech.

Zhang, T.Q., Tan, C.S., Welacky, T.W., and Zheng, Z.M. (2013). "Soil phosphorus losses in surface runoff and tile drainage as related to P-based addition of various forms of cattle manure and chemical fertilizer. Future Agriculture with Minimized Phosphorus Losses to Waters.", 7th International Phosphorus Workshop (IPW7), Uppsala, Sweden, September 9-13, 2013, pp. 160.

Zhang, T.Q., Tan, C.S., Welacky, T.W., Reynolds, C.K., and Drury, C.F. (2013). Phosphorus cycling in agro-eco-systems and development for risk assessment tools and BMPs to improve water quality while maximizing crop productivity. AAFC, NOI-292 Project final report. (Report)

Zhang, T.Q., Tan, C.S., Welacky, T.W., and Reynolds, C.K. (2013). Managing Phosphorus and Water in Soils Amended with Long-term Continuous Additions of Animal Manures and Inorganic Fertilizer to Increase Crop Use Efficiency and Reduce Adverse Impacts on Water Quality in the Great Lakes Region. AAFC, Project 2588 annual report. (Report)

Zhang, T.Q., Tan, C.S., and Welacky, T.W. (2013). "Agronomic and environmental evaluation of soil phosphorus with continuous draw-down.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013. (Poster)

Herath, A., Zhang, T.Q., Tan, C.S., Hamel, C., Welacky, T.W., Parkin, G.W., Goss, M.J., and O'Halloran, I.P. (2013). "Effects of liquid, solid and compost swine manure on soil phosphorus fractions in a clay loam soil under corn-soybean rotation.", CSSS Annual Meeting, AB, Canada.

Hao, X.J., Zhang, T.Q., Tan, C.S., Welacky, T.W., and Hong, J.P. (2013). "Cumulative contributions of various forms of swine manure to soil test phosphorus in a clay loam soil under long-term corn-soybean.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013. (Poster)

Tan, C.S., Zhang, T.Q., and Welacky, T.W. (2013). "Effectiveness of Organic and Inorganic Fertilizers on Water Quality and Crop Production under Free Drainage and Water Table Control Systems.", International Interdisciplinary Conference on Land and Water Quality, The Hague, The Netherlands, June 9-13, 2013.

Tan, C.S., Zhang, T.Q., and Welacky, T.W. (2013). "Water discharge and nitrogen loss in response to phosphorus draw down in high P soils.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013. (Poster)

Zhang, T.Q., Hao, X.J., Tan, C.S., Welacky, T.W., and Hong, J.P. (2013). "Cumulative contributions of various forms of swine manure to soil test phosphorus in a clay loam soil under long-term corn-soybean rotation. Future Agriculture with Minimized Phosphorus Losses to Waters.", 7th International Phosphorus Workshop (IPW7), Uppsala, Sweden, September 9-13, 2013, pp. 161.

## 2012

Welacky, T.W. and Navabi, A. (2012). "Impact of Soybean Cyst Nematodes on Pulse Crops in Canada.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Poster)

Tan, C.S., Zhang, T.Q., Welacky, T.W., and Drury, C.F. (2012). "Integration of Organic Amendments with Water Table Management Recycling System on Water Quality and Crop Production.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012, #166-11. (Abstract)

Zhang, T.Q., Tan, C.S., and Welacky, T.W. (2012). "Phosphorus Loss in the Tile Drains from Agricultural Lands, in Comparisons with Surface Runoff.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012, #166-9. (Abstract)

Zhang, T.Q., Tan, C.S., Welacky, T.W., Reynolds, W.D., Drury, C.F., Yang, J.Y., O'Halloran, I.P., Hua, Y.F., Prasher, S.O., and Lin, Z. (2012). Managing phosphorus and water in soils long-term continuously added with animal manures and inorganic fertilizer to increase crop use efficiency and to reduce adverse impacts on water quality in Great Lakes region. Report to AAFC. (Report)



2011

Tan, C.S., Zhang, T.Q., and Welacky, T.W. (2011). "Comparison of organic fertilizer with solid and liquid manures vs. inorganic fertilizer on water quality and crop production under free drainage and water table control systems.", 2011 ASABE Annual International Meeting, Louisville, KY, USA, August 7-11, 2011, Vol. 6, pp. 5005-5019.

Tan, C.S., Zhang, T.Q., and Welacky, T.W. (2011). "Mitigation of drought stress through integration of organic amendments with controlled drainage-sub-irrigation water recycling system to improve soybean productivity and water quality.", Climate Change and the Implications for Plant Science: Symposium and Workshop, University of Guelph, Guelph, ON, Canada, June 7-9, 2011.

Zhang, T.Q., Tan, C.S., Drury, C.F., MacLeod, J.A., Grimmett, M.G., Welacky, T.W., and Reynolds, W.D. (2011). Phosphorus cycling in agro-eco-systems and development for risk assessment tools and BMPs to improve water quality while maximizing crop productivity. Final Report, Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC). (Report)

Drury, C.F., Reynolds, W.D., Yang, X.M., Welacky, T.W., McLaughlin, N.B., Calder, W., and Grant, C.A. (2011). "Tillage and N source effects on nitrous oxide emissions from soils.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

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## Research Publications:

2016

Senthilkumar, T., Jayas, D.S., White, N.D.G., Fields, P.G., and Gräfenhan, T. (2016). "Detection of fungal infection and Ochratoxin A contamination in stored wheat using near-infrared hyperspectral imaging.", *Journal of Stored Products Research*, 65, pp. 30-39. doi : 10.1016/j.jspr.2015.11.004

Karuppiyah, K., Senthilkumar, T., Jayas, D.S., and White, N.D.G. (2016). "Detection of fungal infection in five different pulses using near-infrared hyperspectral imaging.", *Journal of Stored Products Research*, 65, pp. 13-18. doi : 10.1016/j.jspr.2015.11.005

2015

Jian, F., Chelladurai, V., Jayas, D.S., and White, N.D.G. (2015). "Three-dimensional transient heat, mass, and momentum transfer model to predict conditions of canola stored inside silo bags under Canadian Prairie conditions: Part I. Soil temperature model.", *Transactions of the ASABE*, 58(4), pp. 1127-1134. doi : 10.13031/trans.58.11052

Jian, F., Chelladurai, V., Jayas, D.S., and White, N.D.G. (2015). "Three-dimensional transient heat, mass, and momentum transfer model to predict conditions of canola stored inside silo bags under Canadian Prairie conditions: Part II. Model of canola bulk temperature and moisture content.", *Transactions of the ASABE*, 58(4), pp. 1135-1144. doi : 10.13031/trans.58.11053

Senthilkumar, T., Jayas, D.S., and White, N.D.G. (2015). "Detection of different stages of fungal infection in stored canola using near-infrared hyperspectral imaging.", *Journal of Stored Products Research*, 63, pp. 80-88. doi : 10.1016/j.jspr.2015.07.005

Jian, F., Jayas, D.S., White, N.D.G., Fields, P.G., and Howe, N. (2015). "An evaluation of insect expulsion from wheat samples by microwave treatment for disinfestation.", *Biosystems Engineering*, 130, pp. 1-12. doi : 10.1016/j.biosystemseng.2014.11.014

Maresh, S., Jayas, D.S., Paliwal, J., and White, N.D.G. (2015). "Hyperspectral imaging to classify and monitor quality of agricultural materials.", *Journal of Stored Products Research*, 61, pp. 17-26. doi : 10.1016/j.jspr.2015.01.006

Ravikanth, L., Singh, C.B., Jayas, D.S., and White, N.D.G. (2015). "Classification of contaminants from wheat using near-infrared hyperspectral imaging.", *Biosystems Engineering*, 135, pp. 73-86. doi : 10.1016/j.biosystemseng.2015.04.007

Jian, F., Jayas, D.S., Fields, P.G., and White, N.D.G. (2015). "A new method to rapidly detect rusty grain beetle, *Cryptolestes ferrugineus* (Stephens), in stored grain.", *Journal of Stored Products Research*, 63, pp. 1-5. doi : 10.1016/j.jspr.2015.05.004

2014

Jian, F., Jayas, D.S., and White, N.D.G. (2014). "Heat production of stored canola seeds under airtight and non-airtight conditions.", *Transactions of the ASABE*, 57(4), pp. 1151-1162. doi : 10.13031/trans.57.10387

Jian, F., Chelladurai, V., Jayas, D.S., Demianyk, C.J., and White, N.D.G. (2014). "Interstitial concentrations of carbon dioxide and oxygen in stored canola, soybean, and wheat seeds under various conditions.", *Journal of Stored Products Research*, 57, pp. 63-72. doi : 10.1016/j.jspr.2013.12.002

Jian, F., Jayas, D.S., and White, N.D.G. (2014). "How many kilograms of grain per sample unit is big enough? Part II -- Simulation of sampling from grain mass with different insect densities and distribution patterns.", *Journal of Stored Products Research*, 56, pp. 67-80. doi : 10.1016/j.jspr.2013.05.006

Jian, F., Jayas, D.S., and White, N.D.G. (2014). "How many kilograms of grain per sample unit? Part I -- Comparison of insect detection and density estimation between manual probe sampling and Insector@system.", *Journal of Stored Products Research*, 56, pp. 60-66. doi : 10.1016/j.jspr.2013.05.007

Maresh, S., Jayas, D.S., Paliwal, J., and White, N.D.G. (2014). "Comparison of Partial Least Squares Regression (PLSR) and Principal Components Regression (PCR) Methods for Protein and Hardness Predictions using the Near-Infrared (NIR) Hyperspectral Images of Bulk Samples of Canadian Wheat.", *Food and Bioprocess Technology*, 8(1), pp. 31-40. doi : 10.1007/s11947-014-1381-z

- Jian, F., Jayas, D.S., White, N.D.G., and Fields, P.G. (2014). "Carbon dioxide sorption by stored canola under different storage conditions.", *Journal of Stored Products Research*, 59, pp. 101-107. doi: 10.1016/j.jspr.2014.05.009
- Jian, F., Sun, K., Chelladurai, V., Jayas, D.S., and White, N.D.G. (2014). "Quality changes in high and low oil content canola during storage: Part II - Mathematical models to predict germination.", *Journal of Stored Products Research*, 59, pp. 328-337. doi: 10.1016/j.jspr.2014.05.007
- Sun, K., Jian, F., Jayas, D.S., and White, N.D.G. (2014). "Quality changes in high and low oil content canola during storage: Part I - Safe storage time under constant temperatures.", *Journal of Stored Products Research*, 59, pp. 320-327. doi: 10.1016/j.jspr.2014.05.008
- Arlene-Christina, G.D., Jayas, D.S., Fields, P.G., Jian, F., White, N.D.G., and Alagusundaram, K. (2014). "Movement of *Cryptolestes ferrugineus* out of wheat kernels and their mortalities under elevated temperatures.", *Journal of Stored Products Research*, 59, pp. 292-298. doi: 10.1016/j.jspr.2014.09.003
- Maresh, S., Jayas, D.S., Paliwal, J., and White, N.D.G. (2014). "Comparing two statistical discriminant models with a back-propagation neural network model for pairwise classification of location and crop year specific wheat classes at three selected moisture contents using NIR hyperspectral images.", *Transactions of the ASABE*, 57(1), pp. 63-74. doi: 10.13031/trans.57.10125

## 2013

- Purohit, P., Jayas, D.S., Yadav, B.K., Chelladurai, V., Fields, P.G., and White, N.D.G. (2013). "Microwave to control *Callosobruchus maculatus* in stored mung bean (*Vigna radiata*).", *Journal of Stored Products Research*, 53, pp. 19-22. doi: 10.1016/j.jspr.2013.01.002
- Emadi, T.A., Shafai, C., Thomson, D.J., Freund, M.S., White, N.D.G., and Jayas, D.S. (2013). "Polymer-based chemi-capacitor sensor for 1-octanol and relative humidity detections at different temperatures and frequencies.", *IEEE Sensors Journal*, 13(2), pp. 519-527. doi: 10.1109/jsen.2012.2220760
- Kaliramesh, S., Chelladurai, V., Jayas, D.S., Alagusundaram, K., White, N.D.G., and Fields, P.G. (2013). "Detection of infestation by *Callosobruchus maculatus* in mung bean using near-infrared hyperspectral imaging.", *Journal of Stored Products Research*, 52, pp. 107-111. doi: 10.1016/j.jspr.2012.12.005
- Jian, F., Jayas, D.S., and White, N.D.G. (2013). "Can ozone be a new control strategy for pests of stored grain?", *Agricultural Research*, 2(1), pp. 1-8. doi: 10.1007/s40003-012-0046-2
- Rani, P.R., Chelladurai, V., Jayas, D.S., White, N.D.G., and Kavitha-Abirami, C.V. (2013). "Storage studies on pinto beans under different moisture contents and temperature regimes.", *Journal of Stored Products Research*, 52, pp. 78-85. doi: 10.1016/j.jspr.2012.11.003
- Jian, F., Jayas, D.S., and White, N.D.G. (2013). "Specific thermal diffusivity and bulk density of genetically modified canola with high oil content at different moisture contents, temperatures, and storage times.", *Transactions of the American Society of Agricultural Engineers (ASAE)*, 56, pp. 1077-1083.
- Jian, F., Subramanyam, B.H., Jayas, D.S., and White, N.D.G. (2013). "Models to predict mortality of *Tribolium castaneum* (Coleoptera: Tenebrionidae) exposed to elevated temperatures during structural heat treatments.", *Journal of Economic Entomology*, 106(5), pp. 2247-2258. doi: 10.1603/EC12278
- Sun, K., Qian, Y.W., Spicer, V., White, N.D.G., and Jayas, D.S. (2013). "Feasibility of protein fingerprinting technology for detecting *Tribolium castaneum* (Herbst) insect fragments in flour.", *Journal of Stored Products Research*, 55, pp. 36-40. doi: 10.1016/j.jspr.2013.07.005
- Wu, J., Jayas, D.S., Zhang, Q., White, N.D.G., and York, R.K. (2013). "Feasibility of the application of electronic nose technology to detect insect infestation in wheat.", *Canadian Biosystems Engineering*, 55, pp. 3.1-3.9. doi: 10.7451/CBE.2013.55.3.1
- Sravanthi, B., Jayas, D.S., Alagusundaram, K., Chelladurai, V., and White, N.D.G. (2013). "Effect of storage conditions on red lentils.", *Journal of Stored Products Research*, 53, pp. 48-53. doi: 10.1016/j.jspr.2013.01.004

## 2012

- Hossain, Md.E., Rahman, G.M.A., Freund, M.S., Jayas, D.S., White, N.D.G., Shafai, C., and Thomson, D.J. (2012). "Fabrication and Optimization of a Conducting Polymer Sensor Array Using Stored Grain Model Volatiles.", *Journal of Agricultural and Food Chemistry*, 60(11), pp. 2863-2873. doi: 10.1021/jf204631q
- Jian, F., Jayas, D.S., and White, N.D.G. (2012). "Thermal conductivity, bulk density, and germination of a canola variety with high oil content under different temperatures, moisture contents, and storage periods.", *Transactions of the ASABE*, 55(5), pp. 1837-1843.
- Jian, F., Larson, R., Jayas, D.S., and White, N.D.G. (2012). "Three dimensional temporal and spatial distribution of adult *Oryzaephilus surinamensis* and *Sitophilus oryzae* in stored wheat under different temperatures, moisture contents, and adult densities.", *Journal of Stored Products Research*, 49(3), pp. 155-165. doi: 10.1016/j.jspr.2012.01.001

2011

Jian, F., Larson, R., Jayas, D.S., and White, N.D.G. (2011). "Three-dimensional spatial distribution of adults of *Cryptolestes ferrugineus* (Coleoptera: Laemophloeidae) in stored wheat under different temperatures, moisture contents, and adult densities.", *Journal of Stored Products Research*, 47(4), pp. 293-305. doi : 10.1016/j.jspr.2011.04.002

Nithya, U., Chelladurai, V., Jayas, D.S., and White, N.D.G. (2011). "Safe storage guidelines for durum wheat.", *Journal of Stored Products Research*, 47(4), pp. 328-333. doi : 10.1016/j.jspr.2011.05.005

Jian, F., Larson, R., Jayas, D.S., and White, N.D.G. (2011). "Evaluation of sampling units and sampling plans for adults of *Cryptolestes ferrugineus* (Coleoptera: Laemophloeidae) in stored wheat under different temperatures, moisture contents, and adult densities.", *Journal of Stored Products Research*, 47(4), pp. 334-340. doi : 10.1016/j.jspr.2011.05.006

Ramalingam, G., Neethirajan, S., Jayas, D.S., and White, N.D.G. (2011). "Characterization of the influence of moisture content on the morphological features of single wheat kernels using machine vision.", *Applied Engineering in Agriculture*, 27(3), pp. 403-409.

Singh, C.B., Jayas, D.S., Borondics, F., and White, N.D.G. (2011). "Synchrotron based infrared imaging study of compositional changes in stored wheat due to infection with *Aspergillus glaucus*.", *Journal of Stored Products Research*, 47(4), pp. 372-377. doi : 10.1016/j.jspr.2011.07.001

Zhang, W., Singh, C.B., Jayas, D.S., and White, N.D.G. (2011). "Influence of growing location on features extracted from color images of wheat and detection of foreign material represented by barley.", *Biosystems Engineering*, 110(3), pp. 348-350. doi : 10.1016/j.biosystemseng.2011.08.004

Senthilkumar, T., Jayas, D.S., White, N.D.G., Freund, M.S., and Shafai, C. (2011). "Characterization of volatile organic compounds released by granivorous insects in stored wheat.", *Journal of Stored Products Research*, 48(3), pp. 91-96. doi : 10.1016/j.jspr.2011.09.006

Loganathan, M., Jayas, D.S., Fields, P.G., and White, N.D.G. (2011). "Low and high temperatures for the control of cowpea beetle, *Callosobruchus maculatus* (F.) (Coleoptera: Bruchidae) in chickpeas.", *Journal of Stored Products Research*, 47(3), pp. 244-248. doi : 10.1016/j.jspr.2011.03.005

Bhuvaneshwari, K., Fields, P.G., White, N.D.G., Sarkar, A.K., Singh, C.B., and Jayas, D.S. (2011). "Image analysis for detecting insect fragments in semolina.", *Journal of Stored Products Research*, 47(1), pp. 20-24. doi : 10.1016/j.jspr.2010.08.003

Vadivambal, R., Chelladurai, V., Jayas, D.S., and White, N.D.G. (2011). "Determination of sprout-damaged barley using thermal imaging.", *Agricultural Engineering International: CIGR Journal*, 13(2).

White, N.D.G., Fields, P.G., Demianyk, C.J., Timlick, B., and Jayas, D.S. (2011). "Arthropods of Stored Cereals, Oilseeds, and Their Products in Canada: Artificial Ecosystems on Grasslands.", in Floate, K.D. (ed.) - *Arthropods of Canadian Grasslands. Vol. 2: Inhabitants of a Changing Landscape*, Biological Survey of Canada (BSC), Chapter 11, pp. 267-289.

Lukow, O.M., Suchy, J., Adams, K., Brown, P.D., DePauw, R.M., Fox, S.L., Humphreys, D.G., McCaig, T.N., and White, N.D.G. (2011). "Effect of Wheat Maturity and Post-Harvest Temperature Treatments on the Quality of Grain and End-Products.", *Journal of Agro Crop Science*, 2(2), pp. 15-22.

Mahesh, S., Jayas, D.S., Paliwal, J., and White, N.D.G. (2011). "Identification of wheat classes at different moisture levels using near-infrared hyperspectral images of bulk samples.", *Sensing and Instrumentation for Food Quality and Safety*, 5(1), pp. 1-9. doi : 10.1007/s11694-010-9104-2

## Other Science Related Publications:

2011

Emadi, T.A., Shafai, C., Thomson, D.J., Freund, M.S., White, N.D.G., and Jayas, D.S. (2011). "Polymer-based micromachined chemi-capacitor gas sensor on a temperature controlled platform.", 10th IEEE Sensors Conference, Limerick, Ireland, October 28 - 31, 2011, Article number 6127017, pp. 1024-1027.

Mahesh, S., Jayas, D.S., Paliwal, J., and White, N.D.G. (2011). "Neural network prediction of wheat classes and moisture contents using near-infrared (NIR) hyperspectral images of bulk samples from different growing locations and crop years.", 2011 ASABE Annual International Meeting, Louisville, KY, USA, August 7-11, 2011, Vol. 6, pp. 4609-4626.

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## Research Publications:

2015

Bhagwat, B., Dickson, V.L., Su, L., Bernardy, M.G., Wiersma, P.A., Nie, X., and Xiang, Y. (2015). "Molecular Characterization of Divergent Strawberry Mild Yellow Edge Virus Isolates from Eastern Canada.", *Journal of Phytopathology*. doi : 10.1111/jph.12444

Su, L., Li, Z.N., Bernard, M., Bernardy, M.G., Wiersma, P.A., Cheng, Z.H., and Xiang, Y. (2015). "The complete nucleotide sequence and genome organization of pea streak virus (genus Carlavirus).", *Archives of Virology*, 160(7). doi : 10.1007/s00705-015-2467-2

2014

Xiang, Y., Bernardy, M.G., Bhagwat, B., Wiersma, P.A., DeYoung, R.M., and Bouthillier, M.J. (2014). "The complete genome sequence of a new polerovirus in strawberry plants from eastern Canada showing strawberry decline symptoms.", *Archives of Virology*, 160(2), pp. 553-556. doi : 10.1007/s00705-014-2267-0

Chi, M., Bhagwat, B., Lane, W.D., Tang, G., Su, Y., Sun, R., Oomah, B.D., Wiersma, P.A., and Xiang, Y. (2014). "Reduced polyphenol oxidase gene expression and enzymatic browning in potato (*Solanum tuberosum* L.) with artificial microRNAs", *BMC Plant Biology*, 14(1: Article number 62), pp. 1-18. doi : 10.1186/1471-2229-14-62

## Other Science Related Publications:

2015

Xiang, Y., Bernardy, M.G., Bhagwat, B., Su, L., Li, Z.N., Wiersma, P.A., You, F.M., and Sinotte, P. (2015). "Detection and characterization of viruses associated with sweet cherry mottle leaf diseases.", *Canadian Phytopathological Society (CPS) Meeting 2015, Edmonton, AB, Canada, July 25-29, 2015. (Poster)*

2012

Toivonen, P.M.A., Mostofi, Y., Hampson, C.R., and Wiersma, P.A. (2012). "Evaluating the synchronicity of flesh and peel ripening in standard and new cultivars of apples.", *Annual Conference of the American Society for Horticultural Science, Miami, Florida, USA, July 31-August 3, 2012. (Poster)*

Su, L., Bhagwat, B., Bernardy, M.G., Wiersma, P.A., Cheng, Z.H., and Xiang, Y. (2012). "Molecular identification of three new strains of Cherry mottle leaf virus from infected sweet cherry trees.", *Canadian Phytopathological Society (CPS) British Columbia Regional 2012 Meeting, Vancouver, BC, Canada, October 25-26, 2012, published in Can. J. Plant Pathol. 35(1), pp. 95 (Abstract). (Presentation)*

Toivonen, P.M.A., Mostofi, Y., Hampson, C.R., and Wiersma, P.A. (2012). "Exciting New Technologies for Today.", *Okanagan Fieldmens Association Horticultural Forum, Kelowna, BC, Canada, March 1, 2012.*

Toivonen, P.M.A., Mostofi, Y., Hampson, C.R., and Wiersma, P.A. (2012). "Storage Research With New Cultivars.", *10th Ontario Fruit and Vegetable Convention (OFVC 2012), Niagara Falls, ON, Canada, February 22-23, 2012.*

Toivonen, P.M.A., Mostofi, Y., Wiersma, P.A., and Hampson, C.R. (2012). *Evaluation of Non-Destructive Instruments for Assessing Apple Maturity and Quality: 2011 Results.*, Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC). (Report)

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## Research Publications:

2015

Wilson, H.F., Raymond, P.A., Saiers, J.E., Sobczak, W.V., and Xu, N. (2015). "Increases in humic and bioavailable dissolved organic matter in a forested New England headwater stream with increasing discharge.", *Marine & Freshwater Research*.

Butman, D.E., Wilson, H.F., Barnes, R.T., Xenopoulos, M.A., and Raymond, P.A. (2015). "Increased mobilization of aged carbon to rivers by human disturbance.", *Nature Geoscience*, 8(2), pp. 112-116. doi : 10.1038/ngeo2322

2013

Xu, N., Wilson, H.F., Saiers, J.E., and Entz, M.H. (2013). "Effects of Crop Rotation and Management System on Water Extractable Organic Matter Concentration, Structure, and Bioavailability in a Chernozemic Agricultural Soil.", *Journal of Environmental Quality*, 42(1), pp. 179-190. doi : 10.2135/jeq2012.0126

Wilson, H.F., Saiers, J.E., Raymond, P.A., and Sobczak, W.V. (2013). "Hydrologic Drivers and Seasonality of Dissolved Organic Carbon Concentration, Nitrogen Content, Bioavailability, and Export in a Forested New England Stream.", *Ecosystems*. doi : 10.1007/s10021-013-9635-6

2012

Williams, C.J., Scott, A.B., Wilson, H.F., and Xenopoulos, M.A. (2012). "Effects of land use on water column bacterial activity and enzyme stoichiometry in stream ecosystems.", *Aquatic Sciences - Research Across Boundaries*, 74(3), pp. 483-494. doi : 10.1007/s00027-011-0242-3

Wilson, H.F. and Xenopoulos, M.A. (2012). "Diurnal changes of dissolved organic matter in streams of varying watershed land use.", *River Research and Applications*, 29(10), pp. 1330-1339. doi : 10.1002/rra.2606

Xu, N., Saiers, J.E., Wilson, H.F., and Raymond, P.A. (2012). "Simulating streamflow and dissolved organic matter export from a forested watershed.", *Water Resources Research*, 48(5), pp. W05519. doi : 10.1029/2011WR011423

Baulch, H.M., Dillon, P.J., Maranger, R., Venkiteswaran, J.J., Wilson, H.F., and Schiff, S.L. (2012). "Night and day: short-term variation in nitrogen chemistry and nitrous oxide emissions from streams.", *Freshwater Biology*, 57(3), pp. 509-525. doi : 10.1111/j.1365-2427.2011.02720.x

2011

Wilson, H.F. and Xenopoulos, M.A. (2011). "Nutrient recycling by fish in streams along a gradient of agricultural land use.", *Global Change Biology*, 17(1), pp. 130-139. doi : 10.1111/j.1365-2486.2010.02284.x

## Other Science Related Publications:

2015

Moulin, A.P., Wilson, H.F., and Geng, X. (2015). "Statistical variability of soil test NO<sub>3</sub>-N and the management zone concept.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

Roy, A., Glenn, A.J., Moulin, A.P., and Wilson, H.F. (2015). "Soil nitrous oxide emissions from cropland in southern Manitoba.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015, Presentation.

Glenn, A.J. and Wilson, H.F. (2015). "Net biome productivity of cropland in southern Manitoba. Presentation.", 2015 Canadian Land Reclamation Association/Manitoba Soil Science Society Joint Meeting, Winnipeg, Manitoba, Canada, June 15-18, 2015.

Roy, A., Glenn, A.J., Moulin, A.P., and Wilson, H.F. (2015). "Soil nitrous oxide emissions from cropland with different management.", 2015 Canadian Land Reclamation Association/Manitoba Soil Science Society Joint Meeting, Winnipeg, Manitoba, Canada, June 15-18, 2015.

Cordeiro, M.R.C., Wilson, H.F., Glenn, A.J., and Vanrobaeys, J. (2015). "Producing synthetic hourly precipitation series from daily precipitation using hourly relative humidity.", Canadian Water Resources Association 68th National Conference, Winnipeg, Manitoba, Canada, June 2-4, 2015, Presentation.

Glenn, A.J., Roy, A., Moulin, A.P., and Wilson, H.F. (2015). "Nitrous Oxide Emissions from Cropland Soils with Different Management Regimes in Manitoba, Canada.", American Geophysical Union Annual Meeting, Montreal, QC, Canada, May 3-7, 2015. (Poster)

Vanrobaeys, J., Yu, Z., Cordeiro, M.R.C., Michiels, P., Hamalainen, S., and Wilson, H.F. (2015). "Tools for targeting water retention projects in the Red River Basin of Manitoba.", Canadian Water Resources Association 68th National Conference, Winnipeg, Manitoba, Canada, June 2-4, 2015.

Martel, M., Kröbel, R., Hrapovic, L., Janzen, H.H., McConkey, B.G., Glenn, A.J., and Wilson, H.F. (2015). "A Canadian water budget model for water footprint assessment of crop production.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015. (Poster)

## 2014

Khakbazan, M., Vanrobaeys, J., Brault, L., Huang, J., Wilson, H.F., and Elliott, J.A. (2014). "Economics of crop and land management practices and water quality impacts for four watersheds located in Manitoba Canada.", 2014 Soils and Water Conservative Society Annual Meeting, Lombard, IL, USA, July 27-30, 2014, [http://www.swcs.org/documents/filelibrary/14ac/Abstract\\_Book\\_FINAL\\_FB7B07FB89022.pdf](http://www.swcs.org/documents/filelibrary/14ac/Abstract_Book_FINAL_FB7B07FB89022.pdf), pp. 52.

Wilson, H.F. and Glenn, A.J. (2014). "Carbon, nitrogen, and phosphorus chemistry and export in agricultural watershed of the aspen parkland ecoregion as influenced by land use and landform.", Joint Aquatic Sciences Meeting, Portland, Oregon, USA, May 18-23, 2014.

Ali, G.S., Chiasson, M., Haque, A., Badiou, P.H., and Wilson, H.F. (2014). "Wetland-to-stream connectivity patterns across an alteration gradient in the prairie pothole region.", Joint Aquatic Sciences Meeting, Portland, Oregon, USA, May 18-23, 2014.

Xenopoulos, M.A., Vogt, R.J., Williams, C.J., and Wilson, H.F. (2014). "Synchronous dissolved organic matter dynamics in streams across an agriculture land use gradient and climate setting.", Joint Aquatic Sciences Meeting, Portland, Oregon, USA, May 18-23, 2014.

Glenn, A.J. and Wilson, H.F. (2014). "Direct and indirect measurements of evapotranspiration from cropland in western Manitoba, Canada.", 31st Conference on Agricultural and Forest Meteorology/2nd Conference on Atmospheric Biogeosciences, Portland, OR, USA, May 12-15, 2014.

## 2013

Glenn, A.J. and Wilson, H.F. (2013). "Carbon balance of an organic cropland in southwestern Manitoba.", Joint meeting of the Canadian Society of Soil Science, Manitoba Soil Science Society, and Canadian Society of Agricultural and Forest Meteorology, Winnipeg, Manitoba, Canada, July 22-25, 2013.

## 2012

Glenn, A.J. and Wilson, H.F. (2012). "Water, carbon, and nitrogen balance components of a no-till crop rotation in southwestern Manitoba.", Manitoba Zero-Tillage Research Association Annual General Meeting 2012, Brandon, MB, Canada, March 20, 2012. (Presentation)

## 2011

Wilson, H.F., Xenopoulos, M.A., Xu, N., Butman, D.E., Raymond, P.A., and Saiers, J.E. (2011). "Altered dissolved organic matter composition in rivers with agricultural land use. Rob Peters Award Talk", 64th Canadian Conference For Fisheries Research (CCFFR) / Conférence Canadienne de la Recherche sur les Pêches (CCRP), Toronto, ON, Canada, January 6-8, 2011.

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## **Research Publications:**

2012

Connell, R.J., Schou, W.C., Nuyttens, D., Wolf, T.M., and Praat, J-P. (2012). "Comparison of the mechanistic AGDISP ground boom spray model with experimental data.", *New Zealand Plant Protection*, 65, pp. 93-99.

## **Other Science Related Publications:**

2012

Bowness, R.T., Gossen, B.D., Conner, R.L., Wolf, T.M., Chang, K.F., Willenborg, C.J., and Strelkov, S.E. (2012). "Effect of nozzle type and orientation on fungicide efficacy against mycosphaerella blight in field pea.", *Canadian Journal of Plant Pathology*, 34, pp. 326-327. (Abstract)

2011

Bowness, R.T., Gossen, B.D., Conner, R.L., Wolf, T.M., Chang, K.F., Willenborg, C.J., and Strelkov, S.E. (2011). "Effect of nozzle type and orientation on fungicide efficacy against mycosphaerella blight in field pea.", *Canadian Phytopathological Society (CPS) 82nd Annual Meeting (with Plant Canada 2011)*, Halifax, NS, Canada, July 17-21, 2011, Published in: *Can. J. Plant Pathol.* (2012), 34 (2), pp. 326-327.

Wolf, T.M., Caldwell, B.C., and Hewitt, A. (2011). "Movement of pesticide on dust - quantification and implication for buffer zone calculations.", *Canadian Weed Science Society 65th Annual Meeting, Marriott Gateway on the Falls, Niagara Falls, ON, Canada*, November 21-24, 2011, pp. 47-48. (Abstract)



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## Research Publications:

2015

Yu, K., Woodrow, L., and Poysa, V. (2015). "AAC 26-15 soybean.", *Canadian Journal of Plant Science*, 95(2), pp. 441-443. doi : 10.4141/CJPS-2014-337

2014

Khanal, R., Burt, A.J., Woodrow, L., Balasubramanian, P.M., and Navabi, A. (2014). "Genotypic association of parameters commonly used to predict canning quality of dry bean.", *Crop Science*, 54(6), pp. 2564-2573. doi : 10.2135/cropsci2014.02.0113

Yu, K., Woodrow, L., and Poysa, V. (2014). "AAC Stern soybean.", *Canadian Journal of Plant Science*, 94(2), pp. 457-459. doi : 10.4141/CJPS2013-306

2013

Poysa, V., Woodrow, L., and Yu, K. (2013). "AAC Malden soybean.", *Canadian Journal of Plant Science*, 93, pp. 1277-1279. doi : 10.4141/CJPS2013-159

2012

Jegadeesan, S., Yu, K., Woodrow, L., Wang, Y., Shi, C., and Poysa, V. (2012). "Molecular analysis of glycinin genes in soybean mutants for development of gene-specific markers.", *Theoretical and Applied Genetics (TAG)*, 124(2), pp. 365-372. doi : 10.1007/s00122-011-1711-8

2011

Malaki Nik, A., Alexander, M., Poysa, V., Woodrow, L., and Corredig, M. (2011). "Effect of Soy Protein Subunit Composition on the Rheological Properties of Soymilk during Acidification.", *Food Biophysics*, 6(1), pp. 26-36. doi : 10.1007/s11483-010-9172-1

## Other Science Related Publications:

2012

Woodrow, L. (2012). "Canadian Food-Grade Soybean Database. 2010, 2011, 2012 crops.", published by Canadian International Grains Institute and Canadian Soybean Council.

Navabi, A., Pauls, K.P., Yu, K., Tsao, R., Woodrow, L., and Poysa, V. (2012). "A Multi-Disciplinary Approach Towards Developing Bean Varieties for Sustainable Dry Bean Production in Ontario.", *Pulse Science Cluster Scientific Meeting 2011*, Radisson Hotel I, Saskatoon, SK, Canada, November 17-18, 2011.

Navabi, A., Rupert, T., Woodrow, L., and Poysa, V. (2012). "Performance of mung bean (*Vigna radiata*) introduction lines in South-Western Ontario.", *9th Canadian Pulse Research Workshop*, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Poster)

Navabi, A., Pauls, K.P., Yu, K., Tsao, R., Woodrow, L., and Poysa, V. (2012). "A Multi-Disciplinary Approach Towards Developing Bean Varieties for Sustainable Dry Bean Production in Ontario. Research Update.", *Pulse Science Cluster Scientific Meeting 2012*, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 5-6, 2012.

Woodrow, L. (2012). "Quality research for Canadian food-grade soybeans.", *Canadian Soybean Council Japan-Canada Incoming Program*, Guelph ON, Canada, September 19, 2012. (Presentation)

2011

Woodrow, L. (2011). "Food Grade Soybeans – a Dynamic and Evolving Market.", *Canadian Soybean Dispatch*, pp. 20-23.

Woodrow, L. (2011). "Development and implementation of testing procedures for food-grade soybeans.", Canadian Soybean Export Association (CSEA) Annual Meeting, Guelph ON, Canada, January 13, 2011. (Presentation)

Woodrow, L. (2011). "AAFC-CSEA Exporter Day.", Open house and demonstrations on soybean, soymilk and tofu analysis for CSEA members, Harrow AAFC Greenhouse and Processing Crops Research Centre, Harrow, ON, Canada, June 10, 2011. (Presentation)

Jegadeesan, S., Yu, K., Woodrow, L., Wang, Y., Shi, C., and Poysa, V. (2011). "Gene specific molecular Markers for 11 S glycinin storage proteins of soybean.", 8th Canadian Plant Genomics Workshop, Niagara Falls, ON, Canada, August 22 -25, 2011.

Woodrow, L. (2011). "Survey of quality and composition parameters of Canadian soybeans.", published by Agriculture and Agri - Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC). (Technology transfer)

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## Research Publications:

2015

Bhagwat, B., Dickson, V.L., Su, L., Bernardy, M.G., Wiersma, P.A., Nie, X., and Xiang, Y. (2015). "Molecular Characterization of Divergent Strawberry Mild Yellow Edge Virus Isolates from Eastern Canada.", *Journal of Phytopathology*. doi : 10.1111/jph.12444

Su, L., Li, Z.N., Bernard, M., Bernardy, M.G., Wiersma, P.A., Cheng, Z.H., and Xiang, Y. (2015). "The complete nucleotide sequence and genome organization of pea streak virus (genus Carlavirus).", *Archives of Virology*, 160(7). doi : 10.1007/s00705-015-2467-2

2014

Li, Z.N., Zhang, L., Tao, Y., Chi, M., Xiang, Y., and Wu, Y.F. (2014). "A new disease of cherry plum tree with yellow leaf symptoms associated with a novel phytoplasma in the aster yellows group.", *Journal of Integrative Agriculture*, 13(8), pp. 1707-1718. doi : 10.1016/S2095-3119(13)60600-0

Chi, M., Bhagwat, B., Lane, W.D., Tang, G., Su, Y., Sun, R., Oomah, B.D., Wiersma, P.A., and Xiang, Y. (2014). "Reduced polyphenol oxidase gene expression and enzymatic browning in potato (*Solanum tuberosum* L.) with artificial microRNAs", *BMC Plant Biology*, 14(1: Article number 62), pp. 1-18. doi : 10.1186/1471-2229-14-62

Xiang, Y., Bernardy, M.G., Bhagwat, B., Wiersma, P.A., DeYoung, R.M., and Bouthillier, M.J. (2014). "The complete genome sequence of a new polerovirus in strawberry plants from eastern Canada showing strawberry decline symptoms.", *Archives of Virology*, 160(2), pp. 553-556. doi : 10.1007/s00705-014-2267-0

2013

Bhagwat, B., Chi, M., Su, L., Tang, H., Tang, G., and Xiang, Y. (2013). "An in vivo Transient Expression System Can Be Applied for Rapid and Effective Selection of Artificial microRNA Constructs for Plant Stable Genetic Transformation.", *Journal of Genetics and Genomics*. doi : 10.1016/j.jgg.2013.03.012

2011

Hao, X., Lu, A., Sokal, N., Bhagwat, B., Leung, E., Mao, R., Reade, R., Wu, Y.F., Rochon, D., and Xiang, Y. (2011). "Cucumber necrosis virus p20 is a viral suppressor of RNA silencing.", *Virus Research*, 155(2), pp. 423-432. doi : 10.1016/j.virusres.2010.11.011

Liu, J.-J. and Xiang, Y. (2011). "In Silico Mining and PCR-Based Approaches to Transcription Factor Discovery in Non-model Plants: Gene Discovery of the WRKY Transcription.", *Methods in Molecular Biology (Clifton, N.J.)*, 754(2), pp. 21-43. doi : 10.1007/978-1-61779-154-3\_2

Cao, Y.-f., Zhu, X.-w., Xiang, Y., Li, D.-Q., Yang, J.-r., Mao, Q.-z., and Chen, J.-s. (2011). "Genomic characterization of a novel dsRNA virus detected in the phytopathogenic fungus *Verticillium dahliae* Kleb.", *Virus Research*, 159(1), pp. 73-78. doi : 10.1016/j.virusres.2011.04.029

## Other Science Related Publications:

2015

Xiang, Y. (2015). "Response from Yu Xiang to "Comment on The complete nucleotide sequence and genome organization of pea streak virus (genus Carlavirus)".", *Archives of Virology*. doi : 10.1007/s00705-015-2596-7

Xiang, Y., Bernardy, M.G., Bhagwat, B., Su, L., Li, Z.N., Wiersma, P.A., You, F.M., and Sinotte, P. (2015). "Detection and characterization of viruses associated with sweet cherry mottle leaf diseases.", *Canadian Phytopathological Society (CPS) Meeting 2015, Edmonton, AB, Canada, July 25-29, 2015. (Poster)*

Xiang, Y., Bernardy, M.G., Bhagwat, B., DeYoung, R.M., Bouthillier, M.J., Su, L., and Sinotte, P. (2015). "Detection and characterization of viruses in strawberry plants showing decline symptoms from eastern Canada", *American Phytopathological Society Annual Meeting, Pasadena Convention Center, Pasadena, CA, USA, August 1-5, 2015.*

Li, Z.N., Bhagwat, B., Bernardy, M.G., Wu, Y.F., and Xiang, Y. (2015). "Molecular characterization of a prune dwarf virus isolate and construction of a PDV infectious cDNA clone.", Canadian Phytopathological Society (CPS) Meeting 2015, Edmonton, AB, Canada, July 25-29, 2015. (Poster)

## 2013

Rott, M., Xiang, Y., Saeed, H., Belton, M., Clarke, E., and Aadum, B.B. (2013). "Characterization of tree fruit and grapevine viruses by next generation sequencing.", American Phytopathological Society (APS) and the Mycological Society of America (MSA) Joint Meeting 2013, Austin, TX, USA, August 10-14, 2013. (Poster)

## 2012

Su, L., Bhagwat, B., Bernardy, M.G., Wiersma, P.A., Cheng, Z.H., and Xiang, Y. (2012). "Molecular identification of three new strains of Cherry mottle leaf virus from infected sweet cherry trees.", Canadian Phytopathological Society (CPS) British Columbia Regional 2012 Meeting, Vancouver, BC, Canada, October 25-26, 2012, published in Can. J. Plant Pathol. 35(1), pp. 95 (Abstract). (Presentation)

Chi, M., Bhagwat, B., Su, L., and Xiang, Y. (2012). "Analysis of expression of polyphenol oxidase gene family in potato (*Solanum tuberosum* L.) by quantitative PCR.", 8th Canadian Plant Biotechnology Conference, University of Guelph, Guelph, ON, Canada, May 14-17, 2012. (Presentation)

Bhagwat, B., Chi, M., Su, L., Tang, H., Tang, G., and Xiang, Y. (2012). "Expressional efficacy of artificial microRNA constructs in transgenic plants can be predicted by an in vivo transient expression system.", 8th Canadian Plant Biotechnology Conference, University of Guelph, Guelph, ON, Canada, May 14-17, 2012. (Poster)

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## Research Publications:

2015

Fetch Jr., T.G., Fetch, J.M., Zegeye, T., and Xue, A.G. (2015). "Races of *Puccinia graminis* on wheat, oat, and barley in Canada in 2009 and 2010.", *Canadian Journal of Plant Pathology*, 37(4), pp. 476-484. doi : 10.1080/07060661.2015.1119735

Chen, D., Hu, X.S., Wang, X., Deschiffart, I., Sperry, H., Xue, A.G., Chen, Y.Y., Langille, L., Dion, Y., McCallum, B.D., Voldeng, H.D., and Khanizadeh, S. (2015). "Agronomic performance and susceptibility of selected spring wheat lines to fusarium head blight and leaf rust in Eastern Canada.", *Journal of Food, Agriculture & Environment (JFAE)*, 13(3&4), pp. 86-89.

Fetch Jr., T.G., Mitchell Fetch, J.W., and Xue, A.G. (2015). "Races of *Puccinia graminis* on barley, oat, and wheat in Canada in 2007 and 2008.", *Canadian Journal of Plant Pathology*, 37(3), pp. 331-341. doi : 10.1080/07060661.2015.1066865

Xue, A.G., Chen, Y., Marchand, G., Guo, W., Ren, C.Z., Savard, M.E., and McElroy, A.R. (2015). "Timing of inoculation and Fusarium species affect the severity of fusarium head blight on oat.", *Canadian Journal of Plant Science*, 95(3), pp. 517-524. doi : 10.4141/CJPS-2014-300

Xue, A.G., Marchand, G., Chen, Y., Zhang, S.Z., Cober, E.R., and Tenuta, A.U. (2015). "Races of *Phytophthora sojae* in Ontario, Canada, 2010-2012.", *Canadian Journal of Plant Pathology*, 37(3), pp. 376-383. doi : 10.1080/07060661.2015.1052562

2014

Choo, T.-M., Martin, R.A., Xue, A.G., MacDonald, D., Scott, P., Rowsell, J., Dion, Y., and Rioux, S. (2014). "AAC Mirabel barley.", *Canadian Journal of Plant Science*, 94, pp. 465-468. doi : 10.4141/CJPS2013-3151

Zhang, J.X. and Xue, A.G. (2014). "Evaluation of soybean cultivars for resistance to *Phomopsis longicolla* and *Sclerotinia sclerotiorum* using excised leaves.", *Canadian Journal of Plant Science*, 94(5), pp. 955-961. doi : 10.4141/CJPS2013-082

Xue, A.G., Chen, Y., Sant'anna, S.M.R., Voldeng, H.D., Fedak, G., Savard, M.E., Längle, T., Zhang, J.X., and Harman, G.E. (2014). "Efficacy of CLO-1 biofungicide in suppressing perithecial production by *Gibberella zeae* on crop residues.", *Canadian Journal of Plant Pathology*, 36(2), pp. 161-169. doi : 10.1080/07060661.2014.881920

Marchand, G., Chen, Y., Berhane, N.A., Wei, L., Lévesque, C.A., and Xue, A.G. (2014). "Identification of *Pythium* spp. From the rhizosphere of soybeans in Ontario, Canada.", *Canadian Journal of Plant Pathology*, 36(2), pp. 246-251. doi : 10.1080/07060661.2014.920921

Xue, A.G., Chen, Y., Voldeng, H.D., Fedak, G., Savard, M.E., Längle, T., Zhang, J.X., and Harman, G.E. (2014). "Concentration and cultivar effects on efficacy of CLO-1 biofungicide in controlling Fusarium head blight of wheat.", *Biological Control*, 73, pp. 2-7. doi : 10.1016/j.biocontrol.2014.02.010

2013

McCallum, B.D., Seto-Goh, P.L., and Xue, A.G. (2013). "Physiologic specialization of *Puccinia triticina*, the causal agent of wheat leaf rust, in Canada in 2009.", *Canadian Journal of Plant Pathology*, 35(3), pp. 338-345. doi : 10.1080/07060661.2013.810669

Zeng, J., Cao, W., Fedak, G., Sun, S., McCallum, B.D., Fetch Jr., T.G., and Xue, A.G. (2013). "Molecular cytological characterization of two novel durum–*Thinopyrum* intermedium partial amphiploids with resistance to leaf rust, stem rust and Fusarium head blight.", *Hereditas*, 150(1), pp. 10-16. doi : 10.1111/j.1601-5223.2012.02262.x

Ma, B.-L., Subedi, K.D., Xue, A.G., and Voldeng, H.D. (2013). "Crop Management Effects on Fusarium Head Blight, Fusarium-Damaged Kernels and Deoxynivalenol Concentration of Spring Wheat.", *Journal of Plant Nutrition*, 36(5), pp. 717-730. doi : 10.1080/01904167.2012.748799

Zhang, J.X., Xue, A.G., Cober, E.R., Morrison, M.J., Zhang, H.J., Zhang, S.Z., and Gregorich, E.G. (2013). "Prevalence, pathogenicity and cultivar resistance of *Fusarium* and *Rhizoctonia* species causing soybean root rot.", *Canadian Journal of Plant Science*, 93(2), pp. 221-236. doi : 10.4141/CJPS2012-223

Zeng, J., Cao, W., Hucl, P.J., Yang, Y., Xue, A.G., Chi, D., and Fedak, G. (2013). "Molecular cytogenetic analysis of wheat-Elymus repens introgression lines with resistance to Fusarium head blight.", *Genome*, 56(1), pp. 75-82. doi : 10.1139/gen-2012-0130

Xue, A.G., Rowsell, J., Ho, K.M., Chen, Y., Chi, D., Manceur, M., Zhang, S.Z., and Ren, C.Z. (2013). "Effect of harvesting time on barley grain contamination with *Fusarium* spp. and deoxynivalenol in barley in northern and eastern Ontario.", *Phytoprotection*, 93(1), pp. 1-7. doi: 10.7202/1015205ar

Cao, W., Fedak, G., McCallum, B.D., Fetch Jr., T.G., Xue, A.G., and Chi, D. (2013). "Developing wheat germplasm for resistance to *Fusarium* head blight, leaf rust and stem rust.", 7th International Triticeae Symposium, Chengdu, China, June 9-14, 2013.

Pan, F.J., Xue, A.G., McLaughlin, N.B., Li, S.X., Xu, Y.L., Zhao, D., and Qu, H.X. (2013). "Colonization of *Clonostachys rosea* on soybean root grown in media inoculated with *Fusarium graminearum*.", *Acta Agriculturae Scandinavica, Section B - Plant & Soil Science*, 63(6), pp. 564-569. doi : 10.1080/09064710.2013.816768

## 2012

Xu, P.F., Wu, J.J., Xue, A.G., Jin, L., Wang, J-S., Zhang, X.M., Li, W.B., and Zhang, S.Z. (2012). "Ultrastructure of hypocotyls of *Glycine soja* infected with zoospores of *Phytophthora sojae*.", *Soybean Science*, 31, pp. 462-465.

Pan, F.J., Xu, Y.L., McLaughlin, N.B., Xue, A.G., Yu, Q., Han, X.Z., Liu, W., Zhan, L.-L., Zhao, D., and Li, C.J. (2012). "Response of soil nematode community structure and diversity to long-term land use in the black soil region in China.", *Ecological Research*, 27(4), pp. 701-714. doi : 10.1007/s11284-012-0944-6

Xu, P.F., Wu, J.J., Xue, A.G., Li, W.B., Chen, W.Y., Wei, L., Lv, H.Y., Lin, S.F., Fan, S.J., Li, N.H., Wang, X., Jiang, L.Y., and Zhang, S.Z. (2012). "Differentially expressed genes of soybean during infection by *Phytophthora sojae*.", *Journal of Integrative Agriculture*, 11(3), pp. 368-377. doi : 10.1016/S2095-3119(12)60021-5

Xue, A.G., Chi, D., Zhang, S.Z., and Li, Z.F. (2012). "Wheat production and wheat rust management in Canada.", *Journal of Northeast Agricultural University*, 19(1), pp. 1-14. doi : 10.1016/S1006-8104(12)60032-4

## 2011

Zhang, J.X., Xue, A.G., Morrison, M.J., and Meng, Y. (2011). "Impact of time between the field application of *Bacillus subtilis* strains SB01 and SB24 and the inoculation with *Sclerotinia sclerotiorum* on the suppression of *Sclerotinia* stem rot in soybean.", *European Journal of Plant Pathology*, 131(1), pp. 95-102. doi : 10.1007/s10658-011-9790-6

Fetch Jr., T.G., Mitchell Fetch, J.W., and Xue, A.G. (2011). "Races of *Puccinia graminis* on barley, oat and wheat in Canada in 2006.", *Canadian Journal of Plant Pathology*, 33(1), pp. 54-60. doi : 10.1080/07060661.2011.536650

Zhang, H.J., Xue, A.G., Zhang, J.-X., Xu, Y.L., and Yu, D.-C. (2011). "Biocontrol of soybean root rot caused by *F. oxysporum* and *F. graminearum*.", *Soybean Science*, 30, pp. 113-118.

Wang, L.F., Xu, Y.L., Li, S.X., Li, C.J., and Xue, A.G. (2011). "Effects of metabolite of *Gliocladium roseum* on egg hatching and juvenile activity of *Meloidogyne incognita*.", *Soybean Science*, 30, pp. 818-822.

Feng, J., Hwang, R., Chang, K.F., Conner, R.L., Hwang, S.F., Strelkov, S.E., Gossen, B.D., McLaren, D.L., and Xue, A.G. (2011). "Identification of microsatellite markers linked to quantitative trait loci controlling resistance to fusarium root rot in field pea.", *Canadian Journal of Plant Science*, 91(1), pp. 199-204. doi : 10.4141/CJPS09176

McCallum, B.D., Seto-Goh, P.L., and Xue, A.G. (2011). "Physiologic specialization of *Puccinia triticina*, the causal agent of wheat leaf rust, in Canada in 2008.", *Canadian Journal of Plant Pathology*, 33(4), pp. 541-549. doi : 10.1080/07060661.2011.627950

Wei, L., Xue, A.G., Cober, E.R., Babcock, C., Zhang, J.X., Zhang, S.Z., Li, W.B., Wu, J.J., and Liu, L.J. (2011). "Pathogenicity of *Pythium* species causing seed rot and damping-off on soybean under controlled conditions.", *Phytoprotection*, 91, pp. 3-10.

## Other Science Related Publications:

### 2014

Xue, A.G., Chen, Y., Marchand, G., Zhang, S.Z., Cober, E.R., and Tenuta, A.U. (2014). "The occurrence and frequency of races of *Phytophthora sojae* in Ontario during 2010-2012.", 11th Conference of the European Foundation for Plant Pathology, Cracow, Poland, September 8-13, 2014, pp. 174.

Fedak, G., Wolfe, D., Chi, D., Ouellet, T., Cao, W., and Xue, A.G. (2014). "Process of transferring fhb resistance from *Thinopyrum elongatum* to spring wheat.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

Jin, X., Chi, D., Zhang, B., Xue, A.G., Cao, W., and Fedak, G. (2014). "Wheat germplasm development by gene pyramiding for resistance to Ug99.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

Xue, A.G. and Chen, Y. (2014). "Diseases of barley in central and eastern Ontario in 2014.", Canadian Plant Disease Survey, 94, pp. 109-111.

Melnichuk, F., Marchenko, O., Fedak, G., and Xue, A.G. (2014). "Cytotoxic effects of chemical seed treatments on soybean seedlings.", APS-CPS Joint Meeting, Hilton Minneapolis, Minneapolis, MN, USA, August 9-13, 2014.

Xue, A.G., Chen, Y., Marchand, G., Zhang, S.Z., Meng, Y., Cober, E.R., and Tenuta, A.U. (2014). "Races of *Phytophthora sojae* causing root rot of soybean in Ontario.", American Phytopathological Society (APS) and Canadian Phytopathological Society (CPS) Joint Meeting 2014, Hilton Minneapolis, Minneapolis, MN, USA, August 9-13, 2014.

Xue, A.G., Chen, Y., Marchand, G., Guo, W., Ren, C.Z., Savard, M.E., and McElroy, A.R. (2014). "Effect of timing of inoculation and *Fusarium* species on the development of *Fusarium* head blight and deoxynivalenol contamination in oat.", American Oat Workers Conference 2014, Ottawa Marriott Hotel, Ottawa, ON, Canada, July 13-16, 2014, pp. 21.

Zhang, B., Chi, D., Hiebert, C.W., Fetch Jr., T.G., Xue, A.G., Cao, W., and Fedak, G. (2014). "Pyramiding genes for resistance to stem rust, leaf rust and FHB.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

Xue, A.G. and Chen, Y. (2014). "Diseases of spring wheat in central and eastern Ontario in 2013.", Canadian Plant Disease Survey, 94, pp. 150-151.

Cao, W., Wolfe, D., Fedak, G., McCallum, B.D., Fetch Jr., T.G., Xue, A.G., and Chi, D. (2014). "Development of aneuploids by means of doubled haploid technology – corn pollination method.", Canadian Society of Agronomy & Canadian Society for Horticultural Science Joint Annual Conference, University of Lethbridge, Lethbridge, Alberta, Canada, July 10-12, 2014.

Xue, A.G. and Chen, Y. (2014). "Diseases of oat in central and eastern Ontario in 2013.", Canadian Plant Disease Survey, 94, pp. 135-136.

Cao, W., Fedak, G., Voldeng, H.D., Somers, D.J., Xue, A.G., Fregeau-Reid, J., and McCartney, C.A. (2014). "Application of marker assisted selection in spring wheat breeding.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

Menzies, J.G., Xue, A.G., Gruenke, J., Dueck, R., Saramaga, C., Popovic, Z., and Thomson, S. (2014). "Crown rust of oat in Manitoba, Saskatchewan and eastern Canada in 2013.", Canadian Plant Disease Survey, 94, pp. 132-134.

## 2013

Zhang, B.L., Chi, D., Cao, W., Xue, A.G., Fetch Jr., T.G., Hiebert, C.W., and Fedak, G. (2013). "Pyramiding disease resistance genes in wheat.", 7th International Triticeae Symposium, Chengdu, China, June 9-14, 2013, pp. 90.

Fedak, G., Cao, W., Chi, D., Zhang, L., Rouse, M.N., Xue, A.G., Fetch Jr., T.G., Molnar, M., and McCallum, B.D. (2013). "Screening of cytogenetic stocks for resistance to Ug99.", 7th International Triticeae Symposium, Chengdu, China, June 9-14, 2013, pp. 91.

Cao, W., Fedak, G., McCallum, B.D., Fetch Jr., T.G., Xue, A.G., and Chi, D. (2013). "Enhancement of wheat germplasm for resistance to *Fusarium* head blight, leaf rust and stem rust.", 7th International Triticeae Symposium, Chengdu, China, June 9-14, 2013, pp. 87.

Menzies, J.G., Xue, A.G., Gruenke, J., Dueck, R., Saramaga, C., Popovic, Z., and Thomson, S. (2013). "Crown rust of oat in Manitoba, Saskatchewan and Eastern Canada in 2011.", Canadian Plant Disease Survey, 93, pp. 114-115.

Menzies, J.G., Xue, A.G., Gruenke, J., Dueck, R., Saramaga, C., Popovic, Z., and Stern, A. (2013). "Crown rust of oat in Manitoba, Saskatchewan and Ontario in 2010.", Canadian Plant Disease Survey, 93, pp. 112-113.

## 2012

Xue, A.G. and Chen, Y.-Y. (2012). "Diseases of barley in Central and Eastern Ontario in 2011.", Canadian Plant Disease Survey, 92, pp. 71-72.

Xue, A.G. and Chen, Y. (2012). "Diseases of oat in Central and Eastern Ontario in 2011.", Canadian Plant Disease Survey, 92, pp. 94-95.

Xue, A.G. and Chen, Y. (2012). "Diseases of spring wheat in Central and Eastern Ontario in 2011.", Canadian Plant Disease Survey, 92, pp. 109-110.

- Cao, W., Fedak, G., Somers, D.E., Voldeng, H.D., Xue, A.G., Gilbert, J., and Wang, X.L. (2011). "Application of MAS for development of white seeded wheat resistant to Fusarium head blight", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 73.
- Xue, A.G. (2011). "ECORC Soybean diseases and their control strategies in Canada.", Seminar at Plant Protection Institute, Heilongjiang Academy of Agricultural Sciences, Harbin, China, August 31, 2011. (Presentation)
- Xue, A.G. and Chen, Y. (2011). "Diseases of barley in Eastern Ontario in 2010.", Canadian Plant Disease Survey, 91, pp. 66-67.
- Xue, A.G. and Chen, Y. (2011). "Diseases of oat in Eastern Ontario in 2010.", Canadian Plant Disease Survey, 91, pp. 88-89.
- Xue, A.G. and Chen, Y. (2011). "Diseases of spring wheat in Eastern Ontario in 2010.", Canadian Plant Disease Survey, 91, pp. 105-106.
- Xue, A.G., Chen, Y., Voldeng, H.D., Fedak, G., Savard, M.E., Längle, T., Zhang, J.X., Harman, G.E., and Genge, G. (2011). "Concentration and cultivar effects on efficacy of CLO-1 biofungicide in controlling Fusarium head blight of wheat.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 92.
- Singh, A.K., Knox, R.E., DePauw, R.M., Clarke, F.R., Martin, R.A., Xue, A.G., Gilbert, J., Brûlé-Babel, A.L., Campbell, H., and Cuthbert, R.D. (2011). "Validation of molecular markers linked to Sumai 3 resistance to DON and FDK in Canadian spring wheat populations.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 106.
- Fedak, G., Cao, W., Chi, D., Zhang, L., Xue, A.G., and Fetch Jr., T.G. (2011). "Screening of cytogenetic stocks for resistance to Ug99.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011, Poster #51. (Poster)
- Fedak, G., Cao, W., Chi, D., Zhang, L., Xue, A.G., and Fetch Jr., T.G. (2011). "Screening of cytogenetic stocks for resistance to Ug99.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, pp. 38.
- Cao, W., Fedak, G., Fetch Jr., T.G., Xue, A.G., and Briere, S. (2011). "Gene pyramiding for resistance to Ug99 stem rust in Canadian spring wheat", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011, pp. 54.
- Fedak, G., Cao, W., Chi, D., Somers, D.J., Miller, S.S., Ouellet, T., Xue, A.G., Gilbert, J., Savard, M.E., and Voldeng, H.D. (2011). "New sources of resistance to fusarium head blight and their modes of action.", 2011 National Fusarium Head Blight Forum, Hyatt Regency Hotel, St. Louis, MO, USA, December 4-6, 2011, pp. 19.
- McCallum, B.D., Seto-Goh, P.L., and Xue, A.G. (2011). "The detection of virulence to Lr21 in Canada during 2011.", 1st Canadian Wheat Symposium, Winnipeg, MB, Canada, November 30-December 2, 2011.
- McCallum, B.D., Seto-Goh, P.L., and Xue, A.G. (2011). "Wheat leaf rust in Canada during 2010.", North American Rust Workers Meeting (NARW), St. Paul, MN, USA, June 12, 2011.
- Xue, A.G. (2011). "ECORC Soybean root rots and control strategies in Canada.", Seminar at College of Agronomy, Heilongjiang Bayi Agricultural University, Daqing, China, August 29, 2011. (Presentation)
- Xue, A.G. (2011). "Phytophthora and Pythium root rots and control strategies.", 22nd Annual Conference of Soybean Science, Yan An, China, August 21-24, 2011.
- Xue, A.G. (2011). "Soybean root rots and control methods.", Manitoba Special Crops 5th Symposium, Winnipeg, MB, Canada, February 9-10, 2011.
- Xue, A.G. (2011). "Pythium and Phytophthora root rots of soybean in Ontario.", Annual Ontario Oil and Protein Seed Crop Committee (OOPSCC) and Ontario Soybean Growers's Research Meeting, London, ON, Canada, June 28, 2011.
- Choo, T.-M., Martin, R.A., Savard, M.E., and Xue, A.G. (2011). "Breeding barley for resistance to Fusarium head blight for Eastern Canada.", 15th International EWAC Conference, Novi Sad, Serbia, November 7-11, 2011, pp. 32.
- Xue, A.G. and Dion, Y. (2011). "Contrôle de la fusariose de l'épi du blé avec un champignon *Clonostachys rosea* souche.", La Journée: Grandes cultures biologiques, Centre communautaire de Saint-Rémi, Saint-Rémi, QC, Canada, December 6, 2011, ACM941, pp. 24.
- Fedak, G., Cao, W., Chi, D., Zhang, L., Xue, A.G., and Fetch Jr., T.G. (2011). "New Sources of resistance to ug99.", Borlaug Global Rust Initiative (BGRI) 2011 Technical Workshop, St. Paul, MN, USA, June 13-16, 2011. (Presentation)



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## Research Publications:

2015

Yan, W. (2015). "Mega-environment Analysis and Test Location Evaluation Based on Unbalanced Multiyear Data.", *Crop Science*, 55(1), pp. 113-122. doi : 10.2135/cropsci2014.03.0203

Yan, W., Frégeau-Reid, J.A., Martin, R.A., Pageau, D., and Mitchell Fetch, J.W. (2015). "How many test locations and replications are needed in crop variety trials in a target region?", *Euphytica*, 202(3), pp. 361-372. doi : 10.1007/s10681-014-1253-7

Li, P.-F., Ma, B.-L., Yan, W., Cheng, Z., Li, F.-M., and Xiong, Y.-C. (2015). "Plant architecture, plasticity, and adaptation strategies of two oat genotypes under different competition intensities.", *Journal of the Science of Food and Agriculture*. doi : 10.1002/jsfa.7237

2014

Yan, W., Frégeau-Reid, J.A., and Mitchell Fetch, J.W. (2014). "Breeding for ideal milling oats.", in Chu, Y. (ed.) - *Oats Nutrition and Technology*, John Wiley & Sons, Ltd.

Yan, W. (2014). *Crop Variety Trials: Data Management and Analysis*, John Wiley & Sons, Ltd. (Book)

2013

Yan, W. (2013). "Biplot Analysis of Incomplete Two-Way Data.", *Crop Science*, 53(1), pp. 48-57. doi : 10.2135/cropsci2012.05.0301

Oliver, R.E., Tinker, N.A., Lazo, G.R., Chao, S., Jellen, E.N., Carson, M.L., Rines, H.W., Obert, D.E., Lutz, J.D., Shackelford, I., Korol, A., Wight, C.P., Gardner, K.M., Hattori, J., Beattie, A.D., Bjørnstad, A., Bonman, J.M., Jannink, J.-L., Sorrells, M.E., Brown Guedira, G.L., Mitchell Fetch, J.W., Harrison, S.A., Howarth, C.J., Ibrahim, A.A., Kolb, F.L., McMullen, M.S., Murphy, J.P., Ohm, H.W., Rosnagel, B.G., Yan, W., Miocla, K.J., Hiller, J., Maughan, P.J., Redman Hultz, R.R., Anderson, J.M., Islamovic, E., and Jackson, E.W. (2013). "SNP discovery and chromosome anchoring provide the first physically-anchored hexaploid oat map and reveal synteny with model species.", *PLoS ONE*, 8(3, Article No.e58068). doi : 10.1371/journal.pone.0058068

2012

Hizbai, B.T., Gardner, K.M., Wight, C.P., Dhanda, R.K., Molnar, S.J., Frégeau-Reid, J.A., Yan, W., Rosnagel, B.G., Holland, J.B., and Tinker, N.A. (2012). "Quantitative trait loci affecting oil content, oil composition, and other agronomically important traits in oat.", *Plant Genome*, 5(3), pp. 164-175. doi : 10.3835/plantgenome2012.07.0015

2011

Yan, W., Pageau, D., Frégeau-Reid, J.A., and Durand, J. (2011). "Assessing the Representativeness and Repeatability of Test Locations for Genotype Evaluation.", *Crop Science*, 51(4), pp. 1603-1610. doi : 10.2135/cropsci2011.01.0016

Yan, W., Mitchell Fetch, J.W., Frégeau-Reid, J.A., Rosnagel, B.G., and Ames, N.P. (2011). "Genotype x Location Interaction Patterns and Testing Strategies for Oat in the Canadian Prairies.", *Crop Science*, 51(5), pp. 1903-1914. doi : 10.2135/cropsci2010.09.0548

Yan, W. (2011). "GGE Biplot vs. AMMI Graphs for Genotype-by-Environment Data Analysis.", *Journal of the Indian Society of Agricultural Statistics*, 65(2), pp. 181-193.

Yan, W., Pageau, D., Frégeau-Reid, J.A., Lajeunesse, J., Goulet, J., Durand, J., and Marois, D. (2011). "Oat mega-environments and test-locations in Quebec.", *Canadian Journal of Plant Science*, 91(4), pp. 643-649. doi : 10.4141/CJPS10139

## Other Science Related Publications:

## 2014

Ma, B.-L., Yan, W., Pageau, D., Vera, C.L., and Herath, A. (2014). "Does Phosphorus Uptake Affect Crop Lodging in Oat Genotypes?", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

Ma, B.-L., Frégeau-Reid, J.A., Pageau, D., Vera, C.L., and Yan, W. (2014). "β-Glucan, Oil, and Protein of Oats as Affected by Variety, Location, and N Application.", American Oat Workers Conference 2014, Ottawa Marriott Hotel, Ottawa, ON, Canada, July 13-16, 2014.

## 2012

Yan, W., Frégeau-Reid, J.A., Mitchell Fetch, J.W., Pageau, D., Martin, R.A., Rowsell, J., Beattie, A.D., and Cummiskey, A. (2012). "Breeding for an "ideal" Milling Oat: Challenges and Strategies.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012.

Frégeau-Reid, J.A., Yan, W., Martin, R.A., Cummiskey, A., Pageau, D., Sibbitt, D., De Haan, B., Thomas, S., and Morasse, I. (2012). "Associations among grain yield, groat percentage, and beta-glucan in two oat genetic populations.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

Gardner, K.M., Wight, C.P., Mitchell Fetch, J.W., Yan, W., Ames, N.P., Rosnagel, B.G., Herrmann, M., Molnar, S.J., Frégeau-Reid, J.A., Miller, S.S., Fetch Jr., T.G., Chong, J., Martin, R.A., Tekauz, A., Haber, S.M., Savard, M.E., and Tinker, N.A. (2012). "Prospects of whole genome selection in oat using high throughput genetic markers.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

Hizbai, B.T., Gardner, K.M., Wight, C.P., Dhanda, R.K., Molnar, S.J., Johnson, D.L., Frégeau-Reid, J.A., Yan, W., Rosnagel, B.G., Burrows, V.D., and Tinker, N.A. (2012). "Mapping of QTLs affecting oil content and composition in oats.", 9th International Oat Conference: Harvest for Food and Health, Beijing, China, June 20-23, 2012. (Poster)

## 2011

Beattie, A.D., Zhang, X.M., Yajima, W., Dokken-Bouchard, F.L., Tekauz, A., Mitchell Fetch, J.W., Martin, R.A., Yan, W., Scoles, G.J., and Rosnagel, B.G. (2011). "Real-time quantitative PCR in oat FHB resistance breeding.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 67.

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## Research Publications:

2015

Wang, C., Liu, Q., Zhang, Y.L., Pei, C.X., Zhang, S.L., Wang, Y.X., Yang, W.-Z., Bai, Y.S., Shi, Z.G., and Liu, X.N. (2015). "Effects of isobutyrate supplementation on ruminal microflora, rumen enzyme activities and methane emissions in Simmental steers.", *Journal of Animal Physiology and Animal Nutrition*, 99(1), pp. 123-131. doi: 10.1111/jpn.12191

Zhao, Y.L., Yan, S.M., He, Z.X., Anele, U.Y., Swift, M.-L., McAllister, T.A., and Yang, W.-Z. (2015). "Effects of volume weight, processing method and processing index of barley grain on in situ digestibility of dry matter and starch in beef heifers.", *Animal Feed Science and Technology*, 199, pp. 93-103. doi: 10.1016/j.anifeedsci.2014.11.005

He, Z.X., Yang, L.Y., Yang, W.-Z., Beauchemin, K.A., Tang, S.X., Huang, J.Y., Zhou, C.S., Han, X.F., Wang, M., Kang, J.H., Odongo, N.E., and Tan, Z.L. (2015). "Efficacy of exogenous xylanases for improving in vitro fermentation of forages.", *Journal of Agricultural Science*, 153(3), pp. 538-553. doi: 10.1017/S0021859614000860

Anele, U.Y., Refat, B., Swift, M.-L., Zhao, Y.L., Doublier, C., McAllister, T.A., and Yang, W.-Z. (2015). "Short communication: In vitro ruminal fermentation of ground and dry-rolled barley grain differing in starch content.", *Animal Feed Science and Technology*, 203, pp. 88-94. doi: 10.1016/j.anifeedsci.2015.02.006

Ding, S., Oba, M., Swift, M.-L., O'Donovan, J.T., Edney, M.J., McAllister, T.A., and Yang, W.-Z. (2015). "Short communication: In vitro gas production and dry matter digestibility of malting barley grain sown with different seeding and nitrogen fertilization rates in Canada.", *Animal Feed Science and Technology*, 199, pp. 146-151. doi: 10.1016/j.anifeedsci.2014.11.014

He, Z.X., He, M.L., Zhao, Y.L., Xu, L., Walker, N.D., Beauchemin, K.A., McAllister, T.A., and Yang, W.-Z. (2015). "Effect of wheat dried distillers grains and enzyme supplementation on growth rates, feed conversion ratio and beef fatty acid profile in feedlot steers.", *Animal*, 9(10), pp. 1740-1746. doi: 10.1017/S1751731115000944

Zhang, Y.L., Liu, Q., Wang, C., Pei, C.X., Li, H.Y., Wang, Y., Yang, W.-Z., Bai, Y.S., Shi, Z.G., and Liu, X.N. (2015). "Effects of supplementation of Simmental steers with 2-methylbutyrate on rumen microflora, enzyme activities and methane production.", *Animal Feed Science and Technology*, 199, pp. 84-92. doi: 10.1016/j.anifeedsci.2014.11.003

Nanon, A., Yang, W.-Z., Suksombat, W., and Wen, Z.Y. (2015). "Use of essential oils for manipulation of rumen microbial fermentation using batch culture.", *Thai Journal of Veterinary Medicine*, 45(2), pp. 167-180.

He, Z.X., Sun, Z., Beauchemin, K.A., Yang, W.-Z., Tang, S.X., Zhou, C.S., Han, X.F., Wang, M., Kang, J.H., and Tan, Z.L. (2015). "Effect of protein or energy restriction during late gestation on hormonal and metabolic status in pregnant goats and postnatal male offspring.", *Animal*. doi: 10.1017/S1751731115001147

Refat, B., Anele, U.Y., He, Z.X., Bassiony, S.M., Abdel-Rahman, G.A., and Yang, W.-Z. (2015). "Effect of sainfoin hay and pomegranate peel extracts on in vitro fermentation and protein degradation using the rusitec technique.", *Canadian Journal of Animal Science*, 95(3), pp. 417-423. doi: 10.4141/CJAS-2014-142

He, M.L., Jia, J.J., and Yang, W.-Z. (2015). "Comparison on the fatty acid profiles of liver, subcutaneous fat and muscle from feedlot steers finished on diets supplemented with or without cinnamaldehyde or monensin.", *Journal of the Science of Food and Agriculture*, 95(3), pp. 576-582. doi: 10.1002/jsfa.6786

He, Z.X., Walker, N.D., McAllister, T.A., and Yang, W.-Z. (2015). "Effect of wheat dried distillers grains with solubles and fibrolytic enzymes on ruminal fermentation, digestibility, growth performance, and feeding behavior of beef cattle.", *Journal of Animal Science*, 93, pp. 1218-1228. doi: 10.2527/jas.2014-8412

Ding, S., Oba, M., Swift, M.-L., Edney, M., O'Donovan, J.T., McAllister, T.A., and Yang, W.-Z. (2015). "Short communication: The effect of seed hardness and malting characteristics on in situ dry matter digestibility of barley grain in beef heifers.", *Canadian Journal of Animal Science*, 95(2), pp. 299-303. doi: 10.4141/CJAS-2014-081

2014

Yang, W.-Z., Xu, L., Zhao, Y.L., Chen, L.Y., and McAllister, T.A. (2014). "Impact of hard vs. soft wheat and monensin level on rumen acidosis in feedlot heifers.", *Journal of Animal Science*, 92(11), pp. 5088-5098. doi: 10.2527/jas.2014-8092

- He, M.L., Xu, L., Yang, W.-Z., Gibb, D.J., and McAllister, T.A. (2014). "Effect of low oil corn dried distillers' grains with solubles on growth performance, carcass traits and beef fatty acid profile of feedlot cattle.", *Canadian Journal of Animal Science*, 94(2), pp. 343-347. doi: 10.4141/CJAS2013-196
- Li, Y.L., Beauchemin, K.A., McAllister, T.A., and Yang, W.-Z. (2014). "Intakes and excretion route of nitrogen, phosphorus and sulfur by finishing beef heifers fed increasing levels of wheat dried distillers grains with solubles to substitute for barley grain and barley silage.", *Livestock Science*, 170, pp. 43-52. doi: 10.1016/j.livsci.2014.09.020
- Nasrollahi, S.M., Ghorbani, G.R., Khorvash, M., and Yang, W.-Z. (2014). "Effects of grain source and marginal change in lucerne hay particle size on feed sorting, eating behaviour, chewing activity, and milk production in mid-lactation Holstein dairy cows.", *Journal of Animal Physiology and Animal Nutrition*, 98(6), pp. 1110-1116. doi: 10.1111/jpn.12185
- Xu, L., He, M.L., Liang, R.F., McAllister, T.A., and Yang, W.-Z. (2014). "Effects of grain source and monensin level on growth performance, carcass traits and fatty acid profile in feedlot beef steers.", *Animal Feed Science and Technology*, 198, pp. 141-150. doi: 10.1016/j.anifeedsci.2014.10.015
- Liu, Q., Wang, C., Pei, C.X., Li, H.Y., Wang, Y., Zhang, S.L., Zhang, Y.L., He, J.P., Wang, H., Yang, W.-Z., Bai, Y.S., Shi, Z.G., and Liu, X.N. (2014). "Effects of isovalerate supplementation on microbial status and rumen enzyme profile in steers fed on corn stover based diet.", *Livestock Science*, 161(1), pp. 60-68. doi: 10.1016/j.livsci.2013.12.034
- Hashemzadeh-Cigari, F., Khorvash, M., Ghorbani, G.R., Ghasemi, E., Taghizadeh, A., Kargar, S., and Yang, W.-Z. (2014). "Interactive effects of molasses by homofermentative and heterofermentative inoculants on fermentation quality, nitrogen fractionation, nutritive value and aerobic stability of wilted alfalfa (*Medicago sativa* L) silage.", *Journal of Animal Physiology and Animal Nutrition*, 98(2), pp. 290-299. doi: 10.1111/jpn.12079
- Akbari-Afjani, A., Zali, A., Gangkhanlou, M., Dehghan-Banadaky, M., Nasrollahi, S.M., and Yang, W.-Z. (2014). "Dietary ratios of maize silage to lucerne hay affected feed intake, chewing activity, and milk production of dairy cows.", *Animal Production Science*, 54(3), pp. 263-269. doi: 10.1071/AN12214
- Vyas, D., Uwizeye, A., Mohammed, R., Yang, W.-Z., Walker, N.D., and Beauchemin, K.A. (2014). "The effects of active dried and killed dried yeast on subacute ruminal acidosis, ruminal fermentation, and nutrient digestibility in beef heifers.", *Journal of Animal Science*, 92(2), pp. 724-732. doi: 10.2527/jas.2013-7072
- Yang, W.-Z., Oba, M., Swift, M.-L., and McAllister, T.A. (2014). "Variation in response to processing, in vitro gas production and fermentation of western Canadian feed barley.", *Canadian Journal of Animal Science*, 94(4), pp. 725-729. doi: 10.4141/CJAS-2014-053
- Anele, U.Y., Refat, B., Swift, M.-L., He, Z.X., Zhao, Y.L., McAllister, T.A., and Yang, W.-Z. (2014). "Effects of bulk density, precision processing and processing index on in vitro ruminal fermentation of dry-rolled barley grain.", *Animal Feed Science and Technology*, 195, pp. 28-37. doi: 10.1016/j.anifeedsci.2014.06.015
- Meale, S.J., Chaves, A.V., McAllister, T.A., Iwaasa, A.D., Yang, W.-Z., and Benchaar, C. (2014). "Including essential oils in lactating dairy cow diets: effects on methane emissions.", *Animal Production Science*, 54(9), pp. 1215-1218. doi: 10.1071/AN14152
- Nanon, A., Yang, W.-Z., and Suksombat, W. (2014). "Effects of essential oils supplementation on in vitro and in situ feed digestion in beef cattle.", *Animal Feed Science and Technology*, 196, pp. 50-59. doi: 10.1016/j.anifeedsci.2014.07.006
- Khorvash, M., Kargar, S., Ghorbani, G.R., Ghaempour, A., Boroumand-Jazi, M., and Yang, W.-Z. (2014). "Lactational performance, nutrient digestibility and fermentation characteristics of Holstein dairy cows in response to feeding wheat factory sewage.", *Journal of Applied Animal Research*, 42(4), pp. 465-473. doi: 10.1080/09712119.2014.883316
- He, Z.X., He, M.L., Walker, N.D., McAllister, T.A., and Yang, W.-Z. (2014). "Using a fibrolytic enzyme in barley-based diets containing wheat dried distillers grains with solubles: Ruminal fermentation, digestibility, and growth performance of feedlot steers.", *Journal of Animal Science*, 92(9), pp. 3978-3987. doi: 10.2527/jas.2014-7707
- Vyas, D., Uwizeye, A., Yang, W.-Z., and Beauchemin, K.A. (2014). "Importance of yeast viability for reducing the effects of ruminal acidosis in beef heifers during and following an imposed acidosis challenge.", *Animal Feed Science and Technology*, 197, pp. 103-113. doi: 10.1016/j.anifeedsci.2014.09.004
- Xu, L., Jin, Y., He, M.L., Li, C., Beauchemin, K.A., and Yang, W.-Z. (2014). "Effects of increasing levels of corn dried distillers grains with solubles and monensin on ruminal biohydrogenation and duodenal flows of fatty acids in beef heifers fed high-grain diets.", *Journal of Animal Science*, 92(3), pp. 1089-1098. doi: 10.2527/jas.2013-6668
- Nanon, A., Suksombat, W., Beauchemin, K.A., and Yang, W.-Z. (2014). "Short Communication: Assessment of lemongrass oil supplementation in a dairy diet on in vitro ruminal fermentation characteristics using the rumen simulation technique.", *Canadian Journal of Animal Science*, 94(4), pp. 731-736. doi: 10.4141/CJAS-2014-019
- He, Z.X., Sun, Z.H., Yang, W.-Z., Beauchemin, K.A., Tang, S.X., Zhou, C.S., Han, X.F., Wang, M., Kang, J.H., and Tan, Z.L. (2014). "Effects of maternal protein or energy restriction during late gestation on immune status and responses to lipopolysaccharide challenge in postnatal young goats.", *Journal of Animal Science*, 92(11), pp. 4856-4864. doi: 10.2527/jas.2014-7904

## 2013

Li, Y., Li, C.L., Beauchemin, K.A., and Yang, W.-Z. (2013). "Effects of a commercial blend of essential oils and monensin in a high-grain diet containing wheat distillers' grain on *in vitro* fermentation.", *Canadian Journal of Animal Science*, 93(3), pp. 387-398. doi : 10.4141/CJAS2013-028

Yang, W.-Z., Xu, L., Li, C., and Beauchemin, K.A. (2013). "Effects of supplemental canola meal and various types of distillers' grain on growth performance of backgrounded steers.", *Canadian Journal of Animal Science*, 93(2), pp. 281-286. doi : 10.4141/CJAS2012-146

Yang, W.-Z., Oba, M., and McAllister, T.A. (2013). "Quality and precision processing of barley grain affected intake and digestibility of dry matter in feedlot steers.", *Canadian Journal of Animal Science*, 93(2), pp. 251-260. doi : 10.4141/cjas2012-132

Schlau, N., Duineveld, L., Yang, W.-Z., McAllister, T.A., and Oba, M. (2013). "Precision processing barley grain did not affect productivity of lactating dairy cows.", *Canadian Journal of Animal Science*. doi : 10.4141/cjas2012-133

Xu, L., Jin, Y., He, M.L., Li, C.L., McAllister, T.A., and Yang, W.-Z. (2013). "Effects of increasing levels of corn dried distillers' grains with solubles and monensin on intake, digestion, and ruminal fermentation in beef heifers fed high-barley grain diets.", *Journal of Animal Science*, 91(11), pp. 5390-5398. doi : 10.2527/jas.2013-6456

## 2012

Li, C., Li, J.-Q., Yang, W.-Z., and Beauchemin, K.A. (2012). "Ruminal and intestinal amino acid digestion of distiller's grain vary with grain source and milling process.", *Animal Feed Science and Technology*, 175(3-4), pp. 121-130. doi : 10.1016/j.anifeedsci.2012.05.011

Benchaar, C., Hassanat, F., Lettat, A., Yang, W.-Z., Forster, R.J., Petit, H.V., and Chouinard, P.Y. (2012). "Eugenol for dairy cows fed low- or high-concentrate diets: Effects on digestion, ruminal fermentation characteristics, rumen microbial populations and milk fatty acid profile.", *Animal Feed Science and Technology*, 178(3-4), pp. 139-150. doi : 10.1016/j.anifeedsci.2012.10.005

He, M.L., Yang, W.-Z., Dugan, M.E.R., Beauchemin, K.A., McKinnon, J.J., and McAllister, T.A. (2012). "Substitution of wheat dried distillers' grains with solubles for barley silage and barley grain in a finishing diet increases polyunsaturated fatty acids including linoleic and alpha-linolenic acids in beef.", *Animal Feed Science and Technology*, 175(3-4), pp. 114-120. doi : 10.1016/j.anifeedsci.2012.05.009

Li, Y.L., He, M.L., Li, C., Forster, R.J., Beauchemin, K.A., and Yang, W.-Z. (2012). "Effects of wheat dried distillers' grains with solubles and cinnamaldehyde on *in vitro* fermentation and protein degradation using the Rusitec technique.", *Archives of Animal Nutrition*, 66(2), pp. 131-148. doi : 10.1080/1745039X.2012.656479

Li, C.L., Li, J.-Q., Beauchemin, K.A., and Yang, W.-Z. (2012). "Forage proportion and particle length affects the supply of amino acids in lactating dairy cows.", *Journal of Dairy Science (JDS)*, 95(5), pp. 2685-2696. doi : 10.3168/jds.2011-5210

Iqbal, S., Terrill, S.J., Zebeli, Q., Mazzolari, A., Dunn, S.M., Yang, W.-Z., and Ametaj, B.N. (2012). "Treating barley grain with lactic acid and heat prevented sub-acute ruminal acidosis and increased milk fat content in dairy cows.", *Animal Feed Science and Technology*, 172(3-4), pp. 141-149. doi : 10.1016/j.anifeedsci.2011.12.024

Petri, R.M., Förster, R.J., Yang, W.-Z., McKinnon, J.J., and McAllister, T.A. (2012). "Characterization of rumen bacterial diversity and fermentation parameters in concentrate fed cattle with and without forage.", *Journal of Applied Microbiology*, 112(6), pp. 1152-1162. doi : 10.1111/j.1365-2672.2012.05295.x

Mohammadzadeh, H., Khorvash, M., Ghorbani, G.R., and Yang, W.-Z. (2012). "Frosted corn silage with or without bacterial inoculants in dairy cattle ration.", *Livestock Science*, 145(1-3), pp. 153-159. doi : 10.1016/j.livsci.2012.01.011

Zebeli, Q., Terrill, S.J., Mazzolari, A., Dunn, S.M., Yang, W.-Z., and Ametaj, B.N. (2012). "Intraruminal administration of *Megasphaera elsdenii* modulated rumen fermentation profile in mid-lactation dairy cows.", *Journal of Dairy Research*, 79(1), pp. 16-25. doi : 10.1017/S0022029911000707

## 2011

Walter, L.J., McAllister, T.A., Yang, W.-Z., Beauchemin, K.A., He, M.L., and McKinnon, J.J. (2011). "Comparison of wheat or corn dried distillers' grains with solubles on rumen fermentation and nutrient digestibility by feedlot heifers.", *Journal of Animal Science*, 90(4), pp. 1291-1300. doi : 10.2527/jas.2011-3844

Wang, C., Dong, K.H., Liu, Q., Yang, W.-Z., Zhao, Z., Liu, S.Q., He, T.T., and Liu, Z.Y. (2011). "Effects of feeding salt-tolerant forage cultivated in saline-alkaline land on rumen fermentation, feed digestibility and nitrogen balance in lamb.", *Journal of the Science of Food and Agriculture*, 91(7), pp. 1259-1264. doi : 10.1002/jsfa.4308

Li, Y.L., McAllister, T.A., Beauchemin, K.A., He, M.L., McKinnon, J.J., and Yang, W.-Z. (2011). "Substitution of wheat dried distillers' grains with solubles for barley grain or barley silage in feedlot cattle diets: intake, digestibility and ruminal fermentation.", *Journal of Animal Science*, 89(8), pp. 2491-2501. doi : 10.2527/jas.2010-3418

Mohammadzadeh, H., Khorvash, M., Ghorbani, G.R., and Yang, W.-Z. (2011). "Effects of a dual purpose bacterial inoculant on the fermentation characteristics of high-moisture maize silage and dairy cattle performance.", *South African Journal of Animal Sciences*, 41(4), pp. 368-376.

Wang, C., Dong, K.H., Liu, Q., Yang, W.-Z., Zhao, Z., Liu, S.Q., He, T.T., and Liu, Z.Y. (2011). "Effects of feeding salt-tolerant forages cultivated in salt-alkaline land on intake, average liveweight gain, physiological responses and slaughtering performance in lamb.", *Livestock Science*, 137(1-3), pp. 18-23. doi: 10.1016/j.livsci.2010.09.020

Yang, W.-Z., Li, Y.L., McAllister, T.A., McKinnon, J.J., and Beauchemin, K.A. (2011). "Wheat distillers grains in feedlot cattle diets: feeding behavior, growth performance, carcass characteristics, and blood metabolites.", *Journal of Animal Science*, 90(4), pp. 1301-1310. doi: 10.2527/jas.2011-4372

## Other Science Related Publications:

2015

Meng, Q.X., Makkar, H.P.S., McKinnon, J.J., Beck, P., Gibb, D.J., Yang, W.-Z., Bartle, S.J., Madsen, J., Lehmkuhler, J.W., Rethorst, D., Burris, R., Pethick, D., and Hocquette, J.-F. (2015). *The First Symposium on the Applied Techniques and Industry Economics in Chinese Beef Cattle Production..* (Book)

Yang, W.-Z. (2015). "Use of Yeast Products in Beef Cattle Diets.", *Chinese Journal of Animal Science, Special Issue*, 2015 (6):46-48.

Yang, W.-Z. (2015). "Feed additives used in beef cattle feeding.", *Chinese Journal of Animal Science, Special Issue*, 2015 (6):42-43.

Anele, U.Y., Swift, M.-L., McAllister, T.A., and Yang, W.-Z. (2015). "Evaluation of models for predicting acidosis risk of barley grain in finishing beef cattle.", *Journal of Dairy Science (JDS)*, 98(Suppl. 2), pp. 443. (Abstract)

Refat, B., Anele, U.Y., He, Z.X., Bassiony, S.M., Abdel-Rahman, G.A., and Yang, W.-Z. (2015). "Effect of sainfoin hay and pomegranate peel extracts on in vitro fermentation and protein degradation using the Rusitec technique.", *Journal of Dairy Science (JDS)*, 98(Suppl. 2), pp. 444. (Abstract)

Yang, W.-Z. (2015). "ACIDF Research Facts: Making wheat DDGS work in cattle rations. 2 pages. August, 2015. <http://www.acidf.ca/feeding/library>." (Factsheet)

Anele, U.Y., Refat, B., Swift, M.-L., Zhao, Y.L., McAllister, T.A., and Yang, W.-Z. (2015). "Effects of starch content on in vitro ruminal fermentation of ground and dry-rolled barley grain.", *Journal of Dairy Science (JDS)*, 98(Suppl. 2), pp. 434. (Abstract)

Yang, W.-Z. (2015). "Wheat vs barley, implications for feed efficiency and animal health.", *Alberta Beef Industry Conference- Feed Focus*, Sheraton Red Deer Hotel, Red Deer, AB, Canada, Feb 18, 2015.

Yang, W.-Z. (2015). "ACIDF Research Facts: New technique predicts rate of digestion for feedlot cattle. 2 pages. August, 2015. <http://www.acidf.ca/feeding/library>." (Factsheet)

Zhao, Y.L., Yan, S.M., Anele, U.Y., Swift, M.-L., McAllister, T.A., and Yang, W.-Z. (2015). "Effects of starch content and processing method on in situ rumen digestibility of barley grain in beef heifers.", *Journal of Dairy Science (JDS)*, 98(Suppl. 2), pp. 444. (Abstract)

2014

Ding, S., Oba, M., Swift, M.-L., Chen, L.Y., Yang, W.-Z., and McAllister, T.A. (2014). "Assessing relationship between malting quality characteristics and rumen digestion of barley grain in relation to molecular structure using ATR-FTIR and PCA. *Better Nutrition, Better Health*", 35th Western Nutrition Conference, Edmonton, AB, Canada, September 24-25, 2014.

He, Z.X., He, M.L., Zhao, Y., Walker, N.D., Beauchemin, K.A., McAllister, T.A., and Yang, W.-Z. (2014). "Supplementing beef cattle finishing diets containing wheat distillers grain with feed enzymes to decrease the ratio of n-6/n-3 fatty acids in meat.", *Journal of Dairy Science (JDS)*, 97(E-Suppl.1), pp. 453. (Abstract)

Zhao, Y.L., Yan, S.M., He, Z., Anele, U.Y., Swift, M.-L., McAllister, T.A., and Yang, W.-Z. (2014). "Effects of test weight, precision processing and processing index on in situ ruminal digestibility of barley grain in beef heifers.", *Journal of Dairy Science (JDS)*, 97(E-Suppl.1), pp. 870. (Abstract)

Yang, W.-Z., Xu, L., Zhao, Y., and McAllister, T.A. (2014). "Effects of grain source and monensin level on site and extent of digestion in feedlot heifers.", *Journal of Dairy Science (JDS)*, 97(E-Suppl.1), pp. 848. (Abstract)

Nanon, N., Suksombat, W., and Yang, W.-Z. (2014). "Use of lemongrass oil for manipulation of ruminal fermentation using Rusitec technique.", *Journal of Dairy Science (JDS)*, 97(E-Suppl.1), pp. 842. (Abstract)

He, Z., Walker, N.D., McAllister, T.A., and Yang, W.-Z. (2014). "Effect of wheat dried distillers grains with soubles inclusion and fibrolytic enzyme supplementation on ruminal fermentation and digestibility in beef heifers fed backgrounding diet.", *Journal of Dairy Science (JDS)*, 97(E-Suppl.1), pp. 818. (Abstract)

Zhao, Y.L., Chen, L.Y., Swift, M.-L., McAllister, T.A., and Yang, W.-Z. (2014). "Effects of test weight, processing method and processing index on in situ rumen digestion kinetics of barley grain in beef heifers.", 35th Western Nutrition Conference, Edmonton, AB, Canada, September 24-25, 2014, pp. 285. (Abstract)

Zhao, Y., Yan, S., He, Z., Anele, U.Y., Swift, M.-L., McAllister, T.A., and Yang, W.-Z. (2014). "Effects of test weight and processing method on in vitro intestinal digestibility of barley grain.", *Journal of Dairy Science (JDS)*, 97(E-Suppl.1), pp. 768. (Abstract)

Yang, W.-Z. (2014). "Nutritional variation and the use of NIRS in predicting the feed value of barley grain, Near infrared (NIR) technology and other approaches to lower feed cost in beef cattle production.", , Coast Lethbridge Hotel Conference Centre, Lethbridge, AB, Canada, March 14, 2014.

Zhao, Y., Yan, S.M., He, Z., Anele, U.Y., Swift, M.-L., McAllister, T.A., and Yang, W.-Z. (2014). "Effects of test weight and processing method on in vitro intestinal digestibility of barley grain.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.

Yang, W.-Z. and McAllister, T.A. (2014). "Effects of grain source and monensin level on site and extent of digestion in feedlot heifers.", ADSA-ASAS 2014 Joint Annual Meeting, Kansas City, MO, USA, July 20-24, 2014.

Nanon, A., Suksombat, W., and Yang, W.-Z. (2014). "Supplementation of lemongrass oil and a mixture of garlic and ginger oil improved in vitro feed digestion.", *Journal of Dairy Science (JDS)*, 97(E-Suppl.1), pp. 842. (Abstract)

Anele, U.Y., Refat, B., Swift, M.-L., He, Z., McAllister, T.A., and Yang, W.-Z. (2014). "Effects of volume weight, precision processing and processing index on in vitro ruminal fermentation of dry-rolled barley grain.", *Journal of Dairy Science (JDS)*, 97(E-Suppl.1), pp. 775. (Abstract)

Yang, W.-Z. (2014). "Strategies to improve barley utilization in feedlot.", Invited speaker for Delegation of Australia Beef Producers, Lethbridge, AB, Canada, July 7, 2014. (Presentation)

Yang, W.-Z. (2014). "In vitro batch culture and continuous fermentation.", Invited speaker at Alberta Cattle Feeders Board Meeting, Lethbridge, AB, Canada, July 8, 2014. (Presentation)

McAllister, T.A., Yang, W.-Z., and Oba, M. (2014). "Introduction to Feed Processing.", Feed Coalition Research Tour and Meeting, AAFC Lethbridge Research Centre, June 20, 2014, Invited speaker.

Yang, W.-Z. (2014). "Invited Research Panel Discussion.", Feed Coalition Research Meeting, AAFC Lethbridge Research Centre, June 20, 2014. (Presentation)

Ding, S., Swift, M.-L., Oba, M., Chen, L.Y., McAllister, T.A., and Yang, W.-Z. (2014). "Assessing relationship between malting quality characteristics and rumen digestion of barley grain in relation to molecular structure using ATR-FTIR and PCA.", 35th Western Nutrition Conference, Edmonton, AB, Canada, September 24-25, 2014, pp.287. (Abstract)

## 2013

Yang, W.-Z., Li, C., and Beauchemin, K.A. (2013). "Protein source affects growth performance of backgrounded steers.", *Prairie Post - Bull Breeders*(February 2012), pp. A11.

Ding, S., Oba, M., Swift, M.-L., Yang, W.-Z., and McAllister, T.A. (2013). "The effect of malt characteristics on in situ digestibility of malt barley grain harvested in three years.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, O07-GS, pp. 5.

Yang, W.-Z., Xu, L., Li, C.L., and Beauchemin, K.A. (2013). "Effects of protein sources on growth performance of backgrounded steers.", CSAS-CMSA Joint Annual Meeting, Banff Park Lodge Resort Hotel and Conference Centre, Banff, AB, Canada, June 18-20, 2013, P44, pp. 43. (Poster)

Koenig, K.M., Beauchemin, K.A., and Yang, W.-Z. (2013). "Processing feed grains: factors affecting the effectiveness of grain processing for beef and dairy cattle production.", 34th Western Nutrition Conference – Processing, Performance & Profits, Saskatoon, SK, Canada, September 24 - 26, 2013, pp.62-73.

Koenig, K.M., Beauchemin, K.A., and Yang, W.-Z. (2013). "Processing Feed Grains: Factors Affecting the Effectiveness of Grain Processing for Beef and Dairy Cattle Production.", Western Nutrition Conference, Saskatoon, SK, Canada, September 24-26, 2013.

Yang, W.-Z. (2013). "Invited speaker and tour guide at feedlot facilities at LRC.", Seven Delegates from Alberta Wheat Commission, Feed Grain Coalition, Alberta Cattle Feeders' Association, August 27, 2013. (Presentation)

Yang, W.-Z. (2013). "Strategies to improve barley utilization in feedlot.", Alberta Cattle Feeder Association General Annual Meeting, Lacombe, AB, Canada, January 29, 2013.

2012

Liu, X.-L., Jin, L., Xu, Z.J., Hao, Y.-Q., McAllister, T.A., Lu, Z.-X., and Yang, W.-Z. (2012). "Condensed tannin of purple prairie clover inhibited anti-*Escherichia coli* activity through disrupting the outer and inner membrane.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

McKinnon, J.J., Yang, W.-Z., and McAllister, T.A. (2012). "Alternatives to starch-based feeding programs for growing and finishing cattle.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

Schlau, N., Duineveld, L., Yang, W.-Z., McAllister, T.A., and Oba, M. (2012). "Effect of precision processing barley grain on dry matter intake, milk production, rumen pH and nutrient digestibility in lactating dairy cows.", Joint Annual Meeting, American Dairy Science Association, Poultry Science Association, American Milk Producers Association, Canadian Society of Animal Science, and American Society of Animal Science, Phoenix, Arizona, USA, July 15-19, 2012.

Yang, W.-Z., McAllister, T.A., and Oba, M. (2012). "Precision processing barley grain improved feeding value of barley grain in beef cattle.", ADSA-AMPA-ASAS-CSAS-WSASAS Joint Annual Meeting, Phoenix, AZ, USA, July 15-19, 2012. (Presentation)

Yang, W.-Z. and McAllister, T.A. (2012). "Develop fecal starch index to predict feeding value of barley grain in feedlot cattle.", ADSA-AMPA-ASAS-CSAS-WSASAS Joint Annual Meeting, Phoenix, AZ, USA, July 15-19, 2012. (Presentation)

Li, C., Li, J.-Q., Beauchemin, K.A., and Yang, W.-Z. (2012). "Ruminal degradability, duodenal flow and intestinal digestibility of protein from canola meal or corn and wheat distillers grains in growing beef heifers.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, Published in: *Journal of Dairy Science (JDS)*, 95 (Suppl. 2), pp. 361 (Abstract).

Li, C., Li, J.-Q., Beauchemin, K.A., and Yang, W.-Z. (2012). "In vitro intestinal amino acid digestibility of distillers grains varies with grain source and milling process.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012, Published in: *Journal of Animal Science*, 90(Suppl. 3), pp. 593. (Abstract).

Schlau, N., Duineveld, L., Yang, W.-Z., McAllister, T.A., and Oba, M. (2012). "Precision processing barley grain improved feeding value of barley grain in beef cattle.", ADSA-AMPA-ASAS-CSAS-WSASAS Joint Annual Meeting, Phoenix, AZ, USA, July 15-19, 2012. (Presentation)

2011

Yang, W.-Z., Li, Y.L., and Armentano, L.E. (2011). "Milling process did not affect amino acid (AA) profiles of ruminal undegradable protein (RUP) from corn distiller grain.", *Canadian Journal of Animal Science*, 91, pp. 513. (Abstract)

McAllister, T.A., Yang, W.-Z., and Oba, M. (2011). "Matching processing with grain size.", 32nd Western Nutrition Conference: Quality from Complexity, Crowne Plaza Chateau Lacombe, Edmonton, AB, Canada, September 14-15, 2011.

Yang, W.-Z., McAllister, T.A., and Beauchemin, K.A. (2011). "Use of wheat-based dried distillers grains studied?", *Prairie Post - Bull Breeders*, 2011, pp. A8.

Yang, W.-Z., Li, Y.L., McAllister, T.A., and Beauchemin, K.A. (2011). "The use of wheat-based dried distillers grains as a source of energy and roughage in finishing rations.", Open House & Field Day at the Lethbridge Research Centre 2011, Lethbridge, AB, Canada, July 20, 2011.

Yang, W.-Z., McAllister, T.A., and Oba, M. (2011). "In vitro digestion and gas production of wheat grain varying processing.", ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 10-14, 2011.

Li, C., Yang, W.-Z., Li, J.-Q., Li, Y.L., and Furtado, A.F. (2011). "In situ ruminal protein degradability of distiller's grain varying grain source and milling process in beef cattle.", *Journal of Animal Science*, 89(E-Suppl. 1), pp. 109. (Abstract)

Yang, W.-Z., Li, Y.L., and Armentano, L.E. (2011). "Amino acid profiles and in vitro intestinal digestibility of corn distiller grain.", 29th Western Canadian Dairy Seminar (WCDS), Capri Centre, Red Deer, AB, Canada, March 8-11, 2011.

Li, C., Yang, W.-Z., Li, J.-Q., Li, Y.L., and Furtado, A.F. (2011). "In situ ruminal protein degradability of distiller's grain varying grain source and milling process in beef cattle.", ADSA-PSA-AMPA-CSAS-ASAS 2011 Joint Annual Meeting, New Orleans, LA, USA, July 11-14, 2011. (Poster)

Yang, W.-Z., Li, Y.L., and Armentano, L.E. (2011). "Amino acid profiles and in vitro intestinal digestibility of corn distiller grain.", *Advances in Dairy Technology (Western Canadian Dairy Seminar Proceedings)*, 23, pp. 389. (Abstract)



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## Research Publications:

2015

Yang, X.Q., Hao, L., Zhu, H., and Ma, K. (2015). "Purification and Molecular Characterization of an [FeFe]-Hydrogenase from *Thermotoga hypogea*.", *Current Biology*, 4(2), pp. 118-127. doi : 10.2174/2211550104666150414185950

Yang, X.Q., Tran, F., Youssef, M.K., and Gill, C.O. (2015). "Determination of sources of *Escherichia coli* on beef by multiple-locus variable-number tandem repeat analysis.", *Journal of Food Protection*, 78(7), pp. 1296-1302. doi : 10.4315/0362-028X.JFP-15-014

Yang, X.Q., Badoni, M., Tran, F., and Gill, C.O. (2015). "Microbiological Effects of a Routine Treatment for Decontaminating Hide-On Carcasses at a Large Beef Packing Plant.", *Journal of Food Protection*, 78(2), pp. 256-263. doi : 10.4315/0362-028X.JFP-14-226

2014

Yang, X.Q., Youssef, M.K., Gill, C.O., Badoni, M., and López-Campos, Ó. (2014). "Effects of meat pH on growth of 11 species of psychrotolerant clostridia on vacuum packaged beef and blown pack spoilage of the product.", *Food Microbiology*, 39, pp. 13-18. doi : 10.1016/j.fm.2013.10.008

Ruan, E.D., Juárez, M., Thacker, R., Yang, X.Q., Dugan, M.E.R, and Aalhus, J.L. (2014). "Dietary vitamin E effects on the formation of heterocyclic amines in grilled lean beef.", *Meat Science*, 96(2, Part A), pp. 849-853. doi : 10.1016/j.meatsci.2013.09.016

Yang, X.Q., Wang, H., and Badoni, M. (2014). "Effects of meat pH and the initial numbers of spores of *Clostridium estertheticum* on the development of blown pack spoilage of vacuum-packaged beef.", *International Journal of Food Science and Technology*, 49(7), pp. 1619-1625. doi : 10.1111/ijfs.12457

Wang, H., Gill, C.O., and Yang, X.Q. (2014). "Use of sodium lauroyl sarcosinate (sarkosyl) in viable real-time PCR for enumeration of *Escherichia coli*.", *Journal of Microbiological Methods*, 98(1), pp. 89-93. doi : 10.1016/j.mimet.2014.01.004

Wang, H., Gill, C.O., and Yang, X.Q. (2014). "Development of a real-time PCR procedure for quantification of viable *Escherichia coli* in populations of *E. coli* exposed to lactic acid, and the acid tolerance of verotoxigenic *E. coli* (VTEC) from cattle hides.", *Food Control*, 43, pp. 104-109. doi : 10.1016/j.foodcont.2014.02.039

Youssef, M.K., Gill, C.O., and Yang, X.Q. (2014). "Storage life at 2 °C or -1.5 °C of vacuum packaged boneless and bone-in cuts from decontaminated beef carcasses.", *Journal of the Science of Food and Agriculture*, 94(15), pp. 3118-3124. doi : 10.1002/jsfa.6659

Yang, X.Q. and Wang, H. (2014). "Pathogenic *E. coli* (Introduction).", in Batt, C.A. and Tortorello, M.L. (eds.) - *Encyclopedia of Food Microbiology Vol. 1*, Elsevier Inc. Academic Press, pp. 695-701.

Yang, X.Q. and Wang, H. (2014). "Packaging: Controlled Atmosphere.", in Batt, C.A. and Tortorello, M.L. (eds.) - *Encyclopedia of Food Microbiology Vol. 1*, Elsevier Inc. Academic Press, pp. 1006-1011.

Yang, X.Q. (2014). "Moraxellaceae.", in Batt, C.A. and Tortorello, M.L. (eds.) - *Encyclopedia of Food Microbiology Vol. 2*, Elsevier Inc. Academic Press, pp. 826-833.

Gill, C.O., Devos, J., Youssef, M.K., and Yang, X.Q. (2014). "Effects of Selected Cooking Procedures on the Survival of *Escherichia coli* O157:H7 in Inoculated Steaks Cooked on a Hot Plate or Gas Barbecue Grill.", *Journal of Food Protection*, 77(6), pp. 919-926. doi : 10.4315/0362-028X.JFP-13-526

Youssef, M.K., Yang, X.Q., and Gill, C.O. (2014). "The relationship between numbers of bacteria on surfaces and in deep tissues of mechanically tenderized beef.", *Food Control*, 46, pp. 502-507. doi : 10.1016/j.foodcont.2014.05.055

Yang, X.Q., Badoni, M., Wang, H., and Gill, C.O. (2014). "Effects of mild and pasteurizing heat treatments on survival of generic and verotoxigenic *Escherichia coli* from beef enrichment cultures.", *Food Control*, 39, pp. 100-104. doi : 10.1016/j.foodcont.2013.11.004

Youssef, M.K., Gill, C.O., Tran, F., and Yang, X.Q. (2014). "Unusual compositions of microflora of vacuum packaged beef primal cuts of very long storage life.", *Journal of Food Protection*, 77(12), pp. 2161-2167. doi : 10.4315/0362-028X.JFP-14-190

## 2013

Youssef, M.K., Yang, X.Q., Badoni, M., and Gill, C.O. (2013). "Survival of acid-adapted *Escherichia coli* O157:H7 and not-adapted *E. coli* on beef treated with 2% or 5% lactic acid.", *Food Control*, 34(1), pp. 13-18. doi : 10.1016/j.foodcont.2013.03.037

Youssef, M.K., Badoni, M., Yang, X.Q., and Gill, C.O. (2013). "Sources of *Escherichia coli* deposited on beef during breaking of carcasses carrying few *E. coli* at two packing plants.", *Food Control*, 31(1), pp. 166-171. doi : 10.1016/j.foodcont.2012.09.045

Yang, X.Q. and Badoni, M. (2013). "Substrate utilization during incubation in meat juice medium of psychrotolerant clostridia associated with blown pack spoilage.", *Food Microbiology*, 34(2), pp. 400-405. doi : 10.1016/j.fm.2013.02.003

## 2012

Mapiye, C., Dugan, M.E.R., Juárez, M., Basarab, J.A., Baron, V.S., Turner, T.D., Yang, X.Q., Aldai, N., and Aalhus, J.L. (2012). "Influence of  $\alpha$ -tocopherol supplementation on trans-18:1 and conjugated linoleic acid profiles in beef from steers fed a barley-based diet.", *Animal*, 6(11), pp. 1888-1896. doi: 10.1017/S1751731112000730

Youssef, M.K., Yang, X.Q., Badoni, M., and Gill, C.O. (2012). "Effects of spray volume, type of surface tissue and inoculum level on the survival of *Escherichia coli* on beef sprayed with 5% lactic acid.", *Food Control*, 25(2), pp. 717-722. doi : 10.1016/j.foodcont.2011.12.021

Yang, X.Q., Badoni, M., Youssef, M.K., and Gill, C.O. (2012). "Enhanced control of microbiological contamination of product at a large beef packing plant.", *Journal of Food Protection*, 75(1), pp. 144-149. doi: 10.4315/0362-028X.JFP-11-291

## 2011

Yang, X.Q., Balamurugan, S., and Gill, C.O. (2011). "Effects on the development of blown pack spoilage of the initial numbers of *Clostridium estertheticum* spores and *Leuconostoc mesenteroides* on vacuum packed beef.", *Meat Science*, 88(3), pp. 361-367. doi: 10.1016/j.meatsci.2011.01.010

Yang, X.Q., Badoni, M., and Gill, C.O. (2011). "Use of propidium monoazide and quantitative PCR for differentiation of viable *Escherichia coli* from *E. coli* killed by mild or pasteurizing heat treatments.", *Food Microbiology*, 28(8), pp. 1478-1482. doi: 10.1016/j.fm.2011.08.013

Yang, X.Q., Rajagopal, S., and Gill, C.O. (2011). "Accumulation of Spores in Hot Waters Recirculated in Beef Carcass Pasteurizers.", *Internet Journal of Food Safety*, 13, pp. 321-324.

## Other Science Related Publications:

### 2015

Yang, X.Q. (2015). "Shelf-life of Vacuum-packed Meat – New Data, New Ideas.", , Portland, Oregon, USA, July 25-28, 2015, Invited speaker.

Yang, X.Q., Tran, F., Youssef, M.A., and Gill, C.O. (2015). "Determination of sources of *Escherichia coli* on beef by multiple-locus variable-number tandem repeat analysis.", , Portland, Oregon, USA, July 25-28, 2015, Oral presentation.

Laidlaw, A., Gänzle, M.G., and Yang, X.Q. (2015). "Improving detection of EHEC on beef by targeting live cells using qPCR in conjunction with propidium monoazide and deoxycholate treatment.", *Canadian Society of Microbiologists Annual Conference*, Regina, Saskatchewan, Canada, June 15-18, 2015. (Poster)

Mercer, R.G., Zheng, J.M., Garcia-Hernandez, R., Zhang, L., Ruan, L., Yang, X.Q., Gänzle, M.G., and McMullen, L.M. (2015). "Escherichia coli does not always want to die.", 2015 Conference of the Canadian Society of Animal Science and the Canadian Meat Council, Ottawa, Canada, May 6-8, 2015. (Poster)

Visvalingam, J., Wang, H., Youssef, M.A., Devos, J., Gill, C.O., and Yang, X.Q. (2015). "Determination of genetic diversity of the *Escherichia coli* population on beef trimmings from a large beef packaging plant.", , Portland, Oregon, USA, July 25-28, 2015. (Poster)

### 2014

Klassen, M.D., Badoni, M., Yang, X.Q., and Gill, C.O. (2014). "Provide guidance on appropriate labeling for Mechanically Tenderized Beef (MTB).", *Alberta Livestock and Meat Agency Futurefare*, Edmonton, Alberta, Canada, June 16-17, 2014. (Poster)

Rajagopal, S., McMullen, L.M., and Yang, X.Q. (2014). "Characterization of germination of *Clostridium estertheticum* spores.", 17th IUFOST World Congress of Food Science and Technology, Montreal, QC, Canada, August 17-22, 2014.

Yang, X.Q. (2014). "Microflora on vacuum packaged beef from decontaminated carcasses.", International Association for Food Protection annual meeting (IAFP 2014), Indianapolis, Indiana, USA, USA, August 3-6, 2014.

Yang, X.Q. (2014). "Spoilage mechanisms of and potential interventions for controlling blown spoilage of vacuum packaged meat stored at chiller temperatures.", 17th IUFOST World Congress of Food Science and Technology, Montreal, QC, Canada, August 17-22, 2014.

Wang, H., Tran, F., and Yang, X.Q. (2014). "Comparison of six DNA extraction methods with minimum elution volumes for recovery of DNA from small numbers of *Escherichia coli*.", 17th IUFOST World Congress of Food Science and Technology, Montreal, QC, Canada, August 17-22, 2014.

Yang, X.Q. (2014). "Cooking procedures for ensuring the microbiological safety of mechanically tenderized steaks.", International Association for Food Protection annual meeting (IAFP 2014), Indianapolis, Indiana, USA, USA, August 3-6, 2014.

Yang, X.Q. (2014). "Microbiological efficacy of an on-line hide-on beef carcass washing treatment.", International Association for Food Protection annual meeting (IAFP 2014), Indianapolis, Indiana, USA, USA, August 3-6, 2014.

## 2013

Yang, X.Q. and Gill, C.O. (2013). "Sources of Contamination of Generic *Escherichia coli* on beef.", Futurefare by Alberta Livestock and Meat Agency, Red Deer, AB, Canada, June 17-18, 2013.

Yang, X.Q., Badoni, M., Wang, H., and Gill, C.O. (2013). "Effects of the initial numbers of spores of *Clostridium estertheticum* on the development of blown pack spoilage of vacuum packaged beef of normal and intermediate pH.", 93rd Annual Conference of the Canadian Meat Council, Banff, AB, Canada, May 29-31, 2013, pp. 11.

Wang, H., Badoni, M., Gill, C.O., and Yang, X.Q. (2013). "Enumeration by viable PCR of *Escherichia coli* O157:H7 from beef that survive mild heat treatment.", Canadian Institute of Food Science and Technology Annual meeting, Edmonton, AB, Canada, May 10, 2013.

Rajagopal, S., McMullen, L.M., Yang, X.Q., and Gill, C.O. (2013). "Effect of pH on the Germination of Spores of *Clostridium estertheticum* in Meat Juice Medium.", 58th Annual Meeting of the International Association of Food Protection (IAFP 2013), Charlotte Convention Center, Charlotte, NC, USA, July 28-31, 2013.

Youssef, M.K., Badoni, M., Yang, X.Q., and Gill, C.O. (2013). "Storage Lives of Canadian Vacuum Packed Boneless and Bone-in Cuts of Beef.", 93rd Annual Conference of the Canadian Meat Council, Banff, AB, Canada, May 29-31, 2013, pp. 8.

Youssef, M.K., Yang, X.Q., Badoni, M., and Gill, C.O. (2013). "Survival of acid tolerant *Escherichia coli* O157:H7 on beef surfaces sprayed with 2% or 5% lactic acid.", 93rd Annual Conference of the Canadian Meat Council, Banff, AB, Canada, May 29-31, 2013, pp. 9.

Wang, H., Yang, X.Q., Gill, C.O., and Badoni, M. (2013). "Enhanced selectivity of viable real-time PCR for *Escherichia coli*.", 93rd Annual Conference of the Canadian Meat Council, Banff, AB, Canada, May 29-31, 2013, pp. 15.

## 2012

Yang, X.Q., Badoni, M., and Gill, C.O. (2012). "Effects of mild heat treatments on numbers of survival generic and verotoxigenic *Escherichia coli* in *Escherichia coli* populations from beef enrichment cultures.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012.

Yang, X.Q., Badoni, M., and Gill, C.O. (2012). "Effect of mild heat treatments on numbers of survival generic and verotoxigenic *Escherichia coli* in populations from beef enrichment cultures.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012.

Mapiye, C., Dugan, M.E.R., Juárez, M., Basarab, J.A., Baron, V.S., Turner, T.D., Yang, X.Q., Aldai, N., and Aalhus, J.L. (2012). "Effect of vitamin E inclusion on trans-18:1 isomers in subcutaneous fat of steers fed a high-barley grain diet.", ADSA-AMPA-ASAS-CSAS-WSASAS 2012 Joint Annual Meeting, Hyatt Regency, Phoenix, AZ, USA, July 15-19, 2012.

Youssef, M.K., Yang, X.Q., Badoni, M., and Gill, C.O. (2012). "Sources of microbiological contamination on beef from carcasses dressed without decontamination at a small packing plant.", 58th International Congress of Meat Science and Technology (ICoMST), Hilton Montréal Bonaventure, Montréal, QC, Canada, August 12-17, 2012.

2011

Dai, M., Hamel, C., St. Arnaud, M., Grant, C.A., Lupwayi, N.Z., Janzen, H.H., Yang, X.Q., and Zhou, Z. (2011). "Composition and diversity of arbuscular mycorrhizal fungi in cropping system associated with different soil zones using pyrosequencing.", Soils Ecology Society Meeting 2011, University of British Columbia - Okanagan, Kelowna, BC, Canada, May 24-27, 2011, pp. 43.

Youssef, M.K., Yang, X.Q., Badoni, M., and Gill, C.O. (2011). "Effects of spray volume, type of surface tissue and inoculum level on the survival of *Escherichia coli* on beef sprayed with 5% lactic acid.", 15th Annual Federal Food Safety and Nutrition Research Meeting (FFSNRM), Ottawa, ON, Canada, December 6, 2011.

Yang, X.Q., Rajagopal, S., and Gill, C.O. (2011). "Accumulation of Spores in Hot Waters Recirculated in Beef Carcass Pasteurizers.", 15th Annual Federal Food Safety and Nutrition Research Meeting (FFSNRM), Ottawa, ON, Canada, December 6, 2011.

Yang, X.Q., Badoni, M., Youssef, M.K., and Gill, C.O. (2011). "Enhanced Control of Microbiological Contamination of Product at a Large Beef Packing Plant.", 15th Annual Federal Food Safety and Nutrition Research Meeting (FFSNRM), Ottawa, ON, Canada, December 6, 2011.

Drury, C.F., Yang, J., De Jong, R., Huffman, E.C., Yang, X.Q., and Reid, D.K. (2011). "The development of environmental indicators for nitrogen: Residual Soil Nitrogen and the Indicator of Risk of Water Contamination by Nitrate.", ASA/CSSA/SSSA/CSSS International Annual Meetings 2011, San Antonio, TX, USA, October 16-19, 2011.

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## Research Publications:

2015

Reynolds, W.D., Drury, C.F., Tan, C.S., and Yang, X.M. (2015). "Temporal effects of food waste compost on soil physical quality and productivity.", *Canadian Journal of Soil Science*, 95(3), pp. 251-268. doi: 10.4141/CJSS-2014-114

Liu, S.-Y., Liang, A.-Z., Yang, X.M., Zhang, X.-P., Jia, S., Chen, X., Zhang, S., Sun, B., and Chen, S.-L. (2015). "Effects of different residue part inputs of corn straws on CO<sub>2</sub> efflux and microbial biomass in clay loam and sandy loam black soils.", *Environmental Science*, 36(7), pp. 2686-2694. doi: 10.13227/j.hjkk.2015.07.048

Xie, H.T., Zhao, J., Wang, Q., Sui, Y., Wang, J., Yang, X.M., Zhang, X., and Liang, C. (2015). "Soil type recognition as improved by genetic algorithm-based variable selection using near infrared spectroscopy and partial least squares discriminant analysis.", *Scientific Reports*, 5(Article number 10930), pp. 1-10. doi: 10.1038/srep10930

Liu, S.Y., Zhang, X.-P., Liang, A.-Z., Jia, S., Zhang, S., Sun, B., Chen, S.-L., and Yang, X.M. (2015). "Effects of corn and soybean straws returning on CO<sub>2</sub> efflux at initial stage in black soil.", *Chinese Journal of Applied Ecology*, 26(8), pp. 2421-2427.

2014

Guo, X.-B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Fan, R.-Q. (2014). "The extent of soil drying and rewetting affects nitrous oxide emissions, denitrification, and nitrogen mineralization.", *Soil Science Society of America Journal*, 78(1), pp. 194-204. doi: 10.2136/sssaj2013.06.0219

Fang, H.-J., Cheng, S.-L., Yu, G., Yang, X.M., Xu, M., Wang, Y.S., Li, L.S., Dang, X.S., Wang, L.-J., and Li, Y. (2014). "Nitrogen deposition impacts on the amount and stability of soil organic matter in an alpine meadow ecosystem depend on the form and rate of applied nitrogen.", *European Journal of Soil Science*, 65(4), pp. 510-519. doi: 10.1111/ejss.12154

Guo, X.-B., Drury, C.F., Yang, X.M., and Reynolds, W.D. (2014). "Water-Soluble carbon and the carbon dioxide pulse are regulated by the extent of soil drying and rewetting.", *Soil Science Society of America Journal*, 78(4), pp. 1267-1278. doi: 10.2136/sssaj2014.02.0059

Yang, X.M., Reynolds, W.D., Drury, C.F., Fleming, R., Tan, C.S., Denholm, K., and Yang, J.Y. (2014). "Organic carbon and nitrogen stocks in a clay loam soil 10 years after a single compost application.", *Canadian Journal of Soil Science*, 94(3), pp. 357-363. doi: 10.4141/CJSS2013-076

Drury, C.F., Reynolds, W.D., Tan, C.S., McLaughlin, N.B., Yang, X.M., Calder, W., Oloya, T.O., and Yang, J.Y. (2014). "Impacts of 49-51 years of fertilization and crop rotation on growing season nitrous oxide emissions, nitrogen uptake and corn yields.", *Canadian Journal of Soil Science*, 94(3), pp. 421-433. doi: 10.4141/CJSS2013-101

Drury, C.F., Reynolds, W.D., Yang, X.M., Tan, C.S., Guo, X.-B., McKenney, D.J., and Fleming, R. (2014). "Influence of compost source on corn grain yields, nitrous oxide and carbon dioxide emissions in southwestern Ontario.", *Canadian Journal of Soil Science*, 94(3), pp. 347-355. doi: 10.4141/CJSS2013-077

Reynolds, W.D., Drury, C.F., Yang, X.M., Tan, C.S., and Yang, J.Y. (2014). "Impacts of 48 years of consistent cropping, fertilization and land management on the physical quality of a clay loam soil.", *Canadian Journal of Soil Science*, 94(3), pp. 403-419. doi: 10.4141/CJSS2013-097

Zhang, B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, X. (2014). "Crop rotation, red clover and cropping history influences microbial amino sugars of a clay loam soil.", *Soil Science Society of America Journal*, 78(3), pp. 818-824. doi: 10.2136/sssaj2013.03.0098

Zhang, B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, X.D. (2014). "Effects of long-term and recently imposed tillage on the concentration and composition of amino sugars in a clay loam soil in Ontario, Canada.", *Soil & Tillage Research*, 135, pp. 9-17. doi: 10.1016/j.still.2013.08.011

Fan, R.-Q., Yang, X.M., Drury, C.F., Reynolds, W.D., and Zhang, X.-P. (2014). "Spatial distributions of soil chemical and physical properties prior to planting soybean in soil under ridge-, no- and conventional- tillage in a maize-soybean rotation.", *Soil Use and Management*, 30(3), pp. 414-442. doi: 10.1111/sum.12136

Yang, X.M. (2014). "An extension to "Mid-infrared spectral interpretation of soils: Is it practical or accurate?""", *Geoderma*, 226-227(1), pp. 415-417. doi: 10.1016/j.geoderma.2014.03.022

2013

Fan, R.-Q., Yang, X.M., Drury, C.F., Guo, X.-B., and Zhang, X.-P. (2013). "Distribution and stability of organic carbon in soil aggregate external and internal layers under three different land use systems.", *Soil Science Society of America Journal*, 77(5), pp. 1625-1635. doi: 10.2136/sssaj2013.03.0086

Fan, R.-Q., Zhang, X.-P., Shen, Y., Yang, X.M., and Liang, A.-Z. (2013). "Near-infrared spectroscopic assessment of hot water extractable and oxidizable organic carbon in cultivated and uncultivated Mollisols in China.", *Acta Agriculturae Scandinavica, Section B - Plant Soil Science*, 63(1), pp. 37-45. doi: 10.1080/09064710.2012.711353

Yang, X.M., Drury, C.F., and Wander, M.M. (2013). "A wide view of no-tillage practices and soil organic carbon sequestration.", *Acta Agriculturae Scandinavica, Section B - Plant & Soil Science*, 63, pp. 523-530. doi: 10.1080/09064710.2013.816363

Guo, X.-B., Drury, C.F., Reynolds, W.D., Yang, X.M., and Fan, R.-Q. (2013). "Nitrous oxide and carbon dioxide from aerobic and anaerobic incubations: Effect of core length.", *Soil Science Society of America Journal*, 77(3), pp. 817-829. doi: 10.2136/sssaj2012.0292

Yang, J., Yang, J.Y., Dou, S., Yang, X.M., and Hoogenboom, G. (2013). "Simulating the effect of long-term fertilization on maize yield and soil C/N dynamics in northeastern China using DSSAT and CENTURY-based soil model.", *Nutrient Cycling in Agroecosystems*, 95(3), pp. 287-303. doi: 10.1007/s10705-013-9563-z

Yang, J.Y., Drury, C.F., De Jong, R., Huffman, E.C., Yang, X.M., and Reid, D.K. (2013). "Sensitivity analysis for nitrogen inputs, nitrogen outputs, and changes in biofuel crop acreages for predicting residual soil nitrogen and nitrate leaching in Canadian agricultural soils.", *Ecological Modelling*, 267, pp. 26-38. doi: 10.1016/j.ecolmodel.2013.07.016

Zhang, B., Yang, X.M., Drury, C.F., and Zhang, X.D. (2013). "A Mid-Infrared Spectroscopy Method to Determine the Glucosamine, Galactosamine, and Muramic Acid Concentrations in Soil Hydrolysates.", *Soil Science Society of America Journal*, 77(3), pp. 842-849. doi: 10.2136/sssaj2012.0359

Fan, R.-Q., Zhang, X.-P., Yang, X.M., Liang, A.-Z., Jia, S., and Chen, X. (2013). "Effects of tillage management on infiltration and preferential flow in a black soil, Northeast China.", *Chinese Geographical Science*, 23(3), pp. 312-320. doi: 10.1007/s11769-013-0606-9

2012

Shi, X.H., Yang, X.M., Drury, C.F., Reynolds, W.D., McLaughlin, N.B., and Zhang, X.-P. (2012). "Impact of ridge tillage on soil organic carbon and selected physical properties of a clay loam in southwestern Ontario.", *Soil & Tillage Research*, 120, pp. 1-7. doi: 10.1016/j.still.2012.01.003

Fan, R.-Q., Yang, X.M., and Xie, H.T. (2012). "Determination of nutrients in hydroponic solutions using mid-infrared spectroscopy.", *Scientia Horticulturae*, 144(6), pp. 48-54. doi: 10.1016/j.scienta.2012.06.037

Drury, C.F., Reynolds, W.D., Yang, X.M., McLaughlin, N.B., Welacky, T.W., Calder, W., and Grant, C.A. (2012). "Nitrogen source, application time and tillage effects on soil nitrous oxide emissions and corn grain yields.", *Soil Science Society of America Journal*, 76(4), pp. 1268-1279. doi: 10.2136/sssaj2011.0249

Guo, X.-B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, R. (2012). "Impacts of Wet-Dry Cycles and a Range of Constant Water Contents on Carbon Mineralization in Soils under Three Cropping Treatments.", *Soil Science Society of America Journal*, 76(2), pp. 485-493. doi: 10.2136/sssaj2011.0315

Shi, X.H., Zhang, X.-P., Yang, X.M., Drury, C.F., McLaughlin, N.B., Liang, A.-Z., Fan, R.-Q., and Jia, S. (2012). "Contribution of winter soil respiration to annual soil CO<sub>2</sub> emission in a Mollisol under different tillage practices in northeast China.", *Global Biogeochemical Cycles*, 26(2, Article No. GB2007). doi: 10.1029/2011GB004054

Fan, R.-Q., Yang, X.M., Zhang, X.-P., Shen, Y., Liang, A.-Z., Shi, X.H., Wei, S., and Chen, X. (2012). "Prediction of Soil Organic Carbon in Different Soil Fractions of Black Soils in Northeast China Using Near-Infrared Reflectance Spectroscopy.", *Spectroscopy and Spectral Analysis*, 32(2), pp. 349-353. doi: 10.3964/j.issn.1000-0593(2012)02-0349-05

Yang, X.M., Xie, H.T., Drury, C.F., Reynolds, W.D., Yang, J.Y., and Zhang, X.D. (2012). "Determination of organic carbon and nitrogen in particulate organic matter and particle size fractions of Brookston clay loam soil using infrared spectroscopy.", *European Journal of Soil Science*, 63(2), pp. 177-188. doi: 10.1111/j.1365-2389.2011.01421.x

Yang, J.Y., Huffman, E.C., Drury, C.F., Yang, X.M., DeJong, R., and Campbell, C.A. (2012). "Estimating changes of residual soil nitrogen in Chernozemic soils in Canada.", *Canadian Journal of Soil Science*, 92(3), pp. 481-491. doi: 10.4141/CJSS2010-37

Zhang, B., Yang, X.M., Drury, C.F., Reynolds, W.D., He, H., and Zhang, X. (2012). "Effects of 49 years of fertilization on the distribution and accumulation of soil carbon under corn cultivation.", *Canadian Journal of Soil Science*, 92(6), pp. 835-839. doi: 10.4141/cjss2011-117

Shi, X.H., Zhang, X.-P., Yang, X.M., McLaughlin, N.B., Liang, A.-Z., and Fan, R.-Q. (2012). "An appropriate time-window for measuring soil CO<sub>2</sub> efflux: a case study on a Black soil in north-east China.", *Acta Agriculturae Scandinavica, Section B - Plant Soil Science*, 62(5), pp. 449-454. doi: 10.1080/09064710.2011.642001

Fan, R.-Q., Zhang, X.-P., Liang, A.-Z., Jia, S., Chen, X., Wei, S., and Yang, X.M. (2012). "Comparative study of different earthworm sampling methods.", *Acta Ecologica Sinica*, 32(13), pp. 4154-4159.

Zhang, B., He, H., Ding, X., Zhang, X., Zhang, X.-P., Yang, X.M., and Filley, T.R. (2012). "Soil microbial community dynamics over a maize (*Zea mays* L.) growing season under conventional- and no-tillage practices in a rainfed agroecosystem.", *Soil & Tillage Research*, 124, pp. 153-160. doi: 10.1016/j.still.2012.05.011

Zhao, H., Lv, Y., Wang, X., Zhang, H., and Yang, X.M. (2012). "Tillage impacts on the fractions and compositions of soil organic carbon.", *Geoderma*, 189-190, pp. 397-403. doi: 10.1016/j.geoderma.2012.06.001

Fan, R.-Q., Shen, Y., Yang, X.M., Zhang, X.-P., Liang, A.-Z., Jia, S., Chen, X., and Wei, S. (2012). "Assessment of humic and fulvic acids in black soils using near-infrared reflectance spectroscopy.", *Spectroscopy and Spectral Analysis*, 32(10), pp. 2674-2679. doi: 10.3964/j.issn.1000-0593(2012)10-2674-06

Liu, H.L., Yang, J.Y., He, P., Bai, Y.L., Jin, J.Y., Drury, C.F., Zhu, Y.P., Yang, X.M., Li, W.J., Xie, J.G., Yang, J.M., and Hoogenboom, G. (2012). "Optimizing parameters of CSM-CERES-Maize model to improve simulation performance of maize growth and nitrogen uptake in northeast China.", *Journal of Integrative Agriculture*, 11(11), pp. 1898-1913. doi: 10.1016/S2095-3119(12)60196-8

## 2011

Yoo, G., Yang, X.M., and Wander, M.M. (2011). "Influence of soil aggregation on SOC sequestration: A preliminary model of SOC protection by aggregate dynamics.", *Ecological Engineering*, 37(3), pp. 487-495. doi: 10.1016/j.ecoleng.2010.12.016

Shi, X.H., Yang, X.M., Drury, C.F., Reynolds, W.D., McLaughlin, N.B., Welacky, T.W., and Zhang, X.-P. (2011). "Zone Tillage Impacts on Organic Carbon of a Clay Loam in Southwestern Ontario.", *Soil Science Society of America Journal*, 75(3), pp. 1083-1089. doi: 10.2136/sssaj2010.0319

Fang, H.-J., Cheng, S.-L., Yu, G., Zheng, J.-J., Zhang, P., Xu, M., Li, Y., and Yang, X.M. (2011). "Responses of CO<sub>2</sub> efflux from an alpine meadow soil on the Qinghai Tibetan Plateau to multi-form and low-level N addition.", *Plant and Soil*, 351(1-2), pp. 177-190. doi: 10.1007/s11104-011-0942-4

Guo, X.-B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, R. (2011). "Influence of current and previous crops on soil basal and potential denitrification rates.", *Biology and Fertility of Soils*, 47(8), pp. 937-947. doi: 10.1007/s00374-011-0588-7

Ding, X., Zhang, B., Zhang, X., Yang, X.M., and Zhang, X.-P. (2011). "Effects of tillage and crop rotation on soil microbial residues in a rainfed agroecosystem of northeast China.", *Soil & Tillage Research*, 114(1), pp. 43-49. doi: 10.1016/j.still.2011.03.008

Xie, H.T., Yang, X.M., Drury, C.F., Yang, J.Y., and Zhang, X.D. (2011). "Predicting soil organic carbon and total nitrogen using mid- and near-infrared spectra for Brookston clay loam soil in Southwestern Ontario, Canada.", *Canadian Journal of Soil Science*, 91(1), pp. 53-63. doi: 10.4141/CJSS10029

Yang, J.Y., Huffman, E.C., Drury, C.F., Yang, X.M., DeJong, R., Jin, J.Y., He, P., Bai, Y.L. (2011). "Estimating the impact of manure nitrogen losses on total nitrogen application on agricultural land in Canada.", *Canadian Journal of Soil Science*, 91(1), pp. 107-122. doi: 10.4141/CJSS10052

## Other Science Related Publications:

### 2014

Yang, J.Y., Huffman, E.C., Drury, C.F., Yang, X.M., De Jong, R., and Campbell, C.A. (2014). "Estimating Changes of Residual Soil Nitrogen in Chernozemic Soils in Canada.", *CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.*

Guo, X.-B., Drury, C.F., Yang, X.M., and Reynolds, W.D. (2014). "Water-Soluble Carbon Controls the Size of Carbon Mineralization Pulse in an Agricultural Soil Following Drying and Rewetting Processes.", *CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.*

Drury, C.F., Reynolds, W.D., Tan, C.S., McLaughlin, N.B., Yang, X.M., Calder, W., Oloya, T.O., and Yang, J.Y. (2014). "Long-Term Fertilization and Crop Rotation Impacts on Growing Season Nitrous Oxide Emissions, Nitrogen Uptake and Corn Grain Yields.", *CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.*

Reynolds, W.D., Drury, C.F., Yang, X.M., Tan, C.S., and Fleming, R.J. (2014). "Immediate and Long-Term Impacts of Compost on the Physical Quality and productivity of a Clay Loam Soil.", *CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.*

Yang, X.M., Drury, C.F., Gregorich, E.G., Hao, X., Geng, X.Y., Reid, K., Fox, C.A., and VandenBygaart, A.J. (2014). "Mid-Infrared Spectral Characteristics of Different Agricultural Soils across Canada.", *CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.*

Zhang, B.L., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, X. (2014). "Crop Rotation, Cover Crops and Cropping History Influences Microbial Amino Sugars of a Clay Loam Soil.", CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.

Yang, X.M., Drury, C.F., Reynolds, W.D., and Yang, J.Y. (2014). "Crop rotation: an effective way to preserve organic carbon in a soil converted from forest to agricultural use.", International Symposium on resources, environment and sustainable development in Northeast Asia, Changchung, China, June 10-15, 2014.

Yang, X.M., Drury, C.F., Reynolds, W.D., and Yang, J.Y. (2014). "Crop rotation: an effective way to preserve organic carbon in a soil converted from forest to agricultural use.", University of Chinese Academy of Sciences, Beijing, China, June 10-16, 2014. (Presentation)

Yang, X.M., Drury, C.F., Reynolds, W.D., Yang, J.Y., and Reeb, M.A. (2014). "Preliminary results of Nitro Radish on N scavenger in fall and mineral N dynamics in early spring in SW Ontario, Canada.", Lombard, IL, USA, July 27-30, 2014.

Yang, X.M., Zhang, X.-P., Drury, C.F., Reynolds, W.D., and Fan, R.-Q. (2014). "Profile Illustration of Soil Characteristics under Different Tillage Practices Using Surface Electrical Resistivity Tomography.", CSSS/CGU 2014 Annual Meeting, Banff, AB, Canada, May 4-8, 2014.

## 2013

Guo, X.-B., Drury, C.F., Reynolds, W.D., Yang, X.M., and Fan, R.-Q. (2013). "Nitrous oxide and carbon dioxide emissions from aerobic and anaerobic incubations: effect of core length.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Reynolds, W.D., Drury, C.F., Yang, X.M., and Yang, J.Y. (2013). "A generalized analysis for the variable-head borehole permeameter test.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Zhang, B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, X. (2013). "Effects of long-term and recently imposed tillage on the concentration and composition of amino sugars in a clay loam soil.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Yang, X.M., Drury, C.F., Reynolds, W.D., and Yang, J.Y. (2013). "Fall accumulation and spring release of soil mineral nitrogen following winter wheat and before corn planting on a Brookston clay loam in SW Ontario.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Yang, X.M., Drury, C.F., and Yang, J.Y. (2013). "Potential of using mid-infrared spectroscopy in study of soil and solution samples in Canada.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013.

Yang, X.M., Drury, C.F., Yang, J.Y., and Reynolds, W.D. (2013). "Is Mid-Infrared Spectral Subtraction a Practical Approach for Accurate Study of Soil Organic Matter?", the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America 2013 International Annual Meetings, Tampa, FL, USA, November 3-6, 2013.

Khosla, S., Hao, X.M., and Yang, X.M. (2013). "Precision Fertigation in Greenhouse Vegetables to Minimize Offsite Nutrient Discharge.", 29th International Horticultural Congress, Brisbane, Queensland, Australia. (Abstract)

Guo, X.-B., Drury, C.F., Chen, C., Crolla, A., Whalen, J.K., VanderZaag, A.C., Yang, X.M., and Wagner-Riddle, C. (2013). "Effect of anaerobically digested manures on nitrous oxide emissions, soil denitrification rates, and denitrifier abundance in short-term incubations.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013. (Poster)

Drury, C.F., Reynolds, W.D., Yang, X.M., Tan, C.S., and McLaughlin, N.B. (2013). "Agronomic and soil quality benefits of cover crops.", Middle West Cover Crop Council Meeting - Making Sense with Cover Crops Workshop, London, ON, Canada, February 28 - March 1, 2013. (Workshop)

## 2012

Shi, X.H., Zhang, X.-P., Yang, X.M., Drury, C.F., McLaughlin, N.B., Liang, A.-Z., Fan, R.-Q., and Jia, S. (2012). "Contribution of winter soil respiration to annual soil CO<sub>2</sub> emission in a Mollisol under different tillage practices in northeast China [Global Biogeochemical Cycles 26 (GB3020)] (Erratum).", Global Biogeochemical Cycles, 26(3), pp. 1.

Guo, X.-B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Fan, R.-Q. (2012). "The Impact of the Degree of Soil Wetting and Drying on Nitrous Oxide Emissions.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012, pp. 85.

Yang, X.M. (2012). "Cecal butyrate production is enhanced by consumption of a novel variety of high-soluble fibre potato in pigs fed a high-fat basal diet", 12th International Symposium on Digestive Physiology in Pigs, Keystone, CO, USA, May 30-June 1, 2012.

Yang, J.Y., Drury, C.F., DeJong, R., Huffman, E.C., Yang, X.M., and Reid, K. (2012). "Sensitivity and scenario analysis of Canadian Agricultural Nitrogen Budget model (CANB v3.0) for estimating residual soil nitrogen and N leaching across Canadian farmland.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012.



Fan, R.-Q., Yang, X.M., Drury, C.F., Reynolds, W.D., and Zhang, X.-P. (2012). "Characterizing Organic Carbon in Aggregate Inner- and Outer-Core Fractions of Soils Under Different Land Use Systems.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012, pp. 74.

Drury, C.F., Reynolds, W.D., Tan, C.S., McLaughlin, N.B., Yang, X.M., and Calder, W. (2012). "Long-Term Effects of Fertilization and Crop Rotation on Nitrous Oxide Emissions From Soils.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012, pp. 72.

Yang, X.M., Drury, C.F., Reynolds, W.D., McLaughlin, N.B., and Yang, J.Y. (2012). "Impacts of Fifty-Years of Crop Rotation and Fertilization on SOC and N of a Brookston Clay Loam in Southwestern Ontario.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012, pp. 127.

Yang, X.M., Drury, C.F., and Reynolds, W.D. (2012). "Soil organic carbon and total nitrogen stocks 10 years after a single compost addition to brookston clay loam soil.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012, pp. 151.

## 2011

Drury, C.F., Reynolds, W.D., Yang, X.M., and Yang, J.Y. (2011). "Challenges and Opportunities for Agriculture over the Next 50 Years. Future of Food: bioCEP3.", Biotechnology, Crops, Education, Policy, Production and Perception, London, ON, Canada, September 20, 2011. (Presentation)

Guo, X.-B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, R. (2011). "Influence of current and previous crop on soil basal and potential denitrification rates.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Guo, X.-B., Drury, C.F., Yang, X.M., Reynolds, W.D., and Zhang, R. (2011). "Impacts of constant versus fluctuating water-filled pore space on carbon mineralization in soils.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Drury, C.F., Yang, J.Y., DeJong, R., Huffman, E.C., Yang, X.M., Reynolds, W.D., and Reid, D.K. (2011). "Validating the Residual Soil Nitrogen Indicator.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Shi, X.H., Yang, X.M., Drury, C.F., Reynolds, W.D., McLaughlin, N.B., and Zhang, X.-P. (2011). "Impact of Ridge Tillage on Organic Carbon Sequestration in a Clay Loam Soil in Southwestern Ontario.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Yang, J.Y., Drury, C.F., DeJong, R., Huffman, E.C., and Yang, X.M. (2011). "Developing a Canadian Agricultural Nitrogen Budget (CANB v3.0) Model to Predict Residual Soil Nitrogen and Nitrate Leaching Across Canadian Farmland.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Fan, R.-Q., Yang, X.M., and Drury, C.F. (2011). "Mid-IR Spectroscopic Assessment of Structural Features of Organic Carbon In Particle Size Fractions of a Clay Loam Soil.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Reynolds, W.D., Drury, C.F., Yang, X.M., Tan, C.S., Zhang, T.Q., and Yang, J.Y. (2011). "Measuring Soil Hydraulic Properties Using a Falling-Head Borehole Permeameter.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Drury, C.F., Reynolds, W.D., Yang, X.M., Welack, T.W., McLaughlin, N.B., Calder, W., and Grant, C.A. (2011). "Tillage and N source effects on nitrous oxide emissions from soils.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Yang, X.M., Drury, C.F., Reynolds, W.D., and Xie, H.T. (2011). "Determination of Organic Carbon and Nitrogen In Particulate and Particle Size Fractions of Brookston Clay Loam Soils Using Soil Infrared Spectroscopy.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

# Yanke, Lindsey Jay, M.Sc.

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## Research Publications:

2015

Nkemka, V.N., Gilroyed, B.H., Yanke, L.J., Gruninger, R.J., Vedres, D.D., McAllister, T.A., and Hao, X. (2015). "Bioaugmentation with an anaerobic fungus in a two-stage process for biohydrogen and biogas production using corn silage and cattail.", *Bioresource Technology*, 185, pp. 79-88. doi: 10.1016/j.biortech.2015.02.100

2013

Asif, M., Eudes, F., Randhawa, H.S., Amundsen, E.J., Yanke, L.J., and Spaner, D.M. (2013). "Cefotaxime prevents microbial contamination and improves microspore embryogenesis in wheat and triticale.", *Plant Cell Reports*, 32(10), pp. 1637-1646. doi: 10.1007/s00299-013-1476-4

Reti, K.L., Thomas, M.C., Yanke, L.J., Selinger, L.B., and Inglis, G.D. (2013). "Effect of antimicrobial growth promoter administration on the intestinal microbiota of beef cattle.", *Gut Pathogens*, 5:8. doi: 10.1186/1757-4749-5-8

2012

Zaheer, R., Yanke, L.J., Church, D., Topp, E., Read, R.R., and McAllister, T.A. (2012). "High-throughput species identification of enterococci using pyrosequencing.", *Journal of Microbiological Methods*, 89(3), pp. 174-178. doi: 10.1016/j.mimet.2012.03.012

Wang, Y., Ramirez-Bribiesca, J.E., Yanke, L.J., Tsang, A., and McAllister, T.A. (2012). "Effect of Exogenous Fibrolytic Enzyme Application on the Microbial Attachment and Digestion of Barley Straw In vitro.", *Asian-Australasian Journal of Animal Science*, 25(1), pp. 66-74. doi: 10.5713/ajas.2011.11158

Puhl, N.J., Uwiera, R.R.E., Yanke, L.J., Selinger, L.B., and Inglis, G.D. (2012). "Antibiotics conspicuously affect community profiles and richness, but not the density of bacterial cells associated with mucosa in the large and small intestines of mice.", *Anaerobe*, 18(1), pp. 67-75. doi: 10.1016/j.anaerobe.2011.12.007

2011

Mirzaagha, P., Louie, M., Sharma, R., Yanke, L.J., Topp, E., and McAllister, T.A. (2011). "Distribution and characterization of ampicillin and tetracycline-resistant *Escherichia coli* from feedlot cattle fed subtherapeutic antimicrobials.", *BMC Microbiology*, 11:78. doi: 10.1186/1471-2180-11-78

Inglis, G.D., Yanke, L.J., and Selinger, L.B. (2011). "Cutinolytic esterase activity of bacteria isolated from mixed-plant compost and characterization of a cutinase gene from *Pseudomonas pseudoalcaligenes*.", *Canadian Journal of Microbiology*, 57(11), pp. 902-913. doi: 10.1139/W11-083

Alexander, T.W., Yanke, L.J., Reuter, T.R., Topp, E., Read, R.R., Selinger, L.B., and McAllister, T.A. (2011). "Longitudinal characterization of antimicrobial resistance genes in feces shed from cattle fed different subtherapeutic antibiotics.", *BMC Microbiology*, 11:19. doi: 10.1186/1471-2180-11-19

Qi, M., Wang, P., Selinger, L.B., Yanke, L.J., Forster, R.J., and McAllister, T.A. (2011). "Isolation and characterization of a ferulic acid esterase (Fae1A) from the rumen fungus *Anaeromyces mucronatus*.", *Journal of Applied Microbiology*, 110(5), pp. 1341-1350. doi: 10.1111/j.1365-2672.2011.04990.x

## Other Science Related Publications:

2011

McAllister, T.A., Alexander, T.W., Cook, S.R., Yanke, L.J., and Zaheer, R. (2011). "Molecular Ecology of Antimicrobial Resistance in the Feedlot.", *Antimicrobial Stewardship in Canadian Agriculture and Veterinary Medicine: How is Canada doing and what still needs to be done?*, Toronto Airport, Toronto, ON, Canada, October 30 - November 2, 2011.

Reti, K.L., Thomas, M.C., Costa, E., Yanke, L.J., Selinger, L.B., and Inglis, G.D. (2011). "Administration of antimicrobial growth promoters does not alter the intestinal microbiota of beef cattle.", *Plant Bioactives Research in Canada. Canada-United Kingdom Gut and Health Workshop, AAFC-FRDC / AAC-CRDA, Saint-Hyacinthe, QC, Canada, February 24-25, 2011. (Poster)*

# You, Frank M., Ph.D.

## Bioinformatics

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## Research Publications:

2015

Sekhwal, M.K., Li, P., Lam, I., Wang, X., Cloutier, S., and You, F.M. (2015). "Disease Resistance Gene Analogs (RGAs) in Plants.", *International Journal of Molecular Sciences*, 16(8), pp. 19248-19290. doi: 10.3390/ijms160819248

Fu, Y.B., Yang, M.-H., Horbach, C., Kessler, D., Diederichsen, A., You, F.M., and Wang, H. (2015). "Patterns of SSR variation in bread wheat (*Triticum aestivum* L.) seeds under ex situ genebank storage and accelerated ageing.", *Genetic Resources and Crop Evolution*, 62(8), pp. 1-14. doi: 10.1007/s10722-015-0349-9

Kumar, S., You, F.M., Duguid, S.D., Booker, H.M., Rowland, G.G., and Cloutier, S. (2015). "QTL for fatty acid composition and yield in linseed (*Linum usitatissimum* L.).", *Theoretical and Applied Genetics (TAG)*. doi: 10.1007/s00122-015-2483-3

Muñoz-Amatriáin, M., Lonardi, S., Luo, M., Madishetty, K., Svensson, J.T., Moscou, M.J., Wanamaker, S., Jiang, T., Kleinhofs, A., Muehlbauer, G., Wise, R.P., Stein, N., Ma, Y., Rodriguez, E., Kudrna, D., Bhat, P.R., Chao, S., Condamine, P., Heinen, S., Resnik, J., Wing, R., Witt, H.N., Alpert, M., Beccuti, M., Bozdog, S., Cordero, F., Mirebrahim, H., Ounit, R., Wu, Y., You, F.M., Zheng, J., Šimková, H., Doležel, J., Grimwood, J., Schmutz, J., Duma, D., Altschmied, L., Blake, T., Bregitzer, P., Cooper, L., Dilbirigi, M., Falk, A., Feiz, L., Graner, A., Gustafsson, P., Haygarth, P.M., Lemaux, P.G., Mammadov, J., and Close, T.J. (2015). "Sequencing of 15 622 gene-bearing BACs clarifies the gene-dense regions of the barley genome.", *The Plant Journal*, 84(1), pp. 216-227. doi: 10.1111/tbj.12959

Hiebert, C.W., Spielmeier, W., McCartney, C., Kassa, M.T., Fetch Jr., T.G., You, F.M., Menzies, J.G., Humphreys, D.G., and McCallum, B.D. (2015). "Stem rust resistance: two approaches.", in Ogiwara, Y. et al. (eds.) - *Proceedings of the 12th International Wheat Genetics Symposium*, Springer, Chapter 20, pp. 183-191.

Luo, M.-C., You, F.M., Li, P., Wang, J., Zhu, T., Dandekar, A.M., Leslie, C.A., Aradhya, M., McGuire, P.E., and Dvorak, J. (2015). "Synteny analysis in Rosids with a walnut physical map reveals slow genome evolution in long-lived woody perennials.", *BMC Genomics*, 16(707), pp. 1-17. doi: 10.1186/s12864-015-1906-5

You, F.M., Cloutier, S., Shan, Y.F., and Ragupathy, R. (2015). "LTR Annotator: Automated Identification and Annotation of LTR Retrotransposons in Plant Genomes.", *International Journal of Bioscience, Biochemistry and Bioinformatics*, 5(3), pp. 165-174. doi: 10.17706/ijbbb.2015.5.3.165-174

McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M., Pozniak, C.J., Uauy, C., Förster, R.J., Ordon, F., Sharpe, A.G., Fobert, P., Fox, S.L., You, F.M., Thomas, J., Hiebert, C.W., Jordan, M.C., and Costamagna, A. (2015). "Management of Wheat Midge with Host Genetics.", *Department of Entomology Seminar Series, University of Manitoba, Winnipeg, MB, Canada, January 27, 2015, Invited presentation.*

2014

Wang, W., Feng, B., Xiao, J., Xia, Z., Zhou, X., Li, P., Zhang, W., Wang, Y., Møller, B., Luo, M.-C., Yang, J., Chen, S., Rabinowicz, P.D., Chen, X., Zhang, H.B., You, F.M., and others (2014). "Cassava genome from a wild ancestor to cultivated varieties.", *Nature Communications*. doi: 10.1038/ncomms6110

Cabral, A.L., Jordan, M.C., McCartney, C.A., You, F.M., Humphreys, D.G., MacLachlan, R., and Pozniak, C.J. (2014). "Identification of candidate genes, regions and markers for pre-harvest sprouting resistance in wheat (*Triticum aestivum* L.).", *BMC Plant Biology*, 14(340). doi: 10.1186/s12870-014-0340-1

Zhang, L., Luo, M.-C., You, F.M., Nevo, E., Sun, D.F., and Peng, J. (2014). "Development of Microsatellite Markers in Tung Tree (*Vernicia fordii*) Using Cassava Genomic Sequences.", *Plant Molecular Biology Reporter*. doi: 10.1007/s11105-014-0804-3

You, F.M., Li, P., Kumar, S., Ragupathy, R., Li, Z.N., Fu, Y.B., and Cloutier, S. (2014). "Genome-wide Identification and Characterization of the Gene Families Controlling Fatty Acid Biosynthesis in Flax (*Linum usitatissimum* L.).", *Journal of Proteomics & Bioinformatics*, 7(10), pp. 310-326. doi: 10.4172/jpb.1000334

Nie, X.J., Deng, P.C., Feng, K.W., Liu, P.X., Du, X.H., You, F.M., and Song, W.N. (2014). "Comparative analysis of codon usage patterns in chloroplast genomes of the Asteraceae family.", *Plant Molecular Biology Reporter*, 32(4), pp. 828-840. doi: 10.1007/s11105-013-0691-z

Varshney, R.K., Mir, R.R., Bhatia, S., Thudi, M., Hu, Y., Azam, S., Zhang, Y., Jaganathan, D., You, F.M., Gao, J.L., Riera-Lizarazu, O., and Luo, M.-C. (2014). "Integrated physical, genetic and genome map of chickpea (*Cicer arietinum* L.).", *Functional and Integrative Genomics*, 14(1), pp. 59-73. doi: 10.1007/s10142-014-0363-6

Deng, P.C., Nie, X.J., Wang, L., Cui, L., Liu, P.X., Tong, W., You, F.M., and others (2014). "Computational Identification and Comparative Analysis of miRNAs in Wheat Group 7 Chromosome.", *Plant Molecular Biology Reporter*, 32(2), pp. 487-500. doi : 10.1007/s11105-013-0669-x

## 2013

Thambugala, D., Duguid, S.D., Loewen, E., Rowland, G.G., Booker, H.M., You, F.M., and Cloutier, S. (2013). "Genetic variation of six desaturase genes in flax and their impact on fatty acid composition.", *Theoretical and Applied Genetics (TAG)*, 126(10), pp. 2627-2641. doi: 10.1007/s00122-013-2161-2

You, F.M., Duguid, S.D., Thambugala, D., and Cloutier, S. (2013). "Statistical analysis and field evaluation of the type 2 modified augmented design (MAD) in phenotyping of flax (*Linum usitatissimum*) germplasm in multiple environments.", *Australian Journal of Crop Science*, 7(11), pp. 1789-1800.

Ragupathy, R., You, F.M., and Cloutier, S. (2013). "Arguments for standardizing transposable element annotation in plant genomes.", *Trends in Plant Science*. doi : 10.1016/j.tplants.2013.03.005

Ren, J., Sun, D., Chen, L., You, F.M., Wang, J., Peng, Y.L., Nevo, E., Sun, D.F., Luo, M.-C., and Peng, J. (2013). "Genetic diversity revealed by single nucleotide polymorphism markers in a worldwide germplasm collection of durum wheat.", *International Journal of Molecular Sciences*, 14(4), pp. 7061-7088. doi : 10.3390/ijms14047061

Wang, J.-R., Luo, M.-C., Chen, Z., You, F.M., Wei, Y.-M., and Zheng, Y.-L. (2013). "Aegilopstauschii single nucleotide polymorphisms shed light on the origins of wheat D-genome genetic diversity and pinpoint the geographic origin of hexaploid wheat.", *New Phytologist*, 198(3), pp. 925-937. doi : 10.1111/nph.12164

Gottlieb, A., Müller, H.-G., Massa, A.N., Wanjugi, H., Deal, K.R., You, F.M., Xu, X., Gu, Y.Q., Luo, M.-C., Anderson, O.D., Chan, A.P., Rabinowicz, P.D., Devos, K.M., and Dvorak, J. (2013). "Insular Organization of Gene Space in Grass Genomes.", *PLoS ONE*, 8(1, Article No. e54101). doi : 10.1371/journal.pone.0054101

Wang, Y., You, F.M., Lazo, G.R., Luo, M.-C., Thilmony, R., Gordon, S., Kianian, S.F., and Gu, Y.Q. (2013). "PIECE: a database for plant gene structure comparison and evolution.", *Nucleic Acids Research*, 41(D1), pp. D1159-D1166. doi : 10.1093/nar/gks1109

Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Menzies, J.G., Pozniak, C.J., Sharpe, A.G., Fobert, P., Rezac, N., and others (2013). "Fine mapping of the wheat leaf rust resistance gene *Lr16*.", *International Wheat Genetics Symposium, Yokohama, Japan, September 8-14, 2013*.

## 2012

Wu, J., Gu, Y.Q., Hu, Y., You, F.M., Dandekar, A.M., Leslie, C.A., Aradhya, M., Dvorak, J., and Luo, M.-C. (2012). "Characterizing the walnut genome through analyses of BAC end sequences.", *Plant Molecular Biology*, 78(1-2), pp. 95-107. doi : 10.1007/s11103-011-9849-y

Zhu, X., Wang, H., Guo, J., Wu, Z., Cao, A., Bie, T., Nie, M., You, F.M., Cheng, Z., Xiao, J., Liu, Y., Cheng, S., Chen, P., and Wang, X. (2012). "Mapping and validation of quantitative trait loci associated with wheat yellow mosaic bymovirus resistance in bread wheat.", *Theoretical and Applied Genetics (TAG)*, 124(1), pp. 177-188. doi : 10.1007/s00122-011-1696-3

Kumar, S., You, F.M., and Cloutier, S. (2012). "Genome wide SNP discovery in flax through next generation sequencing of reduced representation libraries.", *BMC Genomics*, 13:684. doi : 10.1186/1471-2164-13-684

Palti, Y., Genêt, C., Gao, G., Hu, Y., Deal, K.R., You, F.M., Ma, Y.Q., Dvorak, J., Zheng, Y.-L., Wei, Y.-M., Liu, Y., Boussaha, M., Rexroad III, C.E., Luo, M.-C. (2012). "A Second Generation Integrated Map of the Rainbow Trout (*Oncorhynchus mykiss*) Genome: Analysis of Conserved Synteny with Model Fish Genomes.", *Marine Biotechnology*, 14(3), pp. 343-357. doi : 10.1007/s10126-011-9418-z

You, F.M., Deal, K.R., Wang, J.-R., Britton, M.T., Fass, J.N., Lin, D., Dandekar, A.M., Leslie, C.A., Aradhya, M., Luo, M.-C., and Dvorak, J. (2012). "Genome-wide SNP discovery in walnut with an AGSNP pipeline updated for SNP discovery in allogamous organisms.", *BMC Genomics*, 13:354. doi : 10.1186/1471-2164-13-354

Dvorak, J., Deal, K.R., Luo, M.-C., You, F.M., von Borstel, K., and Dehghani, H. (2012). "The origin of spelt and free-threshing hexaploid wheat.", *Journal of Heredity*, 103(3), pp. 426-441. doi : 10.1093/jhered/esr152

## 2011

Qin, B., Cao, A., Wang, H., Chen, T., You, F.M., Liu, Y., Ji, J., Liu, D., Chen, P., and Wang, X. (2011). "Collinearity-based marker mining for the fine mapping of *Pm6*, a powdery mildew resistance gene in wheat.", *Theoretical and Applied Genetics (TAG)*, 123(2), pp. 207-218. doi : 10.1007/s00122-011-1577-9

Zhao, H., Yu, J., You, F.M., Luo, M.-C., and Peng, J. (2011). "Transferability of microsatellite markers from *Brachypodium distachyon* to *Miscanthus sinensis*, a potential biomass crop.", *Journal of Integrative Plant Biology (JIPB)*, 53(3), pp. 232-245. doi : 10.1111/j.1744-7909.2010.01026.x

Laudencia-Chinguanco, D., Ganeshan, S., You, F.M., Fowler, D.B., Chibbar, R.N., and Anderson, O.D. (2011). "Genome-wide gene expression analysis supports a developmental model of low temperature tolerance gene regulation in wheat (*Triticum aestivum* L.).", *BMC Genomics*, 12:299. doi: 10.1186/1471-2164-12-299

You, F.M., Huo, N., Deal, K.R., Gu, Y.Q., Luo, M.-C., McGuire, P.E., Dvorak, J., and Anderson, O.D. (2011). "Annotation-based genome-wide SNP discovery in the large and complex *Aegilopstauschii* genome using next-generation sequencing without a reference genome sequence.", *BMC Genomics*, 12:59. doi: 10.1186/1471-2164-12-59

Šimková, H., Šafář, J., Kubaláková, M., Suchánková, P., Číhalíková, J., Robert-Quatre, H., Azhaguvel, P., Weng, Y., Peng, J., Lapitan, N.L.V., Ma, Y.Q., You, F.M., Luo, M.-C., Bartoš, J., and Doležel, J. (2011). "BAC libraries from wheat chromosome 7D: efficient tool for positional cloning of aphid resistance genes.", *Journal of Biomedicine and Biotechnology*, 2011 (Article ID 302543). doi: 10.1155/2011/302543

Massa, A.N., Wanjugi, H., Deal, K.R., O'Brien, K., You, F.M., Maiti, R., Chan, A.P., Gu, Y.Q., Luo, M.-C., Anderson, O.D., Rabinowicz, P.D., Dvorak, J., and Devos, K.M. (2011). "Gene space dynamics during the evolution of *Aegilopstauschii*, *Brachypodium distachyon*, *Oryza sativa*, and *Sorghum bicolor* genomes.", *Molecular Biology and Evolution*, 28(9), pp. 2537-2547. doi: 10.1093/molbev/msr080

Huo, N., Garvin, D.F., You, F.M., McMahon, S., Luo, M.-C., Gu, Y.Q., Lazo, G.R., and Vogel, J.P. (2011). "Comparison of a high-density genetic linkage map to genome features in the model grass *Brachypodium distachyon*.", *Theoretical and Applied Genetics (TAG)*, 123(3), pp. 455-464. doi: 10.1007/s00122-011-1598-4

## Other Science Related Publications:

2015

Shan, Y.F., Li, P., Duguid, S.D., Cloutier, S., Deyholos, M.K., Wang, Y., Gu, Y.Q., Booker, H.M., and You, F.M. (2015). "FlaxDB: A comprehensive and integrated genome and breeding database for flax improvement.", XXIII Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2015. (Poster)

Kassa, M.T., You, F.M., Hiebert, C.W., McCallum, B.D., Cabral, A.L., Panwar, V., Pozniak, C.J., Fetch Jr., T.G., Zegeye, T., Menzies, J.G., Humphreys, D.G., Fobert, P., Sharpe, A.G., Jordan, M.C., and McCartney, C.A. (2015). "Targeting high impact wheat resistance genes for leaf rust, Ug99 stem rust and wheat midge.", Canadian Wheat Alliance Annual Science and Business Meeting (Invited), Saskatoon, SK, Canada, July 14-16, 2015. (Presentation)

You, F.M., Li, P., Kumar, S., Ragupathy, R., Banik, M., Duguid, S.D., Booker, H.M., Deyholos, M.K., Fu, Y.B., Sharpe, A.G., and Cloutier, S. (2015). "The refined flax genome, its evolution and application.", XXIII Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2015, P1039. (Poster)

Fofana, B., Ghose, K., You, F.M., and Cloutier, S. (2015). "UGT74S1 Is Unique In Controlling Secoisolaricresinol Diglucoside (SDG) Formation In Flax.", XXIII Plant and Animal Genome Conference, San Diego, CA, USA, January 10-14, 2015, pp. 160. (Abstract)

McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M., Pozniak, C.J., Uauy, C., Förster, R.J., Ordon, F., Sharpe, A.G., Fobert, P., Fox, S.L., You, F.M., Thomas, J., Hiebert, C.W., Jordan, M.C., and Costamagna, A. (2015). "Management of Wheat Midge with Host Genetics.", Department of Entomology Seminar Series (Invited), University of Manitoba, Winnipeg, MB, Canada, January 27, 2015. (Presentation)

McCartney, C.A., Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Panwar, V., Pozniak, C.J., Menzies, J.G., Humphreys, D.G., Fobert, P., Sharpe, A.G., and Jordan, M.C. (2015). "Progress towards sequencing the leaf rust resistance gene Lr16.", International Wheat Conference 2015, Sydney, Australia, September 20-25, 2015.

Kassa, M.T., Hiebert, C.W., You, F.M., Fobert, P., Jordan, M.C., Sharpe, A.G., Pozniak, C.J., Fetch Jr., T.G., Zegeye, T., Menzies, J.G., and McCartney, C. (2015). "Genetic mapping and marker development for high-throughput marker-assisted breeding for Ug99 stem rust resistance gene SrCad/Sr42.", Botany 2015 Joint Conference: Science and plants for people, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-29, 2015.

Xiang, Y., Bernardy, M.G., Bhagwat, B., Su, L., Li, Z.N., Wiersma, P.A., You, F.M., and Sinotte, P. (2015). "Detection and characterization of viruses associated with sweet cherry mottle leaf diseases.", Canadian Phytopathological Society (CPS) Meeting 2015, Edmonton, AB, Canada, July 25-29, 2015. (Poster)

Hiebert, C.W., McCartney, C.A., Kassa, M.T., You, F.M., Pozniak, C.J., Fobert, P., and Fetch Jr., T.G. (2015). "Genetic mapping of resistance to *Puccinia graminis* race TTKSK in Triumph 64.", Borlaug Global Rust Initiative Workshop, Sydney, Australia, September 17-20, 2015. (Poster)

Fofana, B., Ghose, K., McCallum, J.L., You, F.M., and Cloutier, S. (2015). "UGT74S1 is a single-copy gene and is unique in controlling Secoisolaricresinol Diglucoside (SDG) formation in flax.", Botany 2015 Joint Conference: Science and plants for people, Shaw Convention Center, Edmonton, Alberta, Canada, July 25-30, 2015. (Poster)

2014

Laudencia-Chinguanco, D., You, F.M., Penner, G.A., Byrns, B., and Fowler, D.B. (2014). "Induction of Cold Acclimation in Wheat (*Triticum aestivum* L.).", XXII Plant & Animal Genome Conference, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014.

You, F.M., Cloutier, S., Luo, M.-C., and Dvorak, J. (2014). "Genotyping-by-sequencing strategy for genome-wide SNP discovery and genotyping.", 12th Asia Pacific Bioinformatics Conference, Shanghai, China, January 17-19, 2014.

Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Panwar, V., Menzies, J.G., Pozniak, C.J., Sharpe, A.G., Fobert, P., Jordan, M.C., and McCartney, C.A. (2014). "Fine Mapping of the Wheat Leaf Rust Resistance Gene Lr16.", XXII Plant & Animal Genome Conference, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014.

Bykova, N.V., Hu, J.-N., Radovanovic, N., You, F.M., and Fan, T. (2014). "Quantitative proteomic approaches to revealing mechanisms of seed dormancy control and pre-harvest sprouting resistance in wheat.", 1st INPPO World Congress on Plant Proteomics: Methodology to Biology, Hamburg, Germany, August 31 - September 4, 2014.

Cloutier, S., Rowland, G.G., Booker, H.M., Deyholos, M.K., Datla, R.S.S., Duguid, S.D., Fofana, B., Reaney, M.J.T., Selvaraj, G., Smyth, S., Wang, E., Weselake, R.J., You, F.M., Zou, J.W., and Barker, C. (2014). "The TUFGEN project.", 65th Flax Institute, Fargo, North Dakota, USA, March 27-28, 2014, Oral presentation, pp. 39-48.

Cabral, A.L., Jordan, M.C., You, F.M., McCartney, C.A., and Pozniak, C.J. (2014). "Identification of a maturity QTL that coincides with a heading date locus on 7D in a DH population of RL4452/AC Domain.", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8-11, 2014. (Poster)

Cabral, A.L., Jordan, M.C., You, F.M., McCartney, C.A., and Pozniak, C.J. (2014). "Identification of a Maturity QTL That Coincides with a Heading Date Locus on 7D in a DH Population of RL4452/AC Domain.", XXII Plant & Animal Genome Conference, Town & Country Convention Center, San Diego, CA, USA, January 10-15, 2014.

## 2013

You, F.M., Kumar, S., Banik, M., Ragupathy, R., Deyholos, M.K., Fu, Y.B., Sharpe, A.G., and Cloutier, S. (2013). "Ordering the draft genome sequence of flax (*Linum usitatissimum*).", Plant & Animal Genome XXI Conference, Town & Country Convention Center, San Diego, CA, USA, January 12-16, 2013.

Chen, C.-X., You, F.M., Luo, M.-C., Dvorak, J., and Gmitter, F.G. (2013). "Integration of sweet orange genetic and physical maps using BAC end sequence based SNPs and GoldenGate assay.", Plant & Animal Genome XXI Conference, Town & Country Convention Center, San Diego, CA, USA, January 12-16, 2013.

Hiebert, C.W., Spielmeyer, W., McCartney, C.A., Kassa, M.T., Fetch Jr., T.G., You, F.M., Menzies, J.G., Humphreys, D.G., and McCallum, B.D. (2013). "Stem rust resistance - two approaches.", 12th International Wheat Genetics Symposium (IWGS), Yokohama, Japan, September 8-14, 2013, Invited presentation.

Ragupathy, R., You, F.M., and Cloutier, S. (2013). "Genome-wide comparative analysis of LTR retrotransposon dynamics in flax (*Linum usitatissimum*) and its related genomes, cassava (*Manihot esculenta*) and poplar (*Populus trichocarpa*).", Plant & Animal Genome XXI Conference, Town & Country Convention Center, San Diego, CA, USA, January 12-16, 2013.

Kumar, S., You, F.M., and Cloutier, S. (2013). "The 10K+ SNP maps of flax.", Plant & Animal Genome XXI Conference, Town & Country Convention Center, San Diego, CA, USA, January 12-16, 2013.

McCartney, C.A., Kassa, M.T., Wise, I.L., Smith, M., Fox, S.L., You, F.M., Thomas, J., Hiebert, C.W., Jordan, M.C., and Pozniak, C.J. (2013). "Efforts to manage wheat midge through host genetics.", 69th Annual Meeting of the Entomological Society of Manitoba, Winnipeg, MB, Canada, November 1-2, 2013, Invited Keynote Speech.

McCartney, C.A., Kassa, M.T., Cabral, A.L., Hiebert, C.W., You, F.M., Jordan, M.C., Menzies, J.G., Humphreys, D.G., Fellers, J.P., Rezac, N., Fobert, P., Sharpe, A.G., Pozniak, C.J., and McCallum, B.D. (2013). "Molecular Analysis of the Lr16 Locus.", North American Cereal Rust Workers Meeting, Winnipeg, MB, Canada, March 20, 2013.

Kassa, M.T., You, F.M., McCallum, B.D., Hiebert, C.W., Cabral, A.L., Menzies, J.G., Pozniak, C.J., Sharpe, A.G., Fobert, P., Jordan, M.C., and McCartney, C.A. (2013). "Fine mapping of the wheat leaf rust resistance gene Lr16.", 12th International Wheat Genetics Symposium (IWGS), Yokohama, Japan, September 8-14, 2013. (Poster)

You, F.M., Kumar, S., Ragupathy, R., Deyholos, M.K., Fu, Y.B., Sharpe, A.G., and Cloutier, S. (2013). "Organization and evolution of the flax genome.", 2013 CSPB/SCBV Annual General Meeting, Laval University, Quebec City, Canada, June 25-28, 2013, Poster no. F6, page no. 89 of the abstract book (Poster)

Kassa, M.T., Hiebert, C.W., You, F.M., Jordan, M.C., Fobert, P., Sharpe, A.G., Pozniak, C.J., Zegeye, T., Fetch Jr., T.G., Menzies, J.G., Humphreys, D.G., and McCartney, C.A. (2013). "Molecular Diagnosis of SrCad and Sr42 resistance genes.", North American Cereal Rust Workers Meeting, Winnipeg, MB, Canada, March 20, 2013.

Kassa, M.T., Hiebert, C.W., You, F.M., Jordan, M.C., Fobert, P., Sharpe, A.G., Pozniak, C.J., Zegeye, T., Fetch Jr., T.G., and McCartney, C.A. (2013). "Fine mapping of Ug99 stem rust resistance gene SrCad.", Canadian Phytopathological Society Annual Meeting, Edmonton, AB, Canada, June 16-19, 2013.

Dvorak, J., Luo, M.-C., Gu, Y.Q., You, F.M., Huo, N., Wang, Y., Wang, J.-R., Chen, S., Jorgensen, C., Zhang, Y., McGuire, P.E., Pasternak, S., Stein, J., Ware, D., Kramer, M., McCombie, W.R., Kianian, S.F., Martis, M.M., Mayer, K., Sehgal, S.K., Gill, B.S., Bevan, M., Doležel, J., Lazo, G.R., Anderson, O.D., Massa, A.N., Rabinowicz, P.D., and Devos, K.M. (2013). "A 4-gigabase comparative physical map of *Aegilops tauschii*, the wheat D-genome progenitor, opens the window into the evolution of gene content and meaning of genome size in grasses.", Plant & Animal Genome XXI Conference, Town & Country Convention Center, San Diego, CA, USA, January 12-16, 2013.

Klocová, B., Kladivová, M., Frenkel, Z., Kumar, A., Kianian, S.F., Šimková, H., Šafář, J., Hu, Y., You, F.M., Luo, M.-C., Korol, A., Doležel, J., and Valarik, M. (2013). "Toward the sequence-ready physical map of bread wheat chromosome 4A.", Plant & Animal Genome XXI Conference, Town & Country Convention Center, San Diego, CA, USA, January 12-16, 2013.

Kassa, M.T., McCartney, C.A., You, F.M., Hiebert, C.W., Jordan, M.C., Pozniak, C.J., MacLachlan, R., McCallum, B.D., Fox, S.L., Wise, I.L., and Thomas, J.B. (2013). "Marker development for wheat leaf rust resistance gene Lr16 and wheat midge resistance gene Sm1 in Canadian wheat cultivars.", Plant & Animal Genome XXI Conference, Town & Country Convention Center, San Diego, CA, USA, January 12-16, 2013.

## 2012

Kladivová, M., Jakobson, I., Peusha, H., Järve, K., Timofejeva, L., Reis, D., Klocová, B., Hu, Y., You, F.M., Luo, M.-C., Kumar, A., Kianian, S.F., Šimková, H., Šafář, J., Valarik, M., and Doležel, J. (2012). "Combined Approaches Toward Mapping and Cloning of Powdery Mildew Resistance Gene QPm.tut-4A Introgressed to Bread Wheat from *T. militinae*.", Plant & Animal Genome XX Conference, Town & Country Convention Center, San Diego, CA, USA, January 14-18, 2012. (Poster)

Cloutier, S., Banik, M., You, F.M., Radovanovic, N., Miranda, D.E., Reimer, E., Ward, K., Walichnowski, A.Z., Rowland, G.G., and Duguid, S.D. (2012). "High Density SSR- and SNP-based Genetic Maps of Flax.", Plant & Animal Genome XX Conference, Town & Country Convention Center, San Diego, CA, USA, January 14-18, 2012. (Poster)

Kumar, S., You, F.M., and Cloutier, S. (2012). "High density genetic maps for flax.", Genomics: The Power and the Promise, the Gairdner Foundation and Genome Canada, Ottawa, ON, Canada, November 27-28, 2012.

Huo, N., Dong, L., Wang, Y., You, F.M., Luo, M.-C., Dvorak, J., Anderson, O.D., and Gu, Y.Q. (2012). "Sequencing wheat BAC pools by 454 Titanium plus system.", Plant & Animal Genome XX Conference, Town & Country Convention Center, San Diego, CA, USA, January 14-18, 2012. (Poster)

Kassa, M.T., McCartney, C.A., You, F.M., McCallum, B.D., Hiebert, C.W., and Jordan, M.C. (2012). "Marker development for the wheat leaf rust resistance gene Lr16 using a comparative genomic approach.", 22nd International Triticeae Mapping Initiative (ITMI) and 4th National Wheat Genomics Committee Joint Workshop, Fargo, ND, USA, June 25-29, 2012.

Laudencia-Chinguanco, D., Ganeshan, S., You, F.M., Fowler, D.B., Chibbar, R.N., and Anderson, O.D. (2012). "Expression of CBF Genes in Crowns of Near-isogenic Winter and Spring-habit Hexaploid Wheat (*Triticum aestivum* L.) During Cold Acclimation.", Plant & Animal Genome XX Conference, Town & Country Convention Center, San Diego, CA, USA, January 14-18, 2012. (Poster)

Sehgal, S.K., Akhunov, E.D., Li, W., Kaur, G., Catana, V., Pillamari, J., Faris, J.D., Reddy, L., Devos, K.M., Rabinowicz, P.D., Chan, A.P., Maiti, R., Šimková, H., Šafář, J., Doležel, J., Luo, M.-C., Ma, Y.Q., You, F.M., and Gill, B.S. (2012). "Physical and Genetic Framework of Chromosome 3A of Bread Wheat.", Plant & Animal Genome XX Conference, Town & Country Convention Center, San Diego, CA, USA, January 14-18, 2012. (Poster)

Wang, Y., You, F.M., Yan, E., Lazo, G.R., Luo, M.-C., Kianian, S.F., and Gu, Y.Q. (2012). "PGSCED: A database for plant gene structure comparison and evolution.", Plant & Animal Genome XX Conference, Town & Country Convention Center, San Diego, CA, USA, January 14-18, 2012. (Poster)

Dvorak, J., Luo, M.-C., Deal, K.R., McGuire, P.E., Wang, J.-R., You, F.M., Huo, N., Gu, Y.Q., Anderson, O.D., Li, W., Sehgal, S.K., Gill, B.S., Stein, J., Pasternak, S., Olson, A.F., Ware, D., McCombie, W.R., Martis, M.M., Mayer, K., and Doležel, J. (2012). "Physical map and shotgun sequence of the *Aegilops tauschii* genome.", Plant & Animal Genome XX Conference, Town & Country Convention Center, San Diego, CA, USA, January 14-18, 2012. (Poster)

## 2011

Close, T.J., Luo, M.-C., Lonardi, S., Alpert, M., Duma, D., Bozdog, S., Farmer, A., May, G.D., Jackson, S.A., Ma, Y.Q., Gu, Y.Q., Wu, J., You, F.M., Diop, N.N., Wanamaker, S., Fenton, R.D., Timko, M.P., Roberts, P.A., and Ehlers, J.D. (2011). "Genome resources for cowpea genotype IT97K-499-35.", Plant & Animal Genome XIX Conference, Town & Country Convention Center, San Diego, CA, USA, January 15-19, 2011. (Poster)

Kladivová, M., Posti, D., Jakobson, I., Peusha, H., Järve, K., Timofejeva, L., Hu, Y., Zhang, Y., You, F.M., Luo, M.-C., Šimková, H., Šafář, J., Doležel, J., and Valarik, M. (2011). "High Density Map Of The Powdery Mildew Resistance QPm.tut-4A Gene Region In Wheat.", Plant & Animal Genome XIX Conference, Town & Country Convention Center, San Diego, CA, USA, January 15-19, 2011. (Poster)

Laudencia-Chinguanco, D., Ganeshan, S., You, F.M., Fowler, D.B., Chibbar, R.N., and Anderson, O.D. (2011). "Genome-Wide Expression Analysis Of Low Temperature Adaptation In Wheat (*Triticum aestivum* L.).", Plant & Animal Genome XIX Conference, Town & Country Convention Center, San Diego, CA, USA, January 15-19, 2011. (Poster)

Blake, V.C., Matthews, D.E., Lazo, G.R., Hane, D., You, F.M., Lee, J., and Anderson, O.D. (2011). "GrainGenes: the Triticeae genome database.", Plant & Animal Genome XIX Conference, Town & Country Convention Center, San Diego, CA, USA, January 15-19, 2011.

Wang, Y., You, F.M., Dong, L., Luo, M.-C., Denton, A., Leonard, J., Kianian, S.F., Gu, Y.Q., and Lazo, G.R. (2011). "An Integrated Genomics Website To Resolve High-Resolution Physical Maps For Large Plant Genomes.", Plant & Animal Genome XIX Conference, Town & Country Convention Center, San Diego, CA, USA, January 15-19, 2011. (Poster)

You, F.M., Wang, Y., Gu, Y.Q., Luo, M.-C., Huo, N., Deal, K.R., Lee, J., Lazo, G.R., Dvorak, J., and Anderson, O.D. (2011). "HybridVelvet: hybrid assembly of next generation sequencing data using Velvet.", Plant & Animal Genome XIX Conference, Town & Country Convention Center, San Diego, CA, USA, January 15-19, 2011. (Poster)



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## Research Publications:

2015

Yu, K., Woodrow, L., and Poysa, V. (2015). "AAC 26-15 soybean.", *Canadian Journal of Plant Science*, 95(2), pp. 441-443. doi : 10.4141/CJPS-2014-337

Chen, Hui, Zhang, L.R., Yu, K., and Wang, A.M. (2015). "Pathogenesis of Soybean mosaic virus in soybean carrying Rsv1 gene is associated with miRNA and siRNA pathways, and breakdown of AGO1 homeostasis.", *Virology*, 476, pp. 395-404. doi : 10.1016/j.virol.2014.12.034

Wang, Y., Wang, X.-Y., Gu, M., Kang, H., Zeng, J., Fan, X., Sha, L., Zhang, H., Yu, K., and Zhou, Y.-H. (2015). "Cloning and characterization of four novel SnRK2 genes from *Triticum polonicum*.", *Biologia Plantarum*, 59(2), pp. 211-219. doi : 10.1007/s10535-015-0501-6

2014

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Navabi, A., Yu, K., and Hou, A. (2014). "Combining resistance to common bacterial blight, anthracnose, and bean common mosaic virus into Manitoba-adapted dry bean (*Phaseolus vulgaris* L.) cultivars", *Canadian Journal of Plant Science*, 94(2), pp. 405-415. doi : 10.4141/CJPS2013-281

Wang, Y., Xiao, X., Zhang, T.Q., Kang, H., Zeng, J., Fan, X., Sha, L., Zhang, H., Yu, K., and Zhou, Y. (2014). "Cadmium treatment alters the expression of five genes at the cda1 locus in two soybean cultivars [*Glycine Max* (L.) Merr].", *The Scientific World Journal*, 2014(Article ID 979750), pp. 1-8. doi : 10.1155/2014/979750

Yu, K., Woodrow, L., and Poysa, V. (2014). "AAC Stern soybean.", *Canadian Journal of Plant Science*, 94(2), pp. 457-459. doi : 10.4141/CJPS2013-306

Zou, X., Shi, C., Austin, R.S., Merico, D., Munholland, S., Marsolais, F., Navabi, A., Crosby, W.L., Pauls, K.P., Yu, K., and Cui, Y. (2014). "Genome-wide single nucleotide polymorphism and Insertion-Deletion discovery through next-generation sequencing of reduced representation libraries in common bean.", *Molecular Breeding*, 33(4), pp. 769-778. doi : 10.1007/s11032-013-9997-7

2013

Perry, G.E., DiNatale, C., Xie, W., Navabi, A., Reinprecht, Y., Crosby, W.L., Yu, K., Shi, C., and Pauls, K.P. (2013). "A comparison of the molecular organization of genomic regions associated with resistance to common bacterial blight in two *Phaseolus vulgaris* genotypes", *Frontiers in Plant Science*, 4(Aug: Article 318). doi : 10.3389/fpls.2013.00318

Durham, K.M., Xie, W., Yu, K., Pauls, K.P., Lee, E., and Navabi, A. (2013). "Interaction of common bacterial blight quantitative trait loci in a resistant inter-cross population of common bean.", *Plant Breeding*, 132(6), pp. 658-666. doi : 10.1111/pbr.12103

Navabi, A., Rupert, T., Park, S.J., Yu, K., Smith, T.H., and Pauls, K.P. (2013). "Apex common bean.", *Canadian Journal of Plant Science*, 93(1), pp. 131-135. doi : 10.4141/CJPS2012-139

Poysa, V., Woodrow, L., and Yu, K. (2013). "AAC Malden soybean.", *Canadian Journal of Plant Science*, 93, pp. 1277-1279. doi : 10.4141/CJPS2013-159

Wang, Y., Xiao, X., Kang, H., Zeng, J., Fan, X., Sha, L., Zhang, H., Yu, K., and Zhou, Y.-H. (2013). "Alteration of Water and Dry Matter Content in Soybean Exposed to Cadmium.", *American-Eurasian Journal of Agricultural & Environmental Sciences*, 13(5), pp. 606-610. doi : 10.5829/dosi.aejaes.2013.13.05.1973

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Yu, K., and Hou, A. (2013). "Marker-assisted dissection of anthracnose resistance in the dry bean cultivar 'Morden003'", *Canadian Journal of Plant Science*, 93(6), pp. 1115-1123. doi : 10.4141/CJPS2013-085

2012

Wang, Y., Yu, K., Poysa, V., Shi, C., and Zhou, Y.-H. (2012). "Selection of reference genes for normalization of qRT-PCR analysis of differentially expressed genes in soybean exposed to cadmium.", *Molecular Biology Reports*, 39(2), pp. 1585-1594. doi : 10.1007/s11033-011-0897-9

Shi, C., Yu, K., Xie, W., Perry, G.E., Navabi, A., Pauls, K.P., Miklas, P.N., and Deidré, F. (2012). "Development of candidate gene markers associated to common bacterial blight resistance in common bean.", *Theoretical and Applied Genetics (TAG)*, 125(7), pp. 1525-1537. doi: 10.1007/s00122-012-1931-6

Xie, W., Yu, K., Pauls, K.P., and Navabi, A. (2012). "Application of Image Analysis in Studies of Quantitative Disease Resistance: Exemplified Using Common Bacterial Blight-Common Bean Pathosystem.", *Phytopathology*, 102(4), pp. 434-442. doi : 10.1094/PHYTO-06-11-0175

Jegadeesan, S., Yu, K., Woodrow, L., Wang, Y., Shi, C., and Poysa, V. (2012). "Molecular analysis of glycinin genes in soybean mutants for development of gene-specific markers.", *Theoretical and Applied Genetics (TAG)*, 124(2), pp. 365-372. doi : 10.1007/s00122-011-1711-8

Yu, K. (2012). "Bacterial Artificial Chromosome Libraries of Pulse Crops: Characteristics and Applications."

Wang, Y., Yu, K., Poysa, V., Shi, C., and Zhou, Y.-H. (2012). "A Single Point Mutation in GmHMA3 Affects Cadmium (Cd) Translocation and Accumulation in Soybean Seeds. (Letter to editor).", *Molecular Plant*, 5(5), pp. 1154-1156. doi : 10.1093/mp/sss069

## 2011

Shi, C., Navabi, A., and Yu, K. (2011). "Association mapping of common bacterial blight resistance QTL in Ontario bean breeding populations.", *BMC Plant Biology*, 11:52. doi: 10.1186/1471-2229-11-52

Wang, Y., Yu, K., Xie, Q., Kang, H., Lin, L., Fan, X., Sha, L., Zhang, H., and Zhou, Y.-H. (2011). "The 3Ns Chromosome of *Psathyrostachys huashanica* Carries the Gene(s) Underlying Wheat Stripe Rust Resistance.", *Cytogenetic and Genome Research (CGR)*, 134(2), pp. 136-143. doi: 10.1159/000324928

Wang, Y., Xie, Q., Yu, K., Poysa, V., Lin, L., Kang, H., Fan, X., Sha, L., Zhang, H., and Zhou, Y.-H. (2011). "Development and characterization of wheat-*Psathyrostachys huashanica* partial amphiploids for resistance to stripe rust.", *Biotechnology Letters*, 33(6), pp. 1233-1238. doi: 10.1007/s10529-011-0537-4

Wang, Y., Yu, K., Xie, Q., Kang, H., Lin, L., Fan, X., Sha, L., Zhang, H., and Zhou, Y.-H. (2011). "Cytogenetic, genomic in situ hybridization (GISH) and agronomic characterization of alien addition lines derived from wheat-*Psathyrostachys huashanica*.", *African Journal of Biotechnology*, 10(12), pp. 2201-2211.

Yu, K., Shi, C., and Zhang, B.L. (2011). "Development and Application of Molecular Markers to Breed Common Bean (*Phaseolus Vulgaris* L.) for Resistance to Common Bacterial Blight (CBB) - Current Status and Future Directions.", in Najafpour, M.M. (ed.) - *Photosynthesis. Book 2*, InTech, Open Access Publisher.

Shi, C., Chaudhary, S., Yu, K., Park, S.J., Navabi, A., and McClean, P.E. (2011). "Identification of candidate genes associated with CBB resistance in common bean HR45 (*Phaseolus vulgaris* L.) using cDNA-AFLP.", *Molecular Biology Reports*, 38(1), pp. 75-81. doi: 10.1007/s11033-010-0079-1

Reinprecht, Y., Luk-Labey, S.-Y., Yu, K., Poysa, V., Rajcan, I., Ablett, G.R., and Pauls, K.P. (2011). "Molecular basis of seed lipoxygenase null traits in soybean line OX948.", *Theoretical and Applied Genetics (TAG)*, 122(7), pp. 1247-1264. doi : 10.1007/s00122-011-1528-5

Hou, A., Balasubramanian, P.M., Conner, R.L., Park, S.J., Yu, K., Kiehn, F.A., and Navabi, A. (2011). "Portage common bean.", *Canadian Journal of Plant Science*, 91(3), pp. 523-525. doi: 10.4141/cjps2010-015

## Other Science Related Publications:

### 2014

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Navabi, A., Yu, K., and Hou, A. (2014). "Combining resistance to common bacterial blight, anthracnose and bean common mosaic virus in dry bean.", 6th International Food Legume Research Conference and 7th International Conference on Legume Genetics and Genomics, TCU Place, Saskatoon, SK, Canada, July 7-11, 2014, Presentation. (Poster)

Zou, X., Shi, C., Austin, R.S., Merico, D., Munholland, S., Marsolais, F., Navabi, A., Crosby, W.L., Pauls, K.P., Yu, K., and Cui, Y. (2014). "Genome-wide SNP and InDel discovery and transcriptional profiling of CBB resistance in common bean.", 6th International Food Legumes Research Conference (IFLRC VI) and 7th International Conference on Legume Genetics and Genomics (ICLGG VII), Saskatoon, SK, Canada, July 14-17, 2014, Presentation. (Poster)

Yu, K., Wang, Y., Poysa, V., Shi, C., and Zhou, Y. (2014). "Cadmium concentration in soybean seed is affected by the wild type GmHMA3 gene.", 15th Biennial Conference Molecular and Cellular Biology of the Soybean, Minneapolis, Minnesota, USA, August 3-6, 2014. (Poster)

### 2012

Zhang, B.L., Yu, K., and Navabi, A. (2012). "Breeder-friendly Single Nucleotide Polymorphism (SNP) markers for common bean (*Phaseolus vulgaris* L.)", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Poster)

Zou, X., Shi, C., Austin, R.S., Navabi, A., Yu, K., and Cui, Y. (2012). "Genome Wide SNP discovery and transcriptional profiling of CBB resistance in common bean.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Poster)

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Navabi, A., Yu, K., and Hou, A. (2012). "Pyramiding resistance to common bacterial blight, anthracnose and bean common mosaic virus in dry bean.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, Poster.

Boersma, J.G., Conner, R.L., Balasubramanian, P.M., Yu, K., and Hou, A. (2012). "Molecular marker-assisted dissection of anthracnose resistance in the common dry bean cultivar, 'morden003'.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012, Poster.

Navabi, A., Pauls, K.P., Yu, K., Tsao, R., Woodrow, L., and Poysa, V. (2012). "A Multi-Disciplinary Approach Towards Developing Bean Varieties for Sustainable Dry Bean Production in Ontario. Research Update.", Pulse Science Cluster Scientific Meeting 2012, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 5-6, 2012.

Perry, G.E., Crosby, W.L., Yu, K., Navabi, A., Zou, X., Power, K.A., Marsolais, F., Xie, W., Weersink, A., Tsao, R., Cooper, D., and Pauls, K.P. (2012). "Sequencing the bean genome: Using comparative genomics to examine interspecific introgressions.", Canadian Society of Plant Biologists Meeting (CSPB 2012), University of Alberta Campus, Edmonton, AB, Canada, June 25-27, 2012. (Presentation)

Xie, W., McClymont, S., Stonehouse, R.G., Khanal, R., Yu, K., Pauls, K.P., Bett, K.E., and Navabi, A. (2012). "Characterization of Quantitative Trait Loci in the Interactions between Common Bean and Isolates of Common Bacterial Blight Pathogens.", 9th Canadian Pulse Research Workshop, Niagara Falls Marriott Gateway, Niagara Falls, ON, Canada, November 6-12, 2012. (Presentation)

Navabi, A., Pauls, K.P., Yu, K., Tsao, R., Woodrow, L., and Poysa, V. (2012). "A Multi-Disciplinary Approach Towards Developing Bean Varieties for Sustainable Dry Bean Production in Ontario.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel I, Saskatoon, SK, Canada, November 17-18, 2011.

Xie, W., McClymont, S., Stonehouse, R.G., Khanal, R., Yu, K., Pauls, K.P., and Navabi, A. (2012). "Differential expression of resistance QTL in the interactions between common bean and isolates of common bacterial blight pathogens.", 15th International Congress on Molecular Plant-Microbe Interactions (MPMI), Kyoto International Conference Center, Kyoto, Japan, July 29-August 2, 2012.

## 2011

Yu, K., Zhang, B.L., Shi, C., and Navabi, A. (2011). "Development of Temperature Switch-PCR (TS-PCR) markers for SNP Genotyping in Common Bean.", Annual Report of the Bean Improvement Cooperative (BIC), 54, pp. 82-83.

Yu, K., Navabi, A., Hou, A., and Balasubramanian, P.M. (2011). "An update on the molecular development and marker-assisted selection in AAFC bean breeding programs.", Pulse Science Cluster Scientific Meeting 2011, Radisson Hotel, Saskatoon, SK, Canada, November 17-18, 2011.

Xie, W., Yu, K., Pauls, K.P., and Navabi, A. (2011). "Marker assisted breeding for improving resistance to common bacterial blight in common bean.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011. (Poster)

Shi, C., Yu, K., and Navabi, A. (2011). "Association mapping of common bacterial blight resistance QTL in Ontario bean breeding populations.", Annual Report of the Bean Improvement Cooperative (BIC), 54, pp. 84-85.

Yu, K., Shi, C., Navabi, A., Pauls, K.P., Miklas, P.N., and Fourie, D. (2011). "Overview of genomics assisted breeding for common bean improvement at GPCRC, AAFC.", Biennial Meeting of the Bean Improvement Cooperative and North American Pulse Improvement Association (BIC/NAPIA 2011), Verdanza Hotel, San Juan, Puerto Rico, October 30-November 2, 2011. (Presentation)

Jegadeesan, S., Yu, K., Woodrow, L., Wang, Y., Shi, C., and Poysa, V. (2011). "Gene specific molecular Markers for 11 S glycinin storage proteins of soybean.", 8th Canadian Plant Genomics Workshop, Niagara Falls, ON, Canada, August 22-25, 2011.

Wang, Y., Yu, K., Poysa, V., Shi, C., and Zhou, Y. (2011). "The GmHMA3 gene determines Cadmium (Cd) accumulation in soybean seeds.", 8th Canadian Plant Genomics Workshop, Niagara Falls, ON, Canada, August 22-25, 2011.

Perry, G.E., Crosby, W., Yu, K., Shi, C., Powers, K., Marsolais, F., Xie, W., Weersink, A., Tsao, R., Siddiqua, M., Cooper, D.M., and Pauls, K.P. (2011). "The applied bean genomics and bioproducts project: sequencing the bean genome.", Biennial Meeting of the Bean Improvement Cooperative and North American Pulse Improvement Association (BIC/NAPIA 2011), Verdanza Hotel, San Juan, Puerto Rico, October 30-November 2, 2011.

Shi, C., Yu, K., Perry, G.E., Navabi, A., Pauls, K.P., Miklas, P.N., and Fourie, D. (2011). "Candidate gene markers associated with common bacterial blight resistance in common bean.", Biennial Meeting of the Bean Improvement Cooperative and North American Pulse Improvement Association (BIC/NAPIA 2011), Verdanza Hotel, San Juan, Puerto Rico, October 30-November 2, 2011.

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## Research Publications:

2015

Haavik, L.J., Yu, Q., Turgeon, J.J., and Allison, J. (2015). "Horizontal transmission of a parasitic nematode from a non-native to a native woodwasp?", *Biological Invasions*, pp. 1-4. doi : 10.1007/s10530-015-1030-0

Ye, W., Yu, Q., Kanzaki, N., Adams, P.R., and Cardoza, Y.J. (2015). "Characterisation of, and entomopathogenic studies on, *Pristionchus aeorivorus* (Cobb in Merrill & Ford, 1916) Chitwood, 1937 (Rhabditida: Diplogastriidae) from North Carolina, USA.", *Nematology*, 17(5), pp. 567-580. doi : 10.1163/15685411-00002891

2014

Mimee, B., Peng, H., Popovic, V., Yu, Q., Duceppe, M.-O., Tetreault, M.P., and Bélair, G. (2014). "First report of soybean cyst nematode (*Heterodera glycines* Ichinohe) on soybean in the province of Quebec, Canada.", *Plant Disease*, 98(3), pp. 429. doi : 10.1094/PDIS-07-13-0782-PDN (Abstract)

Tambong, J.T., Xu, R., Sadiku, A., Chen, Q., and Yu, Q. (2014). "Molecular detection and analysis of a novel metalloprotease gene of entomopathogenic *Serratia marcescens* strains in infected *Galleria mellonella*", *Canadian Journal of Microbiology*, 60(4), pp. 203-209. doi : 10.1139/cjm-2013-0864

Yu, Q., Popovic, V., and Gu, J. (2014). "*Deladenus valveus* n. sp. (Nematoda: Neotylenchidae) in Dunnage Wood from South Korea Intercepted in Ningbo, China.", *Journal of Nematology*, 46(2), pp. 119-124.

2013

Yu, Q., Gu, J., and Ye, W. (2013). "*Deladenus prorsus* n. sp. (Nematoda: Neotylenchidae) in dunnage wood from Malaysia intercepted in Ningbo, China.", *Nematology*, 15, pp. 379-388. doi : 10.1163/15685411-00002683

Peng, H., Gao, B-l., Kong, L-a., Yu, Q., Huang, W-k., He, X-f., and Long, H. (2013). "Exploring the Host Parasitism of the Migratory Plant-Parasitic Nematode *Ditylenchus destructor* by Expressed Sequence Tags Analysis", *PLoS ONE*, 8(7), pp. e69579. doi : 10.1371/journal.pone.0069579

Hodkinson, I.D., Babenko, A., Behan-Pelletier, V.M., Bocher, J., Boxshall, G., Brodo, F., Coulson, S.J., De Smet, W., Dószs-Farkas, K., Elias, S., Fjellberg, A., Fochetti, R., Footitt, R.G., Hessen, D., Hobaek, A., Koponen, S., Liston, A., Makarova, O.L., Marusik, Y., Michelsen, V., Mikkola, K., Pont, A.C., Rueda, P., Savage, J., Smith, H., Samchyshyna, L., Velle, G., Vikberg, V., Wall, D.D., Weider, L., Wetterich, S., Yu, Q., and Zinoviev, A. (2013). "Terrestrial and Freshwater Invertebrates.", in Meiltofte, H. (ed.) - *Arctic Biodiversity Assessment*, Arctic Council, pp. 195-223.

Qiao, Y., Zaidi, M.A., Badiss, A., Hughes, B.R., Celetti, M.J., and Yu, Q. (2013). "Intra-racial genetic variation of *Ditylenchus dipsaci* isolated from garlic in Ontario as revealed by random amplified polymorphic DNA analysis.", *Canadian Journal of Plant Pathology*, 35(3), pp. 346-353. doi : 10.1080/07060661.2013.804883

2012

Pan, F.J., Xu, Y.L., McLaughlin, N.B., Xue, A.G., Yu, Q., Han, X.Z., Liu, W., Zhan, L.-L., Zhao, D., and Li, C.J. (2012). "Response of soil nematode community structure and diversity to long-term land use in the black soil region in China.", *Ecological Research*, 27(4), pp. 701-714. doi : 10.1007/s11284-012-0944-6

Yu, Q., de Groot, P., Leal, I., Davis, C., Ye, W., and Foord, B. (2012). "First report and characterization of *Deladenus proximus* (Nematoda: Neotylenchidae) associated with *Sirex nigricornis* (Hymenoptera: Siricidae) in Canada.", *International Journal of Nematology*, 21(2), pp. 139-146.

Yu, Q. and Zaidi, M.A. (2012). "Discovery of Potato Rot Nematode, *Ditylenchus destructor*, Infesting Garlic in Ontario, Canada.", *Plant Disease*, 96(2), pp. 297. doi : 10.1094/PDIS-08-11-0697

2011

Tian, G., Yu, Q., Zhang, L., Kohalmi, S.E., and Cui, Y. (2011). "Detection of protein interactions in plant using a gateway compatible bimolecular fluorescence complementation (BIFC) system.", *Journal of Visualized Experiments (JoVE)*, 55(Article No. e3473). doi : 10.3791/3473

## Other Science Related Publications:

2015

Yu, Q. (2015). "Biofumigation using mustard for nematode disease control – Canadian contributions.", XVIII International Plant Protection Congress, Berlin, Germany, August 24-27, 2015, pp. 25. (Abstract)

Qiao, Y., Yu, Q., Badiss, A., Zaidi, M.A., Ponomareva, E., Hu, Y.F., and Ye, W. (2015). "Paraphyly of the genus *Ditylenchus* Filipjev (Nematoda: Tylenchida) corresponding to the *D. trifomis*-group and the *D. dipsaci*-group morphologically.", 54th Annual meeting of the Society of Nematologists, East Lansing, Michigan, USA, July 19-24, 2015, pp. 74. (Abstract)

Lévesque, C.A., Chen, W., Hambleton, S., Seifert, K.A., Adam, Z., Bilodeau, G.J., Cullis, J., Demeke, T., Dumonceaux, T.J., Gagnon, M., Graefenhan, T., Kawchuk, L.M., Khan, I.U.H., Lewis, C.T., Li, X., Links, M.G., Mimee, B., Rott, M., Tambong, J.T., Topp, E., Yu, Q., and Yuan, K. (2015). Project CRTI 09-462RD - Next generation sequencing, direct detection and genotyping of fungi, bacteria and nematodes in the agri-food system. DRDC-RDDC-2015-C148. Final Close-Out Report. (Report)

Ye, W., Yu, Q., Kanzaki, N., Adams, P.R., and Cardoza, Y.J. (2015). "Characterisation of, and entomopathogenic studies on, *Pristionchus aerivorus* (Cobb in Merrill & Ford, 1916) Chitwood, 1937 (Rhabditida: Diplogastriidae) from North Carolina, USA.", 54th Annual meeting of the Society of Nematologists, East Lansing, Michigan, USA, July 19-24, 2015, pp. 92. (Abstract)

2014

Yu, Q., Lepp, D., and Gong, J. (2014). "Role of Agr-like quorum sensing and regulation in the pathogenicity of *Clostridium perfringens* Type A strain CP1", Poultry Health Research Network Research Day, Guelph, Ontario, Canada, November 21, 2014.

Yu, Q., Peng, H., Ponomareva, E., Cullis, J., Lewis, C.T., Lévesque, C.A., and Peng, D.L. (2014). "Draft genome and transcriptome sequences of *Ditylenchus destructor* and *Ditylenchus dipsaci*.", *Journal of Nematology*, 46(2), pp. 258. (Abstract)

2013

Yu, Q. (2013). "Plant Parasitic Nematodes in Corn in Canada: An Overview.", 67th Northeastern Corn Improvement Conference, Ottawa, ON, Canada, February 14-15, 2013, pp. 32-35.

Hughes, B.R., Celetti, M.J., Paibomesai, M., and Yu, Q. (2013). "Stem and Bulb Nematode in Ontario-grown garlic.", *Canadian Plant Disease Survey*, 93, pp. 178-191.

Hodkinson, I.D., Yu, Q., and others (2013). "Chapter 7: Terrestrial and Freshwater Invertebrates.", published in *Arctic Biodiversity Assessment*, 246-275.

2012

Hughes, B.R., Celetti, M.J., Paibomesai, M., and Yu, Q. (2012). "Stem and bulb nematode (*Ditylenchus dipsaci*) in Ontario-grown garlic.", *Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012*, Published in: *Canadian Journal of Plant Pathology / Revue canadienne de phytopathologie*, 35(1), pp. 114.

Yu, Q. (2012). "*Ditylenchus destructor* Thorne, 1945 (Tylenchida: Anguiniidae) in Canada.", *Journal of Nematology*, 44(4), pp. 500-500.

Yu, Q. (2012). "The Canadian National Collection of Nematodes: an overview.", *Journal of Nematology*, 44(4), pp. 499-499.

Qiao, Y., Zaidi, M.A., Yu, Q., Badiss, A., Hughes, B.R., and Celetti, M.J. (2012). "DNA polymorphism in the stem and bulb nematode *Ditylenchus dipsaci* in garlic in Ontario.", *Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012*, Published in: *Canadian Journal of Plant Pathology / Revue canadienne de phytopathologie*, 35(1), pp. 122.

2011

Yu, Q. (2011). "Soybean Cyst Nematode (*Heterodera glycines* Ichinohe).", in El-Shemy, H.A. (ed.) - *Soybean - Physiology and Biochemistry*, InTech, Open Access Publisher, Chapter 22, pp. 461-474.

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## Research Publications:

2015

Hassan, I., Mohamedelhassan, E., Yanful, E.K., and Yuan, Z.-C. (2015). "Sorption of phenanthrene by kaolin and efficacy of hydraulic versus electroosmotic flow to stimulate desorption.", *Journal of Environmental Chemical Engineering*, 3(4 Part A), pp. 2301-2310. doi: 10.1016/j.jece.2015.08.011

Eastman, A.W. and Yuan, Z.-C. (2015). "Development and validation of an rDNA operon based primer walking strategy applicable to de novo bacterial genome finishing.", *Frontiers in Microbiology*, 5(DEC: Article number 769), pp. 11 pages. doi : 10.3389/fmicb.2014.00769

2014

Eastman, A.W., Weselowski, B., Nathoo, N., and Yuan, Z.-C. (2014). "Complete Genome Sequence of *Paenibacillus polymyxa* CR1, a Plant Growth-Promoting Bacterium Isolated from the Corn Rhizosphere Exhibiting Potential for Biocontrol, Biomass Degradation, and Biofuel Production.", *Genome Announcements*, 2(1: e01218-13), pp. 2 pages. doi : 10.1128/genomeA.01218-13

Subramoni, S., Nathoo, N., Klimov, E., and Yuan, Z.-C. (2014). "Agrobacterium tumefaciens responses to plant-derived signaling molecules.", *Frontiers in Plant Science*, 5(322). doi: 10.3389/fpls.2014.00322

Eastman, A.W., Heinrichs, D.E., and Yuan, Z.-C. (2014). "Comparative and genetic analysis of the four sequenced *Paenibacillus polymyxa* genomes reveals a diverse metabolism and conservation of genes relevant to plant-growth promotion and competitiveness.", *BMC Genomics*, 15(851), pp. 22 pages. doi : 10.1186/1471-2164-15-851

2012

Yuan, Z.-C. and Williams, M. (2012). "A Really Useful Pathogen, *Agrobacterium tumefaciens*.", *Plant Cell*, 24(11, Article No. 10 tpc.112.tt1012). doi: 10.1105/tpc.112.tt1012

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## Research Publications:

2016

Cambouris, A.N., St. Luce, M., Zearth, B.J., Ziadi, N., Grant, C.A., and Perron, I. (2016). "Potato response to nitrogen sources and rates in an irrigated sandy soil.", *Agronomy Journal*.

St. Luce, M., Whalen, J.K., Ziadi, N., and Zearth, B.J. (2016). "Net nitrogen mineralization enhanced with the addition of nitrogen-rich particulate organic matter.", *Geoderma*, 262, pp. 112-118. doi: 10.1016/j.geoderma.2015.08.017

2015

Forge, T.A., Hashimoto, N., Neilsen, D., Kenney, E., and Zearth, B.J. (2015). "The use of compost as a preplant amendment to minimize impacts of parasitic nematodes and improve soil health and early establishment of red raspberry.", *Acta Horticulturae (ISHS)*, 1076, pp. 225-232. doi: 10.17660/ActaHortic.2015.1076.26

Dessureault-Rompré, J., Zearth, B.J., Burton, D.L., and Georgallas, A. (2015). "Predicting soil nitrogen supply from soil properties.", *Canadian Journal of Soil Science*, 95(1), pp. 63-75. doi: 10.4141/CJSS-2014-057

St. Luce, M., Grant, C.A., Zearth, B.J., Ziadi, N., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Khakbazan, M., and Smith, E.G. (2015). "Legumes can reduce economic optimum nitrogen rates and increase yields in a wheat-canola cropping sequence in western Canada.", *Field Crops Research*, 179, pp. 12-25. doi: 10.1016/j.fcr.2015.04.003

Tatti, E., Goyer, C., Burton, D.L., Wertz, S., Zearth, B.J., Chantigny, M.H., and Filion, M. (2015). "Tillage Management and Seasonal Effects on Denitrifier Community Abundance, Gene Expression and Structure over Winter.", *Microbial Ecology*. doi: 10.1007/s00248-015-0591-x

Tai, H.H. and Zearth, B.J. (2015). "Effect of Time of Day of Sampling on Potato Foliar Gene Expression Used to Assess Crop Nitrogen Status.", *American Journal of Potato Research*, 92(2), pp. 284-293. doi: 10.1007/s12230-015-9429-9

Zearth, B.J., Danieleescu, S., Nyiraneza, J., Ryan, M.C., Jiang, Y., Grimmett, M.G., and Burton, D.L. (2015). "Controls on nitrate loading and implications for BMPs under intensive potato production systems in Prince Edward Island, Canada.", *Ground Water Monitoring and Remediation*, 35(1), pp. 30-42. doi: 10.1111/gwmr.12088

Zearth, B.J., Ryan, M.C., Graham, G.L., Forge, T.A., and Neilsen, D. (2015). "Groundwater monitoring to support development of BMPs for groundwater protection: The Abbotsford-Sumas Aquifer case study.", *Ground Water Monitoring and Remediation*, 35(1), pp. 82-96. doi: 10.1111/gwmr.12092

Zearth, B.J., Forge, T.A., Goyer, C., and Brin, L. (2015). "Effect of soil acidification on nitrification in soil.", *Canadian Journal of Soil Science*, 95(4), pp. 359-363. doi: 10.4141/CJSS-2015-040

Thomas, B.W., Whalen, J.K., Sharifi, M., Chantigny, M.H., and Zearth, B.J. (2015). "Labile organic matter fractions as early-season nitrogen supply indicators in manure-amended soils.", *Journal of Plant Nutrition and Soil Science*. doi: 10.1002/jpln.201400532

2014

Novinscak, A., Goyer, C., Zearth, B.J., Burton, D.L., Chantigny, M.H., Filion, M., and Petit, H.V. (2014). "Development of a PCR-based assay to detect and characterize soil-inhabiting fungal denitrifiers.", 15th International symposium on microbial ecology (ISME 15), Seoul, South Korea, August 24-29, 2014. (Poster)

Cambouris, A.N., Zearth, B.J., Ziadi, N., and Perron, I. (2014). "Precision agriculture in potato production.", *Potato Research*, 57(3), pp. 249-262. doi: 10.1007/s11540-014-9266-0

Esmaeili, S., Thomson, N.R., Tolson, B.A., Zearth, B.J., Kuchta, S., and Neilsen, D. (2014). "Quantitative global sensitivity analysis of the RZWQM to warrant a robust and effective calibration.", *Journal of Hydrology*, 511, pp. 567-579. doi: 10.1016/j.jhydrol.2014.01.051

Cambouris, A.N., St. Luce, M., Ziadi, N., and Zearth, B.J. (2014). "Soil- and plant-based indices in potato production in response to polymer-coated urea.", *Agronomy Journal*, 106(6), pp. 2125-2136. doi: 10.2134/agronj14.0041

Sharifi, M., Zebarth, B.J., Miller, J.J., Burton, D.L., and Grant, C.A. (2014). "Soil nitrogen mineralization in a soil with long-term history of fresh and composted manure containing straw or wood-chip bedding.", *Nutrient Cycling in Agroecosystems*, 99(1-3), pp. 63-78. doi : 10.1007/s10705-014-9618-9

St. Luce, M., Ziadi, N., Zebarth, B.J., Grant, C.A., Tremblay, G.F., and Gregorich, E.G. (2014). "Rapid determination of soil organic matter quality indicators using visible near infrared reflectance spectroscopy.", *Geoderma*, 232-234, pp. 449-458. doi : 10.1016/j.geoderma.2014.05.023

Rees, H.W., Chow, T.L., Zebarth, B.J., Xing, Z.S., Toner, P., Lavoie, J., and Daigle, J.-L. (2014). "Impact of supplemental poultry manure application on potato yield and soil properties on a loam soil in north western New Brunswick", *Canadian Journal of Soil Science*, 94(1), pp. 49-65. doi : 10.4141/CJSS2013-009

Tatti, E., Goyer, C., Chantigny, M.H., Wertz, S., Zebarth, B.J., Burton, D.L., and Filion, M. (2014). "Influences of over winter conditions on denitrification and nitrous oxide-producing microorganism abundance and structure in an agricultural soil amended with different nitrogen sources.", *Agriculture, Ecosystems and Environment*, 183, pp. 47-59. doi : 10.1016/j.agee.2013.10.021

St. Luce, M., Whalen, J.K., Ziadi, N., Zebarth, B.J., and Chantigny, M.H. (2014). "Labile organic nitrogen transformations in clay and sandy-loam soils amended with 15N-labelled faba bean and wheat residues.", *Soil Biology & Biochemistry*, 68, pp. 208-218. doi : 10.1016/j.soilbio.2013.09.033

Boiteau, G., Goyer, C., Rees, H.W., and Zebarth, B.J. (2014). "Differentiation of potato ecosystems on the basis of relationships among physical, chemical and biological soil parameters.", *Canadian Journal of Soil Science*, 94(4), pp. 463-476. doi : 10.4141/cjss2013-095

Ehret, D.L., Frey, B., Forge, T.A., Helmer, T., Bryla, D.R., and Zebarth, B.J. (2014). "Effects of nitrogen rate and application method on early production and fruit quality in highbush blueberry.", *Canadian Journal of Plant Science*, 94(7), pp. 1165-1179. doi : 10.4141/CJPS2013-401

## 2013

Snowdon, E., Zebarth, B.J., Burton, D.L., Goyer, C., and Rochette, P. (2013). "Growing season N<sub>2</sub>O emissions from two-year potato rotations in a humid environment in New Brunswick, Canada.", *Canadian Journal of Soil Science*, 93(3), pp. 279-294. doi : 10.4141/CJSS2012-115

Wertz, S., Goyer, C., Zebarth, B.J., Burton, D.L., Tatti, E., Chantigny, M.H., and Filion, M. (2013). "Effects of temperatures near the freezing point on N<sub>2</sub>O emissions, denitrification and on the abundance and structure of nitrifying and denitrifying soil communities.", *FEMS Microbiology Ecology*, 83(1), pp. 242-254. doi : 10.1111/j.1574-6941.2012.01468.x

Tatti, E., Goyer, C., Zebarth, B.J., Burton, D.L., Giovannetti, L., and Viti, C. (2013). "Short-term effects of mineral and organic fertilizer on denitrifiers, nitrous oxide emissions and denitrification in long-term amended vineyard soils.", *Soil Science Society of America Journal*, 77(1), pp. 113-122. doi : 10.2136/sssaj2012.0096

Pelster, D.E., Chantigny, M.H., Rochette, P., Angers, D.A., Laganière, J., Zebarth, B.J., and Goyer, C. (2013). "Crop residue incorporation alters soil nitrous oxide emissions during freeze-thaw cycles.", *Canadian Journal of Soil Science*, 93(4), pp. 415-425. doi : 10.4141/cjss2012-043

Dessureault-Rompré, J., Zebarth, B.J., Burton, D.L., Gregorich, E.G., Goyer, C., Georgallas, A., and Grant, C.A. (2013). "Are soil mineralizable nitrogen pools replenished during the growing season in agricultural soils?", *Soil Science Society of America Journal*, 77(2), pp. 512-524. doi : 10.2136/sssaj2012.0328

St. Luce, M., Ziadi, N., Zebarth, B.J., Whalen, J.K., Grant, C.A., Gregorich, E.G., Lafond, G.P., Blackshaw, R.E., Johnson, E.N., O'Donovan, J.T., and Harker, K.N. (2013). "Particulate organic matter and soil mineral nitrogen concentrations are good predictors of the soil nitrogen supply to canola following legume and non-legume crops in western Canada.", *Canadian Journal of Soil Science*, 93(5), pp. 607-620. doi : 10.4141/cjss2013-005

Kuipers, P.J., Ryan, M.C., and Zebarth, B.J. (2013). "Estimating nitrate loading from an intensively managed agricultural field to a shallow unconfined aquifer.", *Water Quality Research Journal of Canada*, 49(1), pp. 10-22. doi : 10.2166/wqrjc.2013.136

## 2012

Zebarth, B.J., Tai, H.H., Luo, S., Millard, P., De Koeyer, D.L., Li, X.-Q., and Xiong, X. (2012). "Effect of Nitrogen Form on Gene Expression in Leaf Tissue of Greenhouse Grown Potatoes During Three Stages of Growth.", *American Journal of Potato Research*, 89(4), pp. 315-327. doi : 10.1007/s12230-012-9255-2

Nyiraneza, J., Zebarth, B.J., Ziadi, N., Burton, D.L., Drury, C.F., Bittman, S., and Grant, C.A. (2012). "Prediction of soil nitrogen supply in corn production using soil chemical and biological indices.", *Soil Science Society of America Journal*, 76(3), pp. 925-935. doi : 10.2136/sssaj2011.0318

Ziadi, N., Zebarth, B.J., Bélanger, G., and Cambouris, A.N. (2012). "Soil and Plant Tests to Optimize Fertilizer Nitrogen Management of Potatoes.", in He, Z., Larkin, R.P. and Honeycutt, C.W. (eds) - *Sustainable Potato Production: Global Case Studies*, Springer New York, Chapter 11, pp. 187-207.



Jiang, Y., Zebarth, B.J., Somers, G.H., MacLeod, J.A., and Savard, M.M. (2012). "Nitrate Leaching from Potato Production in Eastern Canada.", in He, Z., Larkin, R.P. and Honeycutt, C.W. (eds.) - Sustainable Potato Production: Global Case Studies, Springer New York, Chapter 13, pp. 233-250.

Miller, J.J., Bremer, E., Beasley, B.W., Drury, C.F., Zebarth, B.J., and Lamey, F.J. (2012). "Long-term effect of fresh and composted cattle manure on the size and nutrient composition of dry-sieved soil aggregates.", *Canadian Journal of Soil Science*, 92(4), pp. 673-683. doi : 10.4141/CJSS2011-056

Dessureault-Rompré, J., Zebarth, B.J., Burton, D.L., Georgallas, A., Sharifi, M., Porter, G.A., Moreau, G., Leclerc, Y., Arsenault, W.J., Chow, T.L., and Grant, C.A. (2012). "Prediction of Soil Nitrogen Supply in Potato Fields using Soil Temperature and Water Content Information.", *Soil Science Society of America Journal*, 76(3), pp. 936-949. doi : 10.2136/sssaj2011.0377

Sharifi, M., Zebarth, B.J., Burton, D.L., Drury, C.F., and Grant, C.A. (2012). "Mineralization of Carbon-14-Labeled Plant Residues in Conventional Tillage and No-Till Systems.", *Soil Science Society of America Journal*, 77(1), pp. 123-132. doi : 10.2136/sssaj2011.0064

Georgallas, A., Dessureault-Rompré, J., Zebarth, B.J., Burton, D.L., Drury, C.F., and Grant, C.A. (2012). "Modification of the biophysical water function to predict the change in soil mineral nitrogen concentration resulting from concurrent mineralization and denitrification.", *Canadian Journal of Soil Science*, 92(5), pp. 695-710. doi : 10.4141/CJSS2012-020

Zebarth, B.J., Burton, D.L., Snowdon, E., Goyer, C., and Dowbenko, R. (2012). "Controlled release fertilizer product effects on potato crop response and nitrous oxide emissions under rain-fed production on a medium-textured soil.", *Canadian Journal of Soil Science*, 92(5), pp. 759-769. doi : 10.4141/CJSS2012-008

St. Luce, M., Ziadi, N., Nyiraneza, J., Tremblay, G.F., Zebarth, B.J., Whalen, J.K., and Laterrière, M. (2012). "Near infrared reflectance spectroscopy prediction of soil nitrogen supply in humid temperate regions of Canada.", *Soil Science Society of America Journal*, 76(4), pp. 1454-1461. doi : 10.2136/sssaj2011.0443

Grant, C.A., Wu, R.G., Selles, F., Harker, K.N., Clayton, G.W., Bittman, S., Zebarth, B.J., and Lupwayi, N.Z. (2012). "Crop yield and nitrogen concentration with controlled release urea and split applications of nitrogen as compared to non-coated urea applied at seeding", *Field Crops Research*, 127(27), pp. 170-180. doi : 10.1016/j.fcr.2011.11.002

Zebarth, B.J., Bélanger, G., Cambouris, A.N., and Ziadi, N. (2012). "Nitrogen Fertilization Strategies in Relation to Potato Tuber Yield, Quality, and Crop N Recovery.", in He, Z., Larkin, R.P. and Honeycutt, C.W. (eds.) - Sustainable Potato Production: Global Case Studies, Springer New York, Chapter 10, pp. 165-186.

Miller, J.J., Beasley, B.W., Drury, C.F., and Zebarth, B.J. (2012). "Denitrification during the growing season as influenced by long-term application of composted versus fresh feedlot manure.", *Canadian Journal of Soil Science*, 92(6), pp. 865-882. doi : 10.4141/CJSS2011-107

Burton, D.L., Zebarth, B.J., McLeod, J.A., and Goyer, C. (2012). "Nitrous Oxide Emissions from Potato Production and Strategies to Reduce Them.", in He, Z., Larkin, R.P. and Honeycutt, C.W. (eds.) - Sustainable Potato Production: Global Case Studies, Springer New York, Chapter 14, pp. 251-271.

Miller, M.N., Dandie, C.E., Zebarth, B.J., Burton, D.L., Goyer, C., and Trevors, J.T. (2012). "Influence of carbon amendments on soil denitrifier abundance in soil microcosms.", *Geoderma*, 170(1), pp. 48-55. doi : 10.1016/j.geoderma.2011.11.022

2011

St. Luce, M., Whalen, J.K., Ziadi, N., and Zebarth, B.J. (2011). "Nitrogen dynamics and indices to predict soil nitrogen supply in humid temperate soils. Chapter 2.", *Advances in Agronomy (Book series)*, 112(55), pp. 55-102. doi : 10.1016/B978-0-12-385538-1.00002-0

Rees, H.W., Chow, T.L., Zebarth, B.J., Xing, Z.S., Toner, P., Lavoie, J., and Daigle, J.-L. (2011). "Effects of supplemental poultry manure applications on soil erosion and runoff water quality from a loam soil under potato production in northwestern New Brunswick.", *Canadian Journal of Soil Science*, 91(4), pp. 595-613. doi : 10.4141/cjss10093

Cooper, J.M., Burton, D.L., Daniell, T.L., Griffiths, B.S., and Zebarth, B.J. (2011). "Carbon mineralization kinetics and soil biological characteristics as influenced by manure addition in soil incubated at a range of temperatures.", *European Journal of Soil Biology*, 47(6), pp. 392-399. doi : 10.1016/j.ejsobi.2011.07.010

Miller, J.J., Beasley, B.W., Drury, C.F., and Zebarth, B.J. (2011). "Transport of residual nutrients through intact soil core s amended with fresh or composted beef cattle manure for nine years.", *Compost Science & Utilization*, 19(4), pp. 267-278.

Dessureault-Rompré, J., Zebarth, B.J., Chow, T.L., Burton, D.L., Sharifi, M., Georgallas, A., Porter, G.A., Moreau, G., Leclerc, Y., Arsenault, W.J., and Grant, C.A. (2011). "Prediction of soil nitrogen supply in potato fields in a cool humid climate.", *Soil Science Society of America Journal*, 75(2), pp. 626-637. doi : 10.2136/sssaj2010.0305

Sharifi, M., Zebarth, B.J., Burton, D.L., Rodd, A.V., and Grant, C.A. (2011). "Long-term effects of semisolid beef manure application to forage grass on soil mineralizable nitrogen.", *Soil Science Society of America Journal*, 75(2), pp. 649-658. doi : 10.2136/sssaj2010.0089

Luo, S., Tai, H.H., Zebarth, B.J., Li, X.-Q., Millard, P., De Koeyer, D.L., and Xiong, X. (2011). "Sample Collection Protocol Effects on Quantification of Gene Expression in Potato Leaf Tissue.", *Plant Molecular Biology Reporter*, 29(2), pp. 369-378. doi : 10.1007/s11105-010-0239-4

Zebarth, B.J., Tai, H.H., Luo, S., Millard, P., De Koeyer, D.L., Li, X.-Q., and Xiong, X. (2011). "Differential gene expression as an indicator of nitrogen sufficiency in field-grown potato plants.", *Plant and Soil*, 345(1), pp. 387-400. doi: 10.1007/s11104-011-0793-z

Shannon, K.E.M., Saleh-Lakha, S., Burton, D.L., Zebarth, B.J., Goyer, C., and Trevors, J.T. (2011). "Effect of nitrate and glucose addition on denitrification and nitric oxide reductase (cnorB) gene abundance and mRNA levels in *Pseudomonas mandelii* inoculated into anoxic soil.", *Antonie Van Leeuwenhoek International Journal of General and Molecular Microbiology*, 100(2), pp. 183-195. doi: 10.1007/s10482-011-9577-y

Dandie, C.E., Wertz, S., Leclair, C.L., Goyer, C., Burton, D.L., Patten, C.L., Zebarth, B.J., and Trevors, J.T. (2011). "Abundance, diversity and functional gene expression of denitrifier communities in adjacent riparian and agricultural zones.", *FEMS Microbiology Ecology*, 77(1), pp. 69-82. doi: 10.1111/j.1574-6941.2011.01084.x

Miller, J.J., Beasley, B.W., Drury, C.F., and Zebarth, B.J. (2011). "Accumulation and redistribution of residual chloride, nitrate, and soil test P in soil profiles amended with fresh and composted cattle manure containing straw or wood-chip bedding.", *Canadian Journal of Soil Science*, 91(6), pp. 969-984. doi: 10.4141/cjss2011-048

Dessureault-Rompré, J., Zebarth, B.J., Georgallas, A., Burton, D.L., and Grant, C.A. (2011). "A biophysical water function to predict the response of soil nitrogen mineralization to soil water content.", *Geoderma*, 167-168, pp. 214-227. doi : 10.1016/j.geoderma.2011.10.005

Jiang, Y., Zebarth, B.J., and Love, J. (2011). "Long-term simulations of nitrate leaching from potato production systems in Prince Edward Island, Canada.", *Nutrient Cycling in Agroecosystems*, 91(3), pp. 307-325. doi : 10.1007/s10705-011-9463-z

## Other Science Related Publications:

2015

Zebarth, B.J., Moreau, G., Dixon, W.T., Smith, A.M., and Cambouris, A.N. (2015). "Application of high resolution remote sensing imagery to potato production.", McCain Foods (Canada) grower meetings, Grand Falls/Florenceville, NB, Canada, February 24-25, 2015, Presentation.

Zebarth, B.J., Moreau, G., Smith, A.M., Toner, P., Cambouris, A.N., Goyer, C., Owen, J., and Burton, D.L. (2015). "Yield variation in potato fields: Lessons learned so far.", 2015 Crop Update Session, Fredericton, NB, Canada, January 13-14, 2015.

Whittaker, J., Nyiraneza, J., Burton, D.L., Zebarth, B.J., Rodd, A.V., and Grimmett, M.G. (2015). "Nitrogen cycling from legume and grass forages during forage phase and subsequent potato crop.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

Spence, J.D., Burton, D.L., Zebarth, B.J., Price, G.W., and Georgallas, A. (2015). "Evaluating the efficacy of 3, 5-dimethylpyrazole as a nitrification inhibitor in soils that differ in texture and water content.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

Morissette, R., Jégo, G., Bélanger, G., Cambouris, A.N., Nyiraneza, J., and Zebarth, B.J. (2015). "Simulating potato growth and nitrogen uptake in eastern Canada with the STICS crop model.", SSSA 2015.

Zebarth, B.J., Moreau, G., Hemphil, M., Leclerc, Y., and Smith, A.M. (2015). "Overcoming limitations to potato productivity: the New Brunswick experience.", 2015 accelerated release open house of AAFC, Fredericton, NB, Canada, February 11, 2015. (Presentation)

Brin, L., Goyer, C., Zebarth, B.J., Burton, D.L., Wertz, S., and Chantigny, M.H. (2015). "Changes in snow cover alter nitrogen cycling and gaseous emissions in agricultural soils.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

Brin, L., Goyer, C., Zebarth, B.J., and Burton, D.L. (2015). "Left in the cold: Changes in snow cover alter N cycling in agricultural soils.", Ecological Society of American Annual Meeting, Baltimore, MD, USA, August 9-14, 2015.

Jiang, Y., Nyiraneza, J., and Zebarth, B.J. (2015). "Challenges and BMP opportunities for improving water quality and economic resiliency of potato production in Eastern Canada.", 2015 World Potato Congress, Beijing, China, July 28-30, 2015.

Burton, D.L., Stiles, K., Zebarth, B.J., and Barrett, R. (2015). "Spatial and temporal variation in soil nitrogen supply in potato cropping systems in Prince Edward Island.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

Zebarth, B.J., Ryan, M.C., Graham, G.L., Forge, T.A., and Neilsen, D. (2015). "Addressing groundwater nitrate contamination associated with intensive agricultural production systems: The Abbotsford-Sumas Aquifer case study.", Internal Association of Hydrogeologists—Canadian National Chapter Annual Meeting, Waterloo, ON, Canada, October 27-30, 2015.

St. Luce, M., Whalen, J.K., Ziadi, N., and Zebarth, B.J. (2015). "Net nitrogen mineralization enhanced with the addition of nitrogen-rich particulate organic matter.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

Schincariol, A., Loo, S., Ryan, M.C., Suchy, M., and Zebarth, B.J. (2015). "High resolution vertical profiles to correlate land use with groundwater NO<sub>3</sub>: A progress report.", Internal Association of Hydrogeologists – Canadian National Chapter Annual Meeting, Waterloo, ON, Canada, October 27-30, 2015.

Goyer, C., Wertz, S., Zebarth, B.J., Burton, D.L., Tatti, E., Chantigny, M.H., and Filion, M. (2015). "The amplitude of soil freeze-thaw cycles influences temporal dynamics of N<sub>2</sub>O emissions and denitrifier transcriptional activity and community structure.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

Loo, S., Cey, E., Ryan, M.C., and Zebarth, B.J. (2015). "Non-point or multi-point? Capturing spatial and temporal variation of groundwater nitrate contamination to appropriately inform soil and crop management.", Internal Association of Hydrogeologists – Canadian National Chapter Annual Meeting, Waterloo, ON, Canada, October 27-30, 2015.

Zebarth, B.J., Goyer, C., Li, S., Whitney, S., and Neupane, S. (2015). "Spatial variation in soil bacterial communities in a commercial potato field.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

Grimmett, M.G., Nyiraneza, J., Rodd, A.V., Zebarth, B.J., and Danielescu, S. (2015). "Seasonal soil nitrate patterns under potato production in Prince Edward Island.", 14th International Symposium for Soil and Plant Analysis, Kona Beach, Hawaii, USA, January 26-30, 2015.

Danielescu, S., Butler, K., Wang, S., Grimmett, M.G., MacQuarrie, K.T.B., and Zebarth, B.J. (2015). "Water and contaminant travel time through the unsaturated zone under an agricultural field in Prince Edward Island, Canada.", American Geophysical Union Annual Meeting, Montreal, QC, Canada, May 3-7, 2015.

2014

Suchy, M., Graham, G.L., Wassenaar, L.I., and Zebarth, B.J. (2014). "Agriculture-derived nitrate source characterization in an unconfined aquifer using high frequency nitrate isotope sampling.", Annual Meeting of the Geological Society of America Conference, Vancouver, British Columbia, Canada, October 19-22, 2014.

Danielescu, S., Grimmett, M.G., Rodd, A.V., Lamb, K., MacQuarrie, K.T.B., Zebarth, B.J., and Butler, K. (2014). "Evidence of transient perched water table conditions and possible implications for groundwater recharge and nitrate loading in Prince Edward Island.", Canadian Geophysical Union Joint Annual Meeting with Canadian Society of Soil Science, Banff, Alberta, Canada, May 4-7, 2014. (Poster)

Cambouris, A.C., Perron, I., Ziadi, N., Lafond, J., Zebarth, B.J., Nyiraneza, J., Nelson, A., Carvers, C., and Tremblay, N. (2014). "Fertilisation azotée dans la production de pomme de terre du centre à l'est Canadien: saison 2013.", Congrès annuel de l'association québécoise des spécialistes en sciences du sol, Victoriaville, Québec, Canada, May 26-29, 2014, Oral presentation.

Miller, J.J., Beasley, B.W., Drury, C.F., Zebarth, B.J., Bremer, E., Hao, X., and Lamey, F.J. (2014). "Influence of long-term composted or stockpiled feedlot manure application on crop and soil.", Canadian Geophysical Union-Canadian Society of Soil Science (CGU/CSSS) Joint Annual Meeting, Banff, AB, Canada, May 4-8, 2014. (Abstract)

Loo, S., Ryan, M.C., Zebarth, B.J., and Forge, T.A. (2014). "Quantifying the impact of an individual agricultural field on groundwater nitrate.", Geological Society of America Conference, Vancouver, British Columbia, Canada, October 19-22, 2014. (Abstract)

Goyer, C., Tatti, E., Wertz, S., Zebarth, B.J., Brin, L., Burton, D.L., Chantigny, M.H., and Filion, M. (2014). "Importance of nitrous oxide emissions and changes in denitrifier and nitrifier communities in fields under different agricultural practices over winter in Eastern Canada.", 15th International Society of Microbial Ecology Meeting, Seoul, South Korea, August 24-30, 2014. (Abstract)

Novinscak, A., Goyer, C., Zebarth, B.J., Burton, D.L., Chantigny, M.H., and Filion, M. (2014). "Development of a PCR-based assay to detect and characterize soil-inhabiting fungal denitrifiers.", 15th International Society of Microbial Ecology Meeting, Seoul, South Korea, August 24-30, 2014. (Abstract)

Cambouris, A.N., Perron, I., Zebarth, B.J., and Rochette, P. (2014). "Denitrification rate under potato production effect of three nitrogen fertilizer sources in eastern Canada.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014. (Poster)

Cambouris, A.N., Zebarth, B.J., Ziadi, N., and Grant, C.A. (2014). "Statistical model impacts on nitrogen recommendation, potato yield, nitrogen uptake efficiency and residual soil nitrate.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014. (Poster)

Cambouris, A.N., Zebarth, B.J., Ziadi, N., and Perron, I. (2014). "Precision Agriculture in Potato Production.", 19th Triennial Conference of EAPR (European Association for Potato Research), Brussels, Belgium, July 6-11, 2014, Invited oral presentation.

Zebarth, B.J., Tai, H.H., Luo, S., De Koeyer, D.L., and Li, X.-Q. (2014). "Gene expression-based diagnostics: A new way to optimize crop fertilizer nitrogen management?", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014. (Abstract)

Burton, D.L. and Zebarth, B.J. (2014). "Nitrate Exposure: A metric to describe the influence of soil NO<sub>3</sub>- on N<sub>2</sub>O emissions.", 20th World Congress of Soil Science, Jeju, South Korea, June 8-13, 2014.

Cambouris, A.C., Zebarth, B.J., Ziadi, N., and Perron, I. (2014). "Precision Agriculture in Potato Production.", 19th Triennial Conference of EAPR (European Association for Potato Research), Brussels, Belgium, July 6-11, 2014.

Zebarth, B.J., Dessureault-Rompré, J., Burton, D.L., and Georgallas, A. (2014). "Prediction of soil nitrogen supply using a simple kinetic model.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014.

Cambouris, A.N., Perron, I., Ziadi, N., Lafond, J., Zebarth, B.J., Nyiraneza, J., Nelson, A., Cavers, C., and Tremblay, N. (2014). "Fertilisation azotée du centre à l'est du Canada sous culture de la pomme de terre : saison 2013.", Congrès annuel de l'AQSSS, Victoriaville, QC, Canada. (Presentation)

Thomas, B.W., Whalen, J.K., Sharifi, M., Chantigny, M.H., Zebarth, B.J., and Burton, D.L. (2014). "The C:N ratio of water extractable organic matter as a potential soil N supply indicator in manure-amended soils.", Annual meeting of the Canadian Soil Science Society, Banff, Alberta, Canada, May 4-7, 2014.

Thomas, B.W., Whalen, J.K., Sharifi, M., Chantigny, M.H., Zebarth, B.J., and Burton, D.L. (2014). "Labile soil organic matter C and N concentrations to predict N mineralization parameters in sandy and clayey soils amended with manure.", Annual meeting of the Canadian Soil Science Society, Banff, Alberta, Canada, May 4-7, 2014.

Stoeckli, J., Sharifi, M., Ponce-Hernandez, R., Eimers, C., Hooker, D.C., Drury, C.F., Stewart, G., MacDonald, I.K., Zebarth, B.J., Sahota, T.S., and Reid, K. (2014). "Predicting the soil nitrogen supply (SNS) for corn production in the cool-humid temperate climate of Ontario.", Annual meeting of the Canadian Soil Science Society, Banff, Alberta, Canada, May 4-7, 2014.

Zebarth, B.J., Moreau, G., Smith, A.M., and Toner, P. (2014). "Yield variation within potato fields: Case studies from 2013.", Northeast Potato Technology Forum 2014, Fredericton, NB, Canada, March 12-13, 2014.

Danielescu, S., Grimmert, M.G., Rodd, A.V., Nyiraneza, J., and Zebarth, B.J. (2014). "Groundwater recharge and nitrate loading from a field under a conventional potato production system in PEI.", Canada Water Resources Association (CWRA) 2014 Congress, Hamilton, ON, Canada, June 2-4, 2014, Presentation.

Zebarth, B.J., Moreau, G., Smith, A.M., and Toner, P. (2014). "Yield variation within potato fields: Case studies from 2013.", Integrating new technologies to understand and manage the variability of our soils, Grand Falls, NB, Canada, March 29, 2014.

Smith, A.M., Zebarth, B.J., and Oseen, I. (2014). Assessing field variability in New Brunswick potato fields using unmanned aerial systems imagery. Report submitted to McCain Foods (Canada). (Report)

Moreau, G., Zebarth, B.J., Smith, A.M., and Toner, P. (2014). "Improving profitability and competitiveness through mitigation of limitations to potato yield.", Northeast Potato Technology Forum 2014, Fredericton, NB, Canada, March 12-13, 2014.

Cambouris, A.C., Zebarth, B.J., Ziadi, N., and Grant, C.A. (2014). "Statistical model impacts on nitrogen recommendation, potato yield, nitrogen uptake efficiency and residual soil nitrate.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014.

## 2013

Grimmett, M.G., Rodd, A.V., Nyiraneza, J., Zebarth, B.J., and Danielescu, S. (2013). "Nutrient analysis of groundwater and soil water from potato production systems.", 127th Association of Official Agricultural Chemists (AOAC) Annual Meeting, Palmer House Hilton, Chicago, IL, USA, August 25-28, 2013.

Perron, I., Cambouris, A.N., Rochette, P., Zebarth, B.J., and Drury, C.F. (2013). "Effect of three N Fertilizers on Denitrification Rate under Potato Crop.", ASA/CSSA/SSSA International annual meeting: Water, Food, Energy and Innovation for a Sustainable World, Tampa, Florida, USA, November 3-6, 2013. (Poster)

Cambouris, A.N., Zebarth, B.J., Ziadi, N., Grant, C.A., and Perron, I. (2013). "Impact agronomique du modèle de calibration pour la recommandation en azote sur la production de pomme de terre.", Association Québécoise de Spécialistes en Sciences du Sol (AQSSS), 27e congrès, Hotel Chicoutimi, Chicoutimi, QC, Canada, May 28-30, 2013, Oral presentation.

Cambouris, A.N., Zebarth, B.J., Ziadi, N., Grant, C.A., and Parent, L.-É. (2013). "Calibration Model Impacts on Nitrogen Recommendation and Potato Productivity.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013, Oral presentation.

Zebarth, B.J., Tai, H.H., Luo, S., Cambouris, A.N., and Mohr, R.M. (2013). "Next generation diagnostics: A new way to optimize crop fertilizer nitrogen management?", 6th International Nitrogen Conference, Kampala, Uganda, November 18-22, 2013.

Cambouris, A.N., Zearth, B.J., Ziadi, N., and Grant, C.A. (2013). "Agri-environmental Impacts of Nitrogen Fertilizers on Potato Productivity, Nitrogen uptake efficiency and residual soil nitrate.", 6th International Nitrogen Conference, Kampala, Uganda, November 18-22, 2013.

Miller, J.J., Beasley, B.W., Lamey, F.J., Drury, C.F., Zearth, B.J., and Bremer, E. (2013). "Long-term effect of fresh and composted cattle manure on the size and nutrient composition of dry-sieved soil aggregates.", 50th Annual Alberta Soil Science Workshop, Lethbridge, AB, Canada, February 19-21, 2013. (Abstract)

Li, X.-Q., Haroon, M., Luo, S., Bizimungu, B., Xiong, X., Zearth, B.J., and Tai, H.H. (2013). "In vitro and field testing of drought tolerance of potato clones.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013.

Nyiraneza, J., Peters, R.D., Rodd, A.V., Grimmett, M.G., Zearth, B.J., Ziadi, N., Bélanger, G., and Jégo, G. (2013). "Soil N supply and potato yield as affected by Crop Rotations and N sources.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013, #038.

Fuller, K.D., Burton, D.L., Drury, C.F., Grimmett, M.G., Zearth, B.J., Franklin, J.L., Rodd, A.V., Van Roestel, J., and George, E. (2013). "Growing season denitrification losses impacted by land management practices, soil properties, and weather conditions in manure-amended perennial hayfield and corn-soybean-wheat rotations in Atlantic Canada.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013. (Poster)

Nyiraneza, J., Peters, R.D., Rodd, A.V., Grimmett, M.G., Zearth, B.J., Ziadi, N., Bélanger, G., and Jégo, G. (2013). "Impact of Crop Rotations, and Mineral and Organic N fertilizer on Soil Nitrogen Availability and Potato Yield.", Northeast Potato Technology Forum 2013, Delta Prince Edward, Charlottetown, PEI, Canada, March 5-6, 2013.

Fuller, K.D., Drury, C.F., Grimmett, M.G., Burton, D.L., Franklin, J.L., Zearth, B.J., Gordon, R.J., Van Roestel, J., and George, E. (2013). "Nitrogen leaching losses in manure amended perennial hayfield and corn-soybean-wheat rotations in Atlantic Canada.", CSSS/MSSS/CSAFM 2013 Annual Meeting, Winnipeg, MB., Canada, June 22-25, 2013. (Poster)

## 2012

Miller, J.J., Bremer, E., Beasley, B.W., Drury, C.F., Zearth, B.J., and Lamey, F.J. (2012). "Long-term effect of fresh and composted cattle manure on the size and nutrient composition of dry-sieved soil aggregates.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012, pp. 110. (Abstract)

Ziadi, N., Bélanger, G., Cambouris, A.N., and Zearth, B.J. (2012). "Soil and plant diagnostic tools to improve nitrogen use efficiency.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012.

Mervin St. Luce, M., Ziadi, N., Cambouris, A.N., Zearth, B.J., and Whalen, J.K. (2012). "Anionic exchange membranes as a predictor of nitrogen supply from controlled-release nitrogen fertilizer in potato production.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012.

Nyiraneza, J., Zearth, B.J., Ziadi, N., Sharifi, M., Burton, D.L., Drury, C.F., Bittman, S., and Grant, C.A. (2012). "The ability of soil chemical and biological N availability indices to predict soil nitrogen supply of contrasting soils under corn.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012. (Poster)

Cambouris, A.N., Nolin, M.C., Zearth, B.J., and Ziadi, N. (2012). "Precision farming: lessons learned from N management.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012, Invited speaker presentation.

Forge, T.A., Kenney, E., Neilsen, D., and Zearth, B.J. (2012). "Alternatives to fumigation.", 54th Annual Horticulture Growers' Short Course, Abbotsford, BC, Canada, January 26-28, 2012, pp. 29-32.

Tai, H.H., Zearth, B.J., Luo, S., Li, X.-Q., Millard, P., De Koeyer, D.L., and Xiong, X. (2012). "Development of gene expression indicators for nitrogen sufficiency in potato plants.", Potato Association of America Annual meetings, Denver, Colorado, USA.

Cambouris, A.N., Zearth, B.J., and Nolin, M.C. (2012). "Soil management zones to manage N in potato crops in eastern Canada.", 20th Annual Northeast Potato Technology Forum, The University of Maine, Orono, ME, USA, March 7-8, 2012.

## 2011

Cambouris, A.N., Zearth, B.J., Ziadi, N., Grant, C.A., and Drury, C.F. (2011). "Impacts agro-environnementaux de divers fertilisants azotés sur la production de pomme de terre. Association québécoise de spécialistes en sciences du sol.", 25<sup>ème</sup> congrès annuel de l'AQSSS, Wendake, QC, Canada, May 25-27, 2011.

Burton, D.L., Zearth, B.J., and MacLeod, J.A. (2011). "Nitrous oxide emissions from potato production and their management.", 2011 ASA, CSSA, and SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Presentation)

Cambouris, A.N., Zebarth, B.J., Ziadi, N., Grant, C.A., Hu, Z., Gagnon, B., Drury, C.F. (2011). "Agri-environmental effect of N fertilizer on potato production.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Fuller, K.D., Burton, D.L., Drury, C.F., Grimmett, M.G., Zebarth, B.J., Fillmore, S.A.E., Girton, R.J., and St George, E. (2011). "Denitrification, losses in manure amended, permanent forage, and corn-soybean-wheat rotations in Atlantic Canada.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Coffin, R.H., Coffin, J., Tai, H.H., Zebarth, B.J., Lazarovits, G., Thompson, B., MacDonald, E., Beaton, B.W., MacLeod, J., and Swallow, G. (2011). "All you want to know about lime but were scared to ask", 19th Annual Northeast Potato Technology Forum, Crowne Plaza Fredericton Lord Beaverbrook Hotel, Fredericton, NB, Canada, March 16-17, 2011.

Grant, C.A., Zebarth, B.J., Malhi, S.S., Soon, Y.K., Selles, F., Lupwayi, N.Z., O'Donovan, J.T., Harker, K.N., and Clayton, G.W. (2011). "Changes in soil ammonium and nitrate concentration over the growing season in western Canada as affected by urea or controlled release urea application.", 12th International Symposium on Soil and Plant Analysis, Mediterranean Agronomic Institute of Chania, Crete, Greece, June 6-10, 2011.

Bélanger, G., Ziadi, N., Cambouris, A.N., and Zebarth, B.J. (2011). "Plant-based N diagnostic methods: Whole plants or some parts of the plants?", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

St. Luce, M., Ziadi, N., Nyiraneza, J., Tremblay, G.F., Zebarth, B.J., Whalen, J.K., and Laterrière, M. (2011). "Prediction of soil properties and soil N supply using near infrared reflectance spectroscopy.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Zebarth, B.J., Ziadi, N., Bélanger, G., and Cambouris, A.N. (2011). "Can we predict soil N supply using soil N tests?", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Cambouris, A.N., Zebarth, B.J., and Nolin, M.C. (2011). "Lessons learned from potato precision agriculture experiences in eastern Canada.", 2011 ASA, CSSA, and SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Presentation)

Miller, J.J., Bremer, E., Beasley, B.W., Drury, C.F., Zebarth, B.J., and Lamey, F.J. (2011). "Macroaggregate characteristics in soil amended with fresh or composted cattle manure containing straw or wood-chip bedding.", 48th Annual Alberta Soil Science Workshop, Calgary, AB, Canada, February 15-17, 2011.

Tremblay, N., Zebarth, B.J., and N'Dayegamiye, A. (2011). "Améliorer les recommandations en engrais par des tests sur l'apport du sol en azote minéral.", 25<sup>ème</sup> congrès annuel de l'Association québécoise de spécialistes en sciences du sol (AQSSA), Wendake, QC, Canada, May 25-27, 2011, 94. (Presentation)

Bruulsema, T.W., Bergeron, O., Rochette, P., and Zebarth, B.J. (2011). "Nitrous oxide emissions from crop nitrogen applications in eastern Canada.", Plant Canada 2011, Saint Mary's University, Halifax, NS, Canada, July 17-21, 2011.

Zebarth, B.J., Dessureault-Rompré, J., Burton, D.L., Georgallas, A., Sharifi, M., Porter, G.A., Moreau, G., Leclerc, Y., Arsenault, W.J., Chow, T.L., and Grant, C.A. (2011). "Predicting Soil Nitrogen Supply in Potato Fields Using a Simple Kinetic Model.", 19th Annual Northeast Potato Technology Forum, Crowne Plaza Fredericton Lord Beaverbrook Hotel, Fredericton, NB, Canada, March 16-17, 2011.

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## Research Publications:

2015

Wang, Y.T., Zhang, T.Q., O'Halloran, I.P., Tan, C.S., and Hu, Q.C. (2015). "Predicting environmental soil phosphorus limits for dissolved reactive phosphorus loss.", *Soil Use and Management*, pp. 1-9. doi: 10.1111/sum.12238

Zheng, Z.M., Zhang, T.Q., Kessel, C., Tan, C.S., O'Halloran, I.P., Wang, Y.T., Speranzini, D., and Van Eerd, L.L. (2015). "Approximating Phosphorus Leaching from Agricultural Organic Soils by Soil Testing.", *Journal of Environmental Quality*, 44(6), pp. 1871-1882. doi: 10.2134/jeq2015.05.0211

Hao, X.J., Zhang, T.Q., Tan, C.S., Welacky, T.W., Wang, Y.T., Lawrey, J.D., and Hong, J.P. (2015). "Crop yield and phosphorus uptake as affected by phosphorus-based swine manure application under long-term corn-soybean rotation.", *Nutrient Cycling in Agroecosystems*, 103(2), pp. 217-228. doi: 10.1007/s10705-015-9735-0

Zhang, T.Q., Tan, C.S., Zheng, Z.M., and Drury, C.F. (2015). "Tile Drainage Phosphorus Loss with Long-Term Consistent Cropping Systems and Fertilization.", *Journal of Environmental Quality*, 44(2), pp. 503-511. doi: 10.2134/jeq2014.04.0188

Wang, Y.T., O'Halloran, I.P., Zhang, T.Q., Hu, Q.C., and Tan, C.S. (2015). "Phosphorus Sorption Parameters of Soils and Their Relationships with Soil Test Phosphorus.", *Soil Science Society of America Journal*, 79(2), pp. 672-680. doi: 10.2136/sssaj2014.07.0307

Zhang, T.Q., Tan, C.S., Zheng, Z.M., Welacky, T.W., and Reynolds, W.D. (2015). "Impacts of soil conditioners and water table management on phosphorus loss in tile drainage from a clay loam soil.", *Journal of Environmental Quality*, 44(2), pp. 572-584. doi: 10.2134/jeq2014.04.0154

2014

Wang, Y.T., Wang, Y., O'Halloran, I.P., Zhang, T.Q., Hu, Q.C., and Tan, C.S. (2014). "Langmuir equation modifications to describe phosphorus sorption in soils of Ontario, Canada.", *Soil Science*, 179(12), pp. 536-546. doi: 10.1097/SS.0000000000000100

Wang, Y., Xiao, X., Zhang, T.Q., Kang, H., Zeng, J., Fan, X., Sha, L., Zhang, H., Yu, K., and Zhou, Y. (2014). "Cadmium treatment alters the expression of five genes at the *cda1* locus in two soybean cultivars [Glycine Max (L.) Merr].", *The Scientific World Journal*, 2014(Article ID 979750), pp. 1-8. doi: 10.1155/2014/979750

Zheng, Z.M., Zhang, T.Q., Wen, G., Kessel, C., Tan, C.S., O'Halloran, I.P., Reid, D.K., Nemeth, D., and Speranzini, D. (2014). "Soil Testing to Predict Dissolved Reactive Phosphorus Loss in Surface Runoff from Organic Soils.", *Soil Science Society of America Journal*, 78(5), pp. 1786-1796. doi: 10.2136/sssaj2014.02.0065

Hao, X.J., Hong, J.P., Zhang, T.Q., Li, J.R., Gao, W.J., and Zheng, Z.M. (2014). "Effects of Arbuscular Mycorrhizal Fungal Inoculation and Phosphorous Addition on Maize Photosynthesis and Growth in a Reclaimed Soil of Mining Area.", *Communications in Soil Science and Plant Analysis*, 45(18), pp. 2413-2428. doi: 10.1080/00103624.2014.912295

Drury, C.F., Tan, C.S., Welacky, T.W., Reynolds, W.D., Zhang, T.Q., Oloya, T.O., McLaughlin, N.B., and Gaynor, J.D. (2014). "Reducing nitrate loss in tile drainage water with cover crops and water-table management systems.", *Journal of Environmental Quality*, 43(2), pp. 587-598. doi: 10.2134/jeq2012.0495

Wang, Y.T., Zhang, T.Q., O'Halloran, I.P., Hu, Q.C., Tan, C.S., Speranzini, D., MacDonald, I.K., and Patterson, G. (2014). "Agronomic and Environmental Soil Phosphorus Tests for Predicting Potential Phosphorus Loss from Ontario Soils.", *Geoderma*, 241-242, pp. 51-58. doi: 10.1016/j.geoderma.2014.11.001

Singh, S., Lin, Z.Q., and Zhang, T.Q. (2014). "Effects of hog manure application on selenium accumulation in agricultural soil and grains.", in Bañuelos, G.S., Lin, Z.-Q. and Yin, X.B. (eds.) - *Selenium in the Environment and Human Health*, CRC Press, pp. 144-146.

2013

Xie, Y.H., Hu, Q.C., Hong, J.P., and Zhang, T.Q. (2013). "Effects of bacterial and fungal inoculants in a loess soil amended with various sources of phosphorus on pea growth and phosphorus uptake.", *Communications in Soil Science and Plant Analysis*, 44(13), pp. 2008-2018. doi: 10.1080/00103624.2012.758280

Beauregard, M.S., Gauthier, M.-P., Hamel, C., Zhang, T.Q., Welacky, T.W., Tan, C.S., and St-Arnaud, M. (2013). "Various forms of organic and inorganic P fertilizers did not negatively affect soil- and root-inhabiting AM fungi in a maize-soybean rotation system.", *Mycorrhiza*, 23(2), pp. 143-154. doi: 10.1007/s00572-012-0459-6

## 2012

Wang, Y.T., Zhang, T.Q., O'Halloran, I.P., Tan, C.S., Hu, Q.C., and Reid, D.K. (2012). "Soil tests as risk indicators for leaching of dissolved phosphorus from agricultural soils in Ontario.", *Soil Science Society of America Journal*, 76(1), pp. 220-229. doi: 10.2136/sssaj2011.0175

Reid, D.K., Ball, B., and Zhang, T.Q. (2012). "Accounting for the risks of phosphorus losses through tile drains in a P index.", *Journal of Environmental Quality*, 41(6), pp. 1720-1729. doi: 10.2134/jeq2012.0238

Liu, K., Zhang, T.Q., Tan, C.S., Astatkie, T., and Price, G.W. (2012). "Crop and soil nitrogen responses to phosphorus and potassium fertilization and drip irrigation under processing tomato.", *Nutrient Cycling in Agroecosystems*, 93(2), pp. 151-162. doi: 10.1007/s10705-012-9506-0

## 2011

Liu, H.L., Yang, J.Y., Tan, C.S., Drury, C.F., Reynolds, W.D., Zhang, T.Q., Bai, Y.L., Jin, J.Y., He, P., and Hoogenboom, G. (2011). "Simulating water content, crop yield and nitrate-N loss under free and controlled tile drainage with subsurface irrigation using the DSSAT model.", *Agricultural Water Management*, 98(6), pp. 1105-1111. doi: 10.1016/j.agwat.2011.01.017

Jiao, P.J., Xu, D., Wang, S.L., and Zhang, T.Q. (2011). "Phosphorus loss by surface runoff from agricultural field plots with different cropping systems.", *Nutrient Cycling in Agroecosystems*, 90(1), pp. 23-32. doi: 10.1007/s10705-010-9409-x

Liu, K., Zhang, T.Q., and Tan, C.S. (2011). "Processing tomato phosphorus utilization and post-harvest soil profile phosphorus affected by phosphorus and potassium additions and drip irrigation.", *Canadian Journal of Soil Science*, 91(3), pp. 417-425. doi: 10.4141/cjss09098

Wang, Y.T., Zhang, T.Q., Hu, Q.C., O'Halloran, I.P., Tan, C.S., and Reid, D.K. (2011). "Temporal patterns of soil phosphorus release to runoff during a rainfall event as influenced by soil properties and its effects on estimating soil P losses.", *Canadian Journal of Soil Science*, 91(3), pp. 339-347. doi: 10.4141/cjss09097

Tan, C.S. and Zhang, T.Q. (2011). "Surface runoff and sub-surface drainage phosphorus losses under regular free drainage and controlled drainage with sub-irrigation systems in southern Ontario.", *Canadian Journal of Soil Science*, 91(3), pp. 349-359. doi: 10.4141/cjss09086

Liu, K., Tan, C.S., Zhang, T.Q., and Astatkie, T. (2011). "Responses of Fruit Yield and Quality of Processing Tomato to Drip-Irrigation and Fertilizers Phosphorus and Potassium.", *Agronomy Journal*, 103(5), pp. 1339-1345. doi: 10.2134/agronj2011.0111

Zhang, T.Q., Liu, K., Tan, C.S., Warner, J.T., and Wang, Y.T. (2011). "Processing tomato nitrogen utilization and soil residual nitrogen as influenced by nitrogen and phosphorus additions with drip-fertilization.", *Soil Science Society of America Journal*, 75(2), pp. 738-745. doi: 10.2136/sssaj2009.0365

## Other Science Related Publications:

### 2015

Tan, C.S., Zhang, T.Q., and Zheng, Z.M. (2015). "Impact of subsurface drainage management and organic manure and chemical fertilizer on nutrient loss.", *American Society of Agricultural and Biological Engineers Annual International Meeting 2015*, New Orleans, USA, July 26-29, 2015, pp. 818-840.

### 2014

Singh, S., Lin, Z.Q., and Zhang, T.Q. (2014). "Effects of hog manure application on selenium accumulation in agricultural soil and grains.", *3rd International Conference on Selenium in the Environment and Human Health*, Hefei, Anhui, China, November 10-14, 2014, pp. 144-146.

Zhang, T.Q., Tan, C.S., Zheng, Z.M., and Drury, C.F. (2014). "Phosphorus fate in a clay loam soil under natural and long-term ( $\geq 43$  years) managed agricultural eco-systems.", *5th International Symposium on Phosphorus in Soil and Plant*, Montpellier, France, August 26-29, 2014.

Liu, S., Wang, J., Zhang, T.Q., and Zhang, A.F. (2014). "Effect of Different Organic and Inorganic Fertilization Regimes on Soil Organic Carbon Pools in Soil Profiles of a Corn-Soybean Rotation.", *ASA, CSSA and SSSA International Annual Meeting 2014*, Long Beach, CA, USA, November 2-5, 2014.

Reid, D.K., Zhang, T.Q., and King, K. (2014). "Phosphorus Movement Through Macropores: Are Current Models Relevant to a P Index?", *RDT Guelph-Harrow Nutrient Management Workshop*, April 7, 2014. (Presentation)



Zhang, T.Q., Tan, C.S., and Welacky, T.W. (2014). "Phosphorus draw-down strategy: a fundamental approach for reducing P loss from tile drainage.", NCERA 217 Meeting and ADMs Task Force Meeting, Findlay, OH, USA, April 1-3, 2014. (Presentation)

Wang, Y.T., Zhang, T.Q., Hu, Q.C., and Tan, C.S. (2014). "Extractability of manure phosphorus applied to major Ontario soils measured by various soil phosphorus test methods.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

Zhang, T.Q. and Tan, C.S. (2014). "Effect of water table management and liquid and solid cattle manures on phosphorus losses in surface and sub-surface drainage water and crop performance.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

Tan, C.S., Zhang, T.Q., and Ng, H.Y.F. (2014). "Impacts of compost addition on sub-surface nitrate and phosphorus losses at the farm scale under two different tillage systems.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

Zhang, T.Q., Tan, C.S., and Welacky, T.W. (2014). "Crop performance and soil phosphorus losses in surface runoff and tile drainage as related to organic manure, chemical fertilizer and drainage water management.", American Society of Agricultural and Biological Engineers Annual International Meeting 2014, Montreal, Canada, July 13-16, 2014, Paper #1894486, pp. 1029-1038.

Hao, X.J., Zhang, T.Q., Tan, C.S., Welacky, T.W., and Hong, J.P. (2014). "Crop yield response to phosphorus-based application of various forms of swine manure under long-term corn-soybean rotation.", 5th International Symposium on Phosphorus in Soil and Plant, Montpellier, France, August 26-29, 2014.

Zhang, T.Q., Tan, C.S., and Welacky, T.W. (2014). "Environmental evaluation of soil phosphorus and agronomic performance with continuous draw-down on drained soils with corn and soybean rotation.", American Society of Agricultural and Biological Engineers Annual International Meeting 2014, Montreal, Canada, July 13-16, 2014, Paper #1894458, pp. 1004-1012.

Zhang, T.Q., Tan, C.S., Drury, C.F., and Welacky, T.W. (2014). "Phosphorus loss from yile drained agricultural lands in Canada, an Overview on Research Progress.", 20th World Congress of Soil Science, Jeju, South Korea, June 8-13, 2014.

Zhang, T.Q., Tan, C.S., Welacky, T.W., and Hao, X.J. (2014). "Utilization of soil legacy P, a potential strategy for sustaining crop production and reducing P loss to water resource.", Sustainable Phosphorus Summit, Montpellier, France, September 1-3, 2014.

Zhang, T.Q., Tan, C.S., and Welacky, T.W. (2014). "Phosphorus draw-down strategy: a fundamental approach for reducing P loss from tile drainage.", RDT Guelph-Harrow Nutrient Management Workshop, April 7, 2014. (Presentation)

Tan, C.S. and Zhang, T.Q. (2014). "Effect of tile drain depth and spacing on nitrogen losses under corn and soybean rotation.", RDT Guelph-Harrow Nutrient Management Workshop, April 7, 2014. (Presentation)

Zhang, T.Q. and Tan, C.S. (2014). "Drain water discharge and phosphorus losses in response to tile drain spacing and depth in Southern Ontario.", NCERA 217 Meeting and ADMs Task Force Meeting, Findlay, OH, USA, April 1-3, 2014. (Presentation)

Tan, C.S. and Zhang, T.Q. (2014). "Drain water discharge and phosphorus losses in response to tile drain spacing and depth in Southern Ontario.", NCERA 217 Meeting and ADMs Task Force Meeting, Findlay, OH, USA, April 1-3, 2014. (Presentation)

Qiao, S.Y., Prasher, S.O., Zhang, T.Q., and Tan, C.S. (2014). "Modeling water flow and phosphorus fate and transport in tile-drained clay loam soil in southern Ontario using the HYDRUS 2D/3D model.", ASABE Annual International Meeting, Kansas City, MO, USA, July 21-24, 2013, Paper #1901404.

Tan, C.S. and Zhang, T.Q. (2014). "Effect of tile drain depth, spacing and drain water management on phosphorus losses in corn and soybean rotation.", American Society of Agricultural and Biological Engineers Annual International Meeting 2014, Montreal, Canada, July 13-16, 2014, Paper #1888493, pp. 273-285.

Tan, C.S., Ng, H.Y.F., and Zhang, T.Q. (2014). "The influence of farm scale drainage water management on water quality under sandy and clay loam soils in southern Ontario.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

## 2013

Zhang, T.Q., Tan, C.S., Welacky, T.W., Reynolds, C.K., and Drury, C.F. (2013). Phosphorus cycling in agro-eco-systems and development for risk assessment tools and BMPs to improve water quality while maximizing crop productivity. AAFC, NOI-292 Project final report. (Report)

Zhang, T.Q., Hao, X.J., Tan, C.S., Welacky, T.W., and Hong, J.P. (2013). "Cumulative contributions of various forms of swine manure to soil test phosphorus in a clay loam soil under long-term corn-soybean rotation. Future Agriculture with Minimized Phosphorus Losses to Waters.", 7th International Phosphorus Workshop (IPW7), Uppsala, Sweden, September 9-13, 2013, pp. 161.

Zhang, T.Q. and Tan, C.S. (2013). "Agri-Water Quality Monitoring, Data Collection, and Interpretation at the Plot and Field Scales in Past 20 Years: Observations, Lessons, and Challenges.", Bi-National Workshop on Sharing Agricultural Science, Technology and Data to Improve Great Lakes Water Quality, London, Ontario, Canada, June 13-14, 2013.

Zhang, T.Q., Tan, C.S., Welacky, T.W., and Reynolds, C.K. (2013). Managing Phosphorus and Water in Soils Amended with Long-term Continuous Additions of Animal Manures and Inorganic Fertilizers to Increase Crop Use Efficiency and Reduce Adverse Impacts on Water Quality in the Great Lakes Region. AAFC, Project 2588 annual report. (Report)

Hao, X.J., Zhang, T.Q., Tan, C.S., Welacky, T.W., and Hong, J.P. (2013). "Cumulative contributions of various forms of swine manure to soil test phosphorus in a clay loam soil under long-term corn-soybean.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013. (Poster)

Tan, C.S. and Zhang, T.Q. (2013). "Effect of tile drain depth and spacing on nitrogen losses under corn and soybean rotation.", ASABE Annual International Meeting, Kansas City, MO, USA, July 21-24, 2013, 14 pages. Paper Number: 131596042.

Zhang, T.Q., Tan, C.S., and Welacky, T.W. (2013). "Agronomic and environmental evaluation of soil phosphorus with continuous draw-down.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013. (Poster)

Zhang, T.Q., Tan, C.S., and Zheng, Z.M. (2013). "Development of Soil Tests as Risk Indicators for Phosphorus Losses from Agricultural Soils in Canada.", 20th International Conference on Environmental Indicators, Trier, Germany.

Zhang, T.Q., Zheng, Z.M., Wen, G., Kessel, C., Tan, C.S., and O'Halloran, I.P. (2013). "Agronomic and environmental soil phosphorus testing for organic (muck) soils.", The 2nd Biennial Lake Simcoe Science Forum, October 29-30, 2013.

Zhang, T.Q., Tan, C.S., Welacky, T.W., and Zheng, Z.M. (2013). "Soil phosphorus losses in surface runoff and tile drainage as related to P-based addition of various forms of cattle manure and chemical fertilizer. Future Agriculture with Minimized Phosphorus Losses to Waters.", 7th International Phosphorus Workshop (IPW7), Uppsala, Sweden, September 9-13, 2013, pp. 160.

Herath, A., Zhang, T.Q., Tan, C.S., Hamel, C., Bittman, S., Parkin, G.W., and Goss, M.J. (2013). "Development of a soil test for prediction of long-term potential for phosphorus loss in typical Canadian soils.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013.

Tan, C.S., Zhang, T.Q., and Welacky, T.W. (2013). "Effectiveness of Organic and Inorganic Fertilizers on Water Quality and Crop Production under Free Drainage and Water Table Control Systems.", International Interdisciplinary Conference on Land and Water Quality, The Hague, The Netherlands, June 9-13, 2013.

Tan, C.S., Zhang, T.Q., and Welacky, T.W. (2013). "Water discharge and nitrogen loss in response to phosphorus draw down in high P soils.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013. (Poster)

Tan, C.S. and Zhang, T.Q. (2013). "Drain water discharge and nitrogen losses in response to tile drain spacing and depth in Southern Ontario.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013.

Zhang, T.Q. and Tan, C.S. (2013). "Nutrient cycling and management in agri-ecosystems.", Department of Earth & Environmental Science, University of Windsor, April 19, 2013. (Presentation)

Ziadi, N., Bélanger, G., Grant, C.A., Cade-Menun, B.J., Lalande, R., Hamel, C., Lafond, J., Lajeunesse, J., Pageau, D., Tremblay, G.F., and Zhang, T.Q. (2013). Soil and plant phosphorus assessment and modeling in Canadian agro-ecosystems. Final report SAGES#1475. (Report)

Zhang, T.Q., Tan, C.S., Zheng, Z.M., and Drury, C.F. (2013). "Tile drainage phosphorus losses from agricultural soils: case studies in Canada.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013, Invited speech.

Herath, A., Zhang, T.Q., Tan, C.S., Hamel, C., Welacky, T.W., Parkin, G.W., Goss, M.J., and O'Halloran, I.P. (2013). "Effects of liquid, solid and compost swine manure on soil phosphorus fractions in a clay loam soil under corn-soybean rotation.", CSSS Annual Meeting, AB, Canada.

Zhang, T.Q., Tan, C.S., and Welacky, T.W. (2013). "Agronomic and water quality evaluation of the phosphorus draw-down approach in tile drained soils.", SERA-17 Annual Meeting, Tampa, Florida, USA, November 6-8, 2013, Invited speech.

Tan, C.S. and Zhang, T.Q. (2013). "Effect of tile drain depth and spacing on phosphorus losses under corn and soybean rotation.", ASA/CSSA/SSSA International annual meeting, Tampa, Florida, USA, November 3-6, 2013. (Poster)

Tan, C.S. and Zhang, T.Q. (2013). "Terrestrial study update in Fuling watershed.", International Workshop of Innovative Monitoring and Prediction of non-point source pollution and water quality in TGR., Beibei, Chongqing, China, August 13-17, 2013. (Presentation)

Tan, C.S. and Zhang, T.Q. (2013). "Use of water table management and water recycling system to reduce the negative impacts of climate change on field crop production and water Quality.", International Interdisciplinary Conference on Land and Water Quality, The Hague, The Netherlands, June 9-13, 2013.

Tan, C.S. and Zhang, T.Q. (2013). "Sustainable Agriculture-Soil-Crop-Water management Programs at Harrow Research Centre-AAFC.", Department of Earth & Environmental Science, University of Windsor, April 19, 2013. (Presentation)

Lu, C., Qi, Z., Prasher, S.O., Tan, C.S., and Zhang, T.Q. (2013). "Modeling surface runoff and subsurface drainage in a corn and soybean rotation field in southern Ontario using RZWQM2.", ASABE Annual International Meeting, Kansas City, MO, USA, July 21-24, 2013, Paper #1904432.

2012

Zhang, T.Q., Tan, C.S., Ma, B.-L., and Ng, H.Y.F. (2012). "Effects of Compost Addition on Soil Phosphorus and Nitrate-N Losses in Tile Drainage Water under Long-term Conventional Tillage and No-tillage.", 2012 ASABE Annual International Meeting, Hilton Anatole Dallas, Dallas, TX, USA, July 29-August 1, 2012, Paper #12-1336986. 11 pages.

Tan, C.S., Ng, H.Y.F., and Zhang, T.Q. (2012). "The effect of water table management on water quality under sandy loam and clay loam soils at the farm scale.", 2012 ASABE Annual International Meeting, Hilton Anatole Dallas, Dallas, TX, USA, July 29-August 1, 2012, Paper Number: 12-1336985. 19 pages.

Tan, C.S., Zhang, T.Q., Welacky, T.W., and Drury, C.F. (2012). "Integration of Organic Amendments with Water Table Management Recycling System on Water Quality and Crop Production.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012, #166-11. (Abstract)

Zhang, T.Q., Zheng, Z.M., Wen, G., Kessel, C., Tan, C.S., O'Halloran, I.P., Reid, D.K., Nemeth, D., and Speranzini, D. (2012). Development of agronomic and environmental soil phosphorus testing methods for organic (muck) soils. Report to Environment Canada, Ontario Ministry of Agriculture, Food, and Rural Affairs, and Ontario Agriculture Federation (Lake Simcoe Clean-up Program). (Report)

Zhang, T.Q., Tan, C.S., Welacky, T.W., Reynolds, W.D., Drury, C.F., Yang, J.Y., O'Halloran, I.P., Hua, Y.F., Prasher, S.O., and Lin, Z. (2012). Managing phosphorus and water in soils long-term continuously added with animal manures and inorganic fertilizers to increase crop use efficiency and to reduce adverse impacts on water quality in Great Lakes region. Report to AAFC. (Report)

Zhang, T.Q. and Tan, C.S. (2012). "Comparisons of soil phosphorus loss in tile drainage with surface runoff.", Joint meeting of the Agricultural Drainage Management Systems Task Force and North Central Extension and Research Activity 217 (Drainage Design and Management Practices to Improve Water Quality), Dundee, MI, USA, April 17-19, 2012. (Presentation)

Tan, C.S. and Zhang, T.Q. (2012). "Sustainable agriculture for the future-BMP: Environmental quality and productivity.", Canadian Science Writers Association Conference, University of Windsor, Windsor, ON, Canada, June 2-5, 2012.

Tan, C.S. and Zhang, T.Q. (2012). "Effect of water management on phosphorus transport through surface and sub-surface drainage in corn and soybean rotation.", Joint meeting of the Agricultural Drainage Management Systems Task Force and North Central Extension and Research Activity 217 (Drainage Design and Management Practices to Improve Water Quality), Dundee, MI, USA, April 17-19, 2012. (Presentation)

Zhang, T.Q. and Zheng, Z.M. (2012). "Soil phosphorus tests and transformation analysis to predict plant availability: A review.", in Whalen, J. (ed.) - Soil Fertility Improvement and Integrated Nutrient Management - A Global Perspective, InTech, Open Access Publisher, Chapter 2, pp. 19-36.

Qiao, S.Y., Prasher, S.O., Zhang, T.Q., and Tan, C.S. (2012). "Modeling Phosphorus Fate and Transport in Agricultural Soil Using HYDRUS-2D.", 2012 ASABE Annual International Meeting, Hilton Anatole Dallas, Dallas, TX, USA, July 29-August 1, 2012.

Zhang, T.Q., Tan, C.S., and Welacky, T.W. (2012). "Phosphorus Loss in the Tile Drains from Agricultural Lands, in Comparisons with Surface Runoff.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012, #166-9. (Abstract)

Tan, C.S. and Zhang, T.Q. (2012). "Effect of New Innovative Water Management System On Nutrient Losses and Crop Production", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012, 166-4. (Abstract)

Noborio, K., Tan, C.S., Shoji, Y., and Zhang, T.Q. (2012). "Nutrient Loss Through Tile Drainage Enhanced by Soil Cracks.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012, #169-8. (Abstract)

Hao, X.J., Hong, J.P., Li, J.R., Lv, Z.G., and Zhang, T.Q. (2012). "Effects of Phosphorus Addition and Arbuscular Mycorrhizal Fungi Inoculation On Maize Photosynthesis and Growth in Reclaimed Soils of Mining Area.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012, #395-3, Poster # 1524. (Poster)

Zhang, T.Q., Tan, K.C.B., Drury, C.F., and Reynolds, W.D. (2012). "Changes of soil phosphorus fractions induced by fertilization and crop rotation in comparison with virgin forest.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-CSSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012. (Abstract)

Zhang, T.Q. and Tan, C.S. (2012). "Phosphorus loss in tile drains from clay loam soils.", 3rd AQSSS-CSSS Joint Meeting/Congrès conjoint AQSSS-SCSS: Soils in a changing climate: Friend of foe?, Manoir St-Castin, Québec City, QC, Canada, June 3-8, 2012.

Zhang, T.Q., Zheng, Z.M., Kessel, C., Tan, C.S., O'Halloran, I.P., Reid, D.K., and Speranzini, D. (2012). "Development of an Environmental soil P Test for Muck (Organic) Soils.", 2012 ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH, USA, October 21-24, 2012, #164-13. (Abstract)

Hurst, E., Tan, C.S., and Zhang, T.Q. (2012). "Effect of organic amendments and water table control on greenhouse gas.", Agricultural Greenhouse Gases Program 1st Annual Meeting, Macdonald Campus of McGill University, Montréal, QC, Canada, December 10, 2012.

## 2011

Zhang, T.Q. (2011). "Using "Just Enough" Nutrients to Grow Horticultural Crops – Maximizing profits and minimizing environmental impact.", published by AAFC Potato Research Centre, Fredericton, NB, Canada. (Technology transfer)

Tan, C.S., Zhang, T.Q., and Warner, J.T. (2011). "Effect of four levels of drip irrigation on processing tomato fruit solid and yield.", 7th Annual Great Lakes Vegetable Working Group Meeting, Leamington, ON, Canada, March 9-10, 2011.

Zhang, T.Q. and Tan, C.S. (2011). "Effect of surface and sub-surface drip and fertigation on commercial scale processing tomato production on coarse and heavy textured soils.", 7th Annual Great Lakes Vegetable Working Group Meeting, Leamington, ON, Canada, March 9-10, 2011.

Tan, C.S. and Zhang, T.Q. (2011). "Use of controlled drainage and sub-irrigation water recycling to reduce the negative impacts of climate change on field crop production and water quality.", Climate Change and the Implications for Plant Science: Symposium and Workshop, University of Guelph, Guelph, ON, Canada, June 7-9, 2011.

Tan, C.S., Zhang, T.Q., and Welacky, T.W. (2011). "Comparison of organic fertilizer with solid and liquid manures vs. inorganic fertilizer on water quality and crop production under free drainage and water table control systems.", 2011 ASABE Annual International Meeting, Louisville, KY, USA, August 7-11, 2011, Vol. 6, pp. 5005-5019.

Tan, C.S. and Zhang, T.Q. (2011). "Cumulative phosphorus losses and their pathways with free drainage and controlled drainage with sub-irrigation systems.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Tan, C.S. and Zhang, T.Q. (2011). "Effect of water table control on phosphorus losses from surface runoff and sub-surface tile drainage in corn and soybean rotation. Consultation on Dissolved Reactive Phosphorus Loading from Agricultural Sources.", International Joint Commission-Science Advisory Board/Heidelberg University/USDA-Natural Resources Conservation Service, Dearborn, MI, USA, July 12-13, 2011. (Presentation)

Tan, C.S., Zhang, T.Q., and Welacky, T.W. (2011). "Mitigation of drought stress through integration of organic amendments with controlled drainage-sub-irrigation water recycling system to improve soybean productivity and water quality.", Climate Change and the Implications for Plant Science: Symposium and Workshop, University of Guelph, Guelph, ON, Canada, June 7-9, 2011.

Tan, C.S. and Zhang, T.Q. (2011). "Water management practice effects on nutrient losses from surface and sub-surface tile drainage in corn and soybean rotation.", 2011 ASABE Annual International Meeting, Louisville, KY, USA, August 7-11, 2011, Vol. 4, pp. 3056-3076.

Zhang, T.Q., Tan, C.S., Zandstra, J., and Warner, J.T. (2011). "Nitrogen management for sweet corn production.", 7th Annual Great Lakes Vegetable Working Group Meeting, Leamington, ON, Canada, March 9-10, 2011.

Zhang, T.Q., Tan, C.S., Liu, K., and Warner, J.T. (2011). "Nutrient optimization for processing tomatoes with drip/fertigation.", 7th Annual Great Lakes Vegetable Working Group Meeting, Leamington, ON, Canada, March 9-10, 2011.

Zhang, T.Q., Tan, C.S., Yang, J.Y., and Reynolds, W.D. (2011). "Soil fertility management, crop productivity and water quality: nutrient management research in AAFC.", International Workshop on Non-Point Source Pollution Control in the Three Gorges Reservoir Basin, Chongqing, China, January 8-17, 2011.

Reynolds, W.D., Drury, C.F., Yang, X.M., Tan, C.S., Zhang, T.Q., and Yang, J.Y. (2011). "Measuring Soil Hydraulic Properties Using a Falling-Head Borehole Permeameter.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Zhang, T.Q. and Tan, C.S. (2011). "Dissolved reactive phosphorus loss in relation to various management practices. Consultation on Dissolved Reactive Phosphorus Loading from Agricultural Sources.", International Joint Commission-Science Advisory Board/Heidelberg University/USDA-Natural Resources Conservation Service, Dearborn, MI, July 12-13, 2011. (Presentation)

Zhang, T.Q., Tan, C.S., Drury, C.F., MacLeod, J.A., Grimmer, M.G., Welacky, T.W., and Reynolds, W.D. (2011). Phosphorus cycling in agro-eco-systems and development for risk assessment tools and BMPs to improve water quality while maximizing crop productivity. Final Report, Agriculture and Agri-Food Canada (AAFC)/Agriculture et Agroalimentaire Canada (AAC). (Report)

Zhang, T.Q. (2011). "Mitigation of phosphorus loss from agriculture. (Preface)", Canadian Journal of Soil Science, 91(3), pp. 313-315.

Zhang, T.Q., Tan, C.S., Hu, Q.C., Drury, C.F., and Zheng, Z.M. (2011). "Long-term ( $\geq 45$  yrs) cumulative effects of fertilization and cropping systems on soil phosphorus forms and losses in field water discharge.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

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## Research Publications:

2016

Hao, H.Y., Zhou, T., Koutchma, T., Wu, F., and Warriner, K. (2016). "High hydrostatic pressure assisted degradation of patulin in fruit and vegetable juice blends", *Food Control*, 62, pp. 237-242. doi: 10.1016/j.foodcont.2015.10.042

2015

Wang, W., Soliman, S.S.M., Li, X.-Z., Zhu, H., Yang, L., Yin, Y.L., and Zhou, T. (2015). "Transformation of trichothecene acetyldeoxynivalenol to deoxynivalenol by bacterial acetyltransferase.", in Wang, W. (ed.) - *Medicine Sciences and Bioengineering*, Taylor & Francis, pp. 775-781.

Soliman, S.S.M., Li, X.-Z., Shao, S., Behar, M., Svircev, A.M., Tsao, R., Tsao, R., and Zhou, T. (2015). "Potential mycotoxin contamination risks of apple products associated with fungal flora of apple core.", *Food Control*, 47, pp. 585-591. doi: 10.1016/j.foodcont.2014.07.060

Hassan, Y.I., Watts, C., Li, X.-Z., and Zhou, T. (2015). "A Novel Peptide-Binding Motifs Inference Approach to Understand Deoxynivalenol Molecular Toxicity.", *Toxins*, 7(6), pp. 1989-2005. doi: 10.3390/toxins7061989

Hassan, Y.I., Lepp, D., and Zhou, T. (2015). "Genome Assemblies of Three Soil-Associated *Devosia* species: *D. insulae*, *D. limi*, and *D. soli*.", *Genome Announcements*, 3(3: Article e00514-15).

He, J., Bondy, G.S., Zhou, T., Caldwell, D., Boland, G.J., and Scott, P.M. (2015). "Toxicology of 3-epi-deoxynivalenol, a deoxynivalenol-transformation product by *Devosia mutans* 17-2-E-8.", *Food and Chemical Toxicology*, 84(Article number 8390), pp. 250-259. doi: 10.1016/j.fct.2015.09.003

Hassan, Y.I., Zhou, T., and Bulleman, L.B. (2015). "Sourdough lactic acid bacteria as antifungal and mycotoxin-controlling agents.", *Food Science and Technology International*, pp. 1-12. doi: 10.1177/1082013214565722

Hassan, Y.I., Lepp, D., and Zhou, T. (2015). "Next-generation whole-genome sequencing platforms and factors to consider for bacterial applications.", *Journal of Microbiology, Biotechnology and Food Sciences*, 5(1), pp. 29-33. doi: 10.15414/jmbfs.2015.5.1.29-33

Hassan, Y.I., Lepp, D., Li, X.-Z., and Zhou, T. (2015). "Insights into the Hydrocarbon Tolerance of Two *Devosia* Isolates, *D. chinhatensis* Strain IPL18T and *D. geojensis* Strain BD-c194T, via Whole-Genome Sequence Analysis.", *Genome Announcements*, 3(4 e00890-15), pp. 1-2. doi: 10.1128/genomeA.00890-15

He, J., Yang, R., Zhou, T., Boland, G.J., Scott, P.M., and Bondy, G.S. (2015). "An epimer of deoxynivalenol: purification and structure identification of 3-epi-deoxynivalenol.", *Food Additives and Contaminants: Part A: Chemistry, Analysis, Control, Exposure & Risk Assessment*, 32(9), pp. 1523-1530. doi: 10.1080/19440049.2015.1072771

Mousa, W.K., Shearer, C.R., Limay-Rios, V., Zhou, T., and Raizada, M.N. (2015). "Bacterial endophytes from wild maize suppress *Fusarium graminearum* in modern maize and inhibit mycotoxin accumulation.", *Frontiers in Plant Science*, 6(Article 805), pp. 1-19. doi: 10.3389/fpls.2015.00805

Mousa, W.K., Schwan, A., Davidson, J., Strange, P., Liu, H., Zhou, T., Auzanneau, F.-I., and Raizada, M.N. (2015). "An endophytic fungus isolated from finger millet (*Eleusine coracana*) produces anti-fungal natural products.", *Frontiers in Microbiology*, 6(Article 1157), pp. 1-16. doi: 10.3389/fmicb.2015.01157

Shen, H.S., Liu, H., Chen, J.-C., Shao, S., Zhu, H., Tsao, R., and Zhou, T. (2015). "Tetramethylpyrazine from *Pleurotus geesteranus*.", *Natural Product Communications*, 10(9), pp. 1553-1554.

2014

Zhu, Y., Koutchma, T., Warriner, K., and Zhou, T. (2014). "Reduction of Patulin in Apple Juice Products by UV Light of Different Wavelengths in the UVC Range.", *Journal of Food Protection*, 77(6), pp. 963-971. doi: 10.4315/0362-028X.JFP-13-429

Li, R., He, L., Zhou, T., Ji, X., Qian, M., Zhou, Y., and Wang, Q. (2014). "Simultaneous determination of chlorpyrifos and 3,5,6-trichloro-2-pyridinol in duck muscle by modified QuEChERS coupled to gas chromatography tandem mass spectrometry (GC-MS/MS).", *Analytical and Bioanalytical Chemistry*, 406(12), pp. 2899-2907. doi: 10.1007/s00216-014-7717-8

Hassan, Y.I., Lepp, D., He, J., and Zhou, T. (2014). "Draft Genome Sequences of *Devosia* sp. Strain 17-2-E-8 and *Devosia* riboflavina Strain IFO13584.", *Genome Announcements*, 2(5: e00994-14), pp. 1-2. doi: 10.1128/genomeA.00994-14

Miller, J.D., Schaafsma, A.W., Bhatnagar, D., Bondy, G.S., Carbone, I., Harris, L.J., Harrison, G., Munkvold, G.P., Oswald, I.P., Pestka, J.P., Sharpe, L., Sumarah, M.W., Tittlemier, S.A., and Zhou, T. (2014). "Mycotoxins that affect the North American Agriculture sector: state of the art and directions for the future.", *World Mycotoxin Journal*, 7(1), pp. 63-82. doi: 10.3920/WMJ2013.1624

Lei, Y.P., Zhao, L.H., Ma, Q.G., Zhang, J.Y., Zhou, T., Gao, C., and Ji, C. (2014). "Degradation of zearalenone in swine feed and feed ingredients by *Bacillus subtilis* ANSB01G.", *World Mycotoxin Journal*, 7(2), pp. 143-151. doi: 10.3920/WMJ2013.1623

## 2013

He, J., Boland, G.J., and Zhou, T. (2013). "*Fusarium graminearum* Schwabe (teleomorph *Gibberella zeae* (Schwein.) Petch.) Fusarium Head Blight Disease (Nectriaceae).", in Mason, P.G. and Gillespie, D.R. (eds.) - *Biological Control Programmes in Canada 2001-2012*, CAB International.

Zhu, Y., Koutchma, T., Warriner, K., Shao, S., and Zhou, T. (2013). "Kinetics of patulin degradation in model solution, apple cider and apple juice by ultraviolet radiation", *Food Science and Technology International*, 19(4), pp. 291-303. doi: 10.1177/1082013212452414

Meca, G., Zhou, T., Li, X.-Z., Ritieni, A., and Mañes, J. (2013). "Ciclohexadecipeptide beauvericin degradation by different strains of *Saccharomyces cerevisiae*.", *Food and Chemical Toxicology*. doi: 10.1016/j.fct.2013.06.010

Wu, L., Wang, W., Yao, K., Zhou, T., Yin, J., Li, T.-J., Yang, L., He, L., Yang, X.-J., Zhang, H., Wang, Q., Huang, R.L., and Yin, Y.L. (2013). "Effects of Dietary Arginine and Glutamine on Alleviating the Impairment Induced by Deoxynivalenol Stress and Immune Relevant Cytokines in Growing Pigs.", *PLoS ONE*, 8(7), pp. e69502. doi: 10.1371/journal.pone.0069502

Meca, G., Ritieni, A., Zhou, T., Li, X.-Z., and Mañes, J. (2013). "Degradation of the minor *Fusarium* mycotoxin beauvericin by intracellular enzymes of *Saccharomyces cerevisiae*.", *Food Control*, 33, pp. 352-358. doi: 10.1016/j.foodcont.2013.03.035

Meca, G., Zhou, T., Li, X.-Z., and Mañes, J. (2013). "Beauvericin degradation during bread and beer making.", *Food Control*, 34(1), pp. 1-8. doi: 10.1016/j.foodcont.2013.03.032

Hao, H.Y., Zhou, T., and Warriner, K. (2013). "Comparison in the Reduction of Patulin Content under Different High Pressure Processing Conditions with the Use of Hydrogen Peroxide.", *Journal of Food Protection*, 76(Supplement), pp. 50.

## 2012

Shao, S., Zhou, T., and McGarvey, B.D. (2012). "Comparative metabolomic analysis of *Saccharomyces cerevisiae* during the degradation of patulin using gas chromatography-mass spectrometry.", *Applied Microbiology and Biotechnology*, 94(3), pp. 789-797. doi: 10.1007/s00253-011-3739-8

Meca, G., Luciano, F.B., Zhou, T., Tsao, R., and Mañes, J. (2012). "Chemical reduction of the mycotoxin beauvericin using allyl isothiocyanate.", *Food and Chemical Toxicology*, 50(5), pp. 1755-1762. doi: 10.1016/j.fct.2012.02.070

Gowrinathan, Y., Pacan, J.C., Hawke, A., Zhou, T., and Sabour, P.M. (2012). "Toxicity assay for deoxynivalenol using *Caenorhabditis elegans*.", *Food Additives and Contaminants: Part A: Chemistry, Analysis, Control, Exposure & Risk Assessment*, 28(9), pp. 1235-1241. doi: 10.1080/19440049.2011.587836

Ma, Q.G., Gao, X., Zhou, T., Zhao, L.H., Fan, Y., Li, X.Y., Lei, Y.P., Ji, C., and Zhang, J.Y. (2012). "Protective effect of *Bacillus subtilis* ANSB060 on egg quality, biochemical and histopathological changes in layers exposed to aflatoxin B<sub>1</sub>.", *Poultry Science*, 91(11), pp. 2852-2857. doi: 10.3382/ps.2012-02474

Shen, H.S., Chen, J.-C., Wu, L., Li, Y.B., and Zhou, T. (2012). "Biodegrading Wheat Bran with *Agaricus blazei* and Its Effects on Intestinal Development Identified with Mice.", *Journal of Integrative Agriculture*, 11(3), pp. 456-464. doi: 10.1016/S2095-3119(12)60031-8

Islam, R., Zhou, T., Young, J.C., Goodwin, P.H., and Pauls, K.P. (2012). "Aerobic and anaerobic de-epoxydation of mycotoxin deoxynivalenol by bacteria originating from agricultural soil.", *World Journal of Microbiology & Biotechnology*, 28(1), pp. 7-13. doi: 10.1007/s11274-011-0785-4

## 2011

Liu, J., Zhou, T., He, D., Li, X.-Z., Wu, H., Liu, W., and Gao, X. (2011). "Functions of Lipopeptides bacillomycin D and fengycin in antagonism of *Bacillus amyloliquefaciens* C06 towards *Monilinia fructicola*.", *Journal of Molecular Microbiology and Biotechnology*, 20(1), pp. 43-52. doi: 10.1159/000323501

Liu, J., Ma, X., Wang, Y., Liu, F., Qiao, J., Li, X.-Z., Gao, X., and Zhou, T. (2011). "Depressed Biofilm Production in *Bacillus amyloliquefaciens* C06 Causes  $\gamma$ -Polyglutamic Acid ( $\gamma$ -PGA) Overproduction.", *Current Microbiology*, 62(1), pp. 235-241. doi : 10.1007/s00284-010-9696-0

Zhang, M., Zhu, L., Cui, S.W., Wang, Q., Zhou, T., and Shen, H.S. (2011). "Fractionation, partial characterization and bioactivity of water-soluble polysaccharides and polysaccharide-protein complexes from *Pleurotus geesteranus*.", *International Journal of Biological Macromolecules*, 48(1), pp. 5-12. doi : 10.1016/j.ijbiomac.2010.09.003

Li, X.-Z., Zhu, C., de Lange, C.F.M., Zhou, T., He, J., Yu, H., Gong, J., and Young, J.C. (2011). "Efficacy of detoxification of deoxynivalenol-contaminated corn by *Bacillus* sp. LS100 in reducing the adverse effects of the mycotoxin on swine growth performance.", *Food Additives and Contaminants: Part A: Chemistry, Analysis, Control, Exposure & Risk Assessment*, 28(7), pp. 894-901. doi : 10.1080/19440049.2011.576402

Guan, S., Zhou, T., Yin, Y.L., Xie, M-Y., Ruan, Z., and Young, J.C. (2011). "Microbial strategies to control aflatoxins in food and feed.", *World Mycotoxin Journal*, 4(4), pp. 413-424. doi : 10.3920/WMJ2011.1290

Guan, S., Gong, M., Yin, Y.L., Huang, R.L., Ruan, Z., Zhou, T., and Xie, M.-Y. (2011). "Occurrence of mycotoxins in feeds and feed ingredients in China.", *Journal of Food, Agriculture & Environment (JFAE)*, 9(2), pp. 163-167.

## Other Science Related Publications:

### 2015

Hassan, Y.I., Li, X.-Z., Zhu, H., and Zhou, T. (2015). "Searching for a Deoxynivalenol epimerase with potential agricultural and industrial applications.", *Gordon Research Conference: Enzymes, Coenzymes & Metabolic Pathways*, Waterville Valley, NH, USA, July 12-17, 2015, Poster presentation. (Abstract)

Lepp, D., Hassan, Y.I., Li, X.-Z., and Zhou, T. (2015). "*Devosia subaequoris* strain HST3-14, whole genome shotgun sequencing project; GenBank LANK000000000.1. [http://www.ncbi.nlm.nih.gov/assembly/GCA\\_000971285.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000971285.1)".

Lepp, D., Hassan, Y.I., Li, X.-Z., and Zhou, T. (2015). "*Devosia psychrophila* strain Cr7-05, whole genome shotgun sequencing project; GenBank LAPV000000000.1. [http://www.ncbi.nlm.nih.gov/assembly/GCF\\_000971275.1](http://www.ncbi.nlm.nih.gov/assembly/GCF_000971275.1)".

Hassan, Y.I., Lepp, D., and Zhou, T. (2015). "*Devosia insulae* DS-56, whole genome shotgun sequencing project; GenBank LAJE000000000.1. [http://www.ncbi.nlm.nih.gov/assembly/GCF\\_000970465.1](http://www.ncbi.nlm.nih.gov/assembly/GCF_000970465.1)".

Hassan, Y.I., Lepp, D., and Zhou, T. (2015). "*Devosia soli* strain GH2-10, whole genome shotgun sequencing project; GenBank LAJG000000000.1. [http://www.ncbi.nlm.nih.gov/assembly/GCF\\_000970455.1](http://www.ncbi.nlm.nih.gov/assembly/GCF_000970455.1)".

Hassan, Y.I., Lepp, D., and Zhou, T. (2015). "*Devosia chinhatensis* strain IPL18, whole genome shotgun sequencing project; GenBank JZEY000000000.1. [http://www.ncbi.nlm.nih.gov/assembly/GCF\\_000969445.1](http://www.ncbi.nlm.nih.gov/assembly/GCF_000969445.1)".

Hassan, Y.I., He, J., Li, X.-Z., Lepp, D., Zhu, H., and Zhou, T. (2015). "Deoxynivalenol epimerization - A novel biotransformation with potential applications in improving crop resistance against *Fusarium* diseases.", 18th International Plant Protection Congress, Berlin, Germany, August 24-27, 2015, Oral presentation # OBT6, pp. 89. (Abstract)

Lepp, D., Hassan, Y.I., Li, X.-Z., and Zhou, T. (2015). "*Devosia epidermidirudinis* strain E84, whole genome shotgun sequencing project; GenBank LANJ000000000.1. [http://www.ncbi.nlm.nih.gov/assembly/GCF\\_000971295.1](http://www.ncbi.nlm.nih.gov/assembly/GCF_000971295.1)".

Hassan, Y.I., Lepp, D., Li, X.-Z., and Zhou, T. (2015). "*Devosia geojensis* strain BD-c194, whole genome shotgun sequencing project; GenBank JZEX000000000.1. [http://www.ncbi.nlm.nih.gov/assembly/GCF\\_000969415.1](http://www.ncbi.nlm.nih.gov/assembly/GCF_000969415.1)".

Nabuurs, M.H., Boyetchko, S.M., McCallum, J.L., Mills, A.A.S., Zhou, T., and Kirby, C.W. (2015). "Application of Bi oautography in the Discovery of Biopesticides from Natural Resources.", 98th Canadian Chemistry Conference and Exhibition, Ottawa, ON, Canada, June 13-17, 2015. (Abstract)

Hassan, Y.I., Lepp, D., and Zhou, T. (2015). "*Devosia limi* DSM 17137, whole genome shotgun sequencing project; GenBank LAJF000000000.1. [http://www.ncbi.nlm.nih.gov/assembly/GCF\\_000970435.1](http://www.ncbi.nlm.nih.gov/assembly/GCF_000970435.1)".

### 2014

Hassan, Y.I., Lepp, D., He, J., and Zhou, T. (2014). "*Devosia riboflavina* strain IFO13584, whole genome shotgun sequencing project. GenBank JQGC000000000.1 <http://www.ncbi.nlm.nih.gov/nucleotide/JQGC000000000>."

Boyetchko, S.M., Audy, P., Sawchyn, K., Desgagnés, R., Zhou, T., and Dumonceaux, T.J. (2014). "Application of bacterial strains as microbial biopesticides for control of potato late blight disease (AAFC Inventions Disclosure, 8 pages)."

Zhou, T. (2014). "Shotgun Assembly Whole Genome Sequences of Bacterial strain *Devosia riboflavina* IFO13584 Nucleotide sequence accession number: JQGC000000000, released into GenBank on Aug 25, 2014." (Patent)

Zhou, T. (2014). "Shotgun Assembly Whole Genome Sequences of Bacterial strain *Devosia* sp. 17-2-E-8 Nucleotide sequence accession number: JQGB000000000." (Patent)



Hassan, Y.I., Li, X.-Z., Zhu, H., and Zhou, T. (2014). "Devosia epimeris, a novel bacterial isolate as a promising bio-tool for mycotoxin deoxynivalenol (DON) transformation in animal feed applications.", 7th International Congress on Bio-catalysis, The Hamburg University of Technology, Hamburg, Germany, August 31-September 4, 2014.

Hassan, Y.I. and Zhou, T. (2014). "Genomes mining of Devosia epimeris (Barpee) to discover novel Deoxynivalenol (DON) epimerases and bio-transformation metabolic pathways.", 12th Annual Food Safety Research Forum, Ontario Ministry of Agriculture and Food, Hanlon Convention Centre, Guelph, ON, Canada, May 8, 2014.

Pierron, A., Mimoun, S., Lippi, Y., Gourbeyre, P., Liaubet, L., Zhou, T., Berthiller, F., Schatzmayr, G., Moll, D., and Oswald, I.P. (2014). "Plant or microbial biotransformation of DON reduces its intestinal toxicity.", 36th Mycotoxin Workshop, Göttingen, Germany, June 16-18, 2014, pp. 50. (Abstract)

Hassan, Y.I., Li, X.-Z., Lepp, D., and Zhou, T. (2014). "Implementing next-generation sequencing techniques to highlight genetic elements responsible for bio-transforming deoxynivalenol (DON) in Devosia epimeris strain 17-2-E-8.", 11th Annual Guelph Food Safety Seminar (GFSS) Symposium, Guelph, ON, Canada, October 22, 2014.

Zhu, Y., Koutchma, T., Warriner, K., and Zhou, T. (2014). "Reduction of patulin in apple juice products by UV light of different wavelengths in the UVC range.", International Association for Food Protection (IAFP) Annual Meeting, Indianapolis, Indiana, USA, August 3-6, 2014.

Hassan, Y.I., Lepp, D., He, J., and Zhou, T. (2014). "Devosia sp. 17-2-E-8, whole genome shotgun sequencing project. GenBank JQGB00000000.1 <http://www.ncbi.nlm.nih.gov/nuccore/JQGB00000000>."

Wang, W., Soliman, S.S.M., Li, X.-Z., Zhu, H., Yang, L., Yin, Y.L., and Zhou, T. (2014). "Transformation of trichothecene acetyldeoxynivalenol to deoxynivalenol by bacterial acetyltransferase.", 2014 International Conference on Medicine Sciences and Bioengineering, ICMSB 2014, Kunming, China, pp. 775-782.

Hao, H.Y., Koutchma, T., Alexandra, S., Zhou, T., and Warriner, K. (2014). "Patulin Determination at Screen Printed Electrodes by Square Wave Voltammetry.", International Association for Food Protection (IAFP) Annual Meeting, Indianapolis, Indiana, USA, August 3-6, 2014.

## 2012

Boyetchko, S.M., Zhou, T., Audy, P., and Svircev, A.M. (2012). "Evaluation of promising bacterial strains for biological control of post-harvest and storage decay pathogens on fruits and vegetables.", 4th Joint Saskatchewan-Alberta Plant Pathology Conference: Mapping and cloning of clubroot resistance genes in Brassica species, Lloydminster, SK, Canada, November 5-7, 2012.

Ma, J., Zhou, T., Warriner, K., Fernando, W.G.D., and Tsao, R. (2012). "Can mustard meal make food labels "green".", 10th Annual OMAFRA Food Safety Research Forum, Guelph, ON, Canada, May 2, 2012. (Poster)

Boyetchko, S.M., Zhou, T., Audy, P., and Svircev, A.M. (2012). "Assessment of bacterial strains for biological control of pathogens causing post-harvest and storage decay of fruits and vegetables.", Canadian Phytopathological Society (CPS) 83rd Annual Meeting and International PPV Meeting, Marriott Gateway On The Falls, Niagara Falls, ON, Canada, June 24-27, 2012, Can. J. Plant Pathol. 35(1):103-104.

Ma, J., Zhou, T., Warriner, K., and Tsao, R. (2012). "Allyl isothiocyanate derived from oriental defatted mustard meal as a natural antimicrobial to inhibit the growth of moulds on bread.", 50th National Conference of the Canadian Institute of Food Science and Technology (CIFST's): Innovation meets Commercialization, Niagara Falls, ON, Canada, May 27-29, 2012. (Poster)

Zhu, Y., Koutchma, T., and Zhou, T. (2012). "Kinetics of Patulin Degradation in Model Solution, Apple Cider and Apple Juice by Ultraviolet Light.", CoFE, VA, USA, April, 2012. (Presentation)

Boyetchko, S.M., Zhou, T., Audy, P., and Svircev, A.M. (2012). "Evaluation of promising bacterial strains for biological control of post-harvest and storage decay pathogens on fruits and vegetables.", 4th Joint Saskatchewan-Alberta Plant Pathology Conference, Lloydminster, SK, Canada, November 5-7, 2012.

## 2011

Zhu, Y., Fan, W., Koutchma, T., Zhou, T., and Warriner, K. (2011). "Degradation of patulin in model solution and apple juice by ultraviolet radiation.", FSFN, December 6, 2011. (Presentation)

Islam, R., Zhou, T., Lepp, D., Goodwin, P.H., and Pauls, K.P. (2011). "Sequencing and characterization of a novel trichothecene mycotoxin detoxifying bacterial genome.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 96.

Ma, J., Zhou, T., Warriner, K., Tsao, R., and Fernando, W.G.D. (2011). "Suppressing penicillium spp. by gaseous Allyl isothiocyanate from oriental mustard meal.", 9th Annual OMAFRA Food Safety Research Forum, Guelph, ON, Canada, May 5, 2011. (Poster)

Islam, R., Zhou, T., Young, J.C., and Pauls, K.P. (2011). "Novel microbial biotransformation of eleven type-A and type-B trichothecene mycotoxins.", 7th Canadian Workshop on Fusarium Head Blight (CWFHB) / Colloque canadien sur la fusariose, Delta Winnipeg Hotel, Winnipeg, MB, Canada, November 27-30, 2011, pp. 80.

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## Research Publications:

2016

St. Luce, M., Whalen, J.K., Ziadi, N., and Zebarth, B.J. (2016). "Net nitrogen mineralization enhanced with the addition of nitrogen rich particulate organic matter.", *Geoderma*, 262, pp. 112-118. doi: 10.1016/j.geoderma.2015.08.017

Shi, Y.Z., Ziadi, N., Messiga, A.J., and Lalonde, R. (2016). "Non-growing season soil surface nitrate and phosphate dynamics in a corn-soybean rotation in eastern Canada: In-situ evaluation using anionic exchange membranes.", *Canadian Journal of Soil Science*.

Cambouris, A.N., St. Luce, M., Zebarth, B.J., Ziadi, N., Grant, C.A., and Perron, I. (2016). "Potato response to nitrogen sources and rates in an irrigated sandy soil.", *Agronomy Journal*.

2015

Messiga, A.J., Ziadi, N., Mollier, A., Parent, L.-É., Schneider, A., and Morel, C. (2015). "Process-based mass-balance modeling of soil phosphorus availability: testing different scenarios in a long-term maize monoculture.", *Geoderma*, 243-244, pp. 41-49. doi: 10.1016/j.geoderma.2014.12.009

Bélanger, G., Rochette, P., Chantigny, M.H., Ziadi, N., Angers, D.A., Charbonneau, É., Pellerin, D., and Liang, C. (2015). "Nitrogen availability from dairy cow dung and urine applied to forage grasses in eastern Canada.", *Canadian Journal of Plant Science*, 95(1), pp. 55-65. doi: 10.4141/CJPS-2014-039

Shi, Y., Ziadi, N., Messiga, A.J., Lalonde, R., and Hu, Z.Y. (2015). "Soil Phosphorus Fractions Change in Winter in a Corn-Soybean Rotation with Tillage and Phosphorus Fertilization.", *Pedosphere*, 25(1), pp. 1-11. doi: 10.1016/S1002-0160(14)60071-0

Bélanger, G., Ziadi, N., Pageau, D., Grant, C.A., Högnäsbacka, M., Virkajärvi, P., Hu, Z.Y., Lu, J., Lafond, J., and Nyiraneza, J. (2015). "A Model of Critical Phosphorus Concentration in the Shoot Biomass of Wheat.", *Agronomy Journal*, 107(3), pp. 963-970. doi: 10.2134/agronj14.0451

Shi, Y., Lalonde, R., Hamel, C., and Ziadi, N. (2015). "Winter effect on soil microorganisms under different tillage and phosphorus management practices in eastern Canada.", *Canadian Journal of Microbiology*, 61(5), pp. 315-326. doi: 10.1139/cjm-2014-0821

St. Luce, M., Grant, C.A., Zebarth, B.J., Ziadi, N., O'Donovan, J.T., Blackshaw, R.E., Harker, K.N., Johnson, E.N., Gan, Y.T., Lafond, G.P., May, W.E., Khakbazan, M., and Smith, E.G. (2015). "Legumes can reduce economic optimum nitrogen rates and increase yields in a wheat-canola cropping sequence in western Canada.", *Field Crops Research*, 179, pp. 12-25. doi: 10.1016/j.fcr.2015.04.003

Abdi, D., Cade-Menun, B.J., Ziadi, N., and Parent, L.-É. (2015). "Compositional statistical analysis of soil 31P-NMR forms.", *Geoderma*, 257-258, pp. 40-47. doi: 10.1016/j.geoderma.2015.03.019

Messiga, A.J., Ziadi, N., Jouany, C., Virkajärvi, P., Suomela, R., Sinaj, S., Bélanger, G., Stroia, C., and Morel, C. (2015). "Soil test phosphorus and cumulative phosphorus budgets in fertilized grassland.", *AMBIO*, 44(2), pp. 252-262. doi: 10.1007/s13280-015-0628-x

Abdi, D., Cade-Menun, B.J., Ziadi, N., and Parent, L.-É. (2015). "Unbiased statistical analysis of soil 31P-NMR forms.", *Geoderma*, 257-258, pp. 40-47.

Hamdi, W., Messiga, A.J., Pelster, D.E., Ziadi, N., and Seffen, M. (2015). "Phosphorus isotherms sorption in semi arid soil.", *International Research Journal of Engineering and Technology*, 2(3), pp. 1995-2005.

Faubert, P., Lemay-Bélisle, C., Bertrand, N., Bouchard, S., Chantigny, M.H., Durocher, S., Rochette, P., Tremblay, P., Ziadi, N., and Villeneuve, C. (2015). "La gestion des biosolides de papeteries au Québec: quelle serait la meilleure option pour réduire les émissions de gaz à effet de serre? Pulp and paper mill sludge management in Quebec: what should be the best option to reduce greenhouse gas emissions?", *Vecteur Environnement*, 48(5), pp. 50-58.

Bélanger, G., Ziadi, N., Pageau, D., Grant, C.A., Lafond, J., and Nyiraneza, J. (2015). "Shoot Growth, Phosphorus-Nitrogen Relationships, and Yield of Canola in Response to Mineral Phosphorus Fertilization.", *Agronomy Journal*, 107(4), pp. 1458-1464. doi: 10.2134/agronj15.0050

2014

Gagnon, B., Robichaud, A., Ziadi, N., and Karam, A. (2014). "Repeated Annual Paper Mill and Alkaline Residuals Application Affects Soil Metal Fractions.", *Journal of Environmental Quality*, 43(2), pp. 517-527. doi : 10.2134/jeq2013.03.0080

Morel, C., Ziadi, N., Messiga, A.J., Bélanger, G., Denoroy, P., Jeangros, B., Jouany, C., Fardeau, J.-C., Mollier, A., Parent, L.-É., Proix, N., Rabeharisoa, L., and Sinaj, S. (2014). "Modeling of phosphorus dynamics in contrasting agroecosystems using long-term field experiments.", *Canadian Journal of Soil Science*, 94(4), pp. 377-387. doi : 10.4141/CJSS2013-024

Ziadi, N., Angers, D.A., Gagnon, B., Lalande, R., Morel, C., Rochette, P., and Chantigny, M.H. (2014). "Long-term tillage and synthetic fertilization affect soil functioning and crop yields in a corn-soybean rotation in eastern Canada.", *Canadian Journal of Soil Science*, 94(3), pp. 365-376. doi : 10.4141/CJSS2013-067

Messiga, A.J., Ziadi, N., Bélanger, G., and Morel, C. (2014). "Relationship between soil phosphorus and phosphorus budget in grass sward with varying nitrogen applications.", *Soil Science Society of America Journal*, 78(4), pp. 1481-1488. doi : 10.2136/sssaj2013.05.0200

Abdi, D., Cade-Menun, B.J., Ziadi, N., and Parent, L.-É. (2014). "Long-term impact of tillage practices and P fertilization on soil P forms as determined by 31P-NMR spectroscopy.", *Journal of Environmental Quality*, 43(4), pp. 1431-1441. doi : 10.2134/jeq2013.10.0424

Rochette, P., Chantigny, M.H., Ziadi, N., Angers, D.A., Bélanger, G., Charbonneau, É., Pellerin, D., Liang, C., and Bertrand, N. (2014). "Soil Nitrous Oxide Emissions Following Deposition of Dairy Cow Excreta in Eastern Canada.", *Journal of Environmental Quality*, 43(3), pp. 829-841. doi : 10.2134/jeq2013.11.0474

St. Luce, M., Ziadi, N., Zebarth, B.J., Grant, C.A., Tremblay, G.F., and Gregorich, E.G. (2014). "Rapid determination of soil organic matter quality indicators using visible near infrared reflectance spectroscopy.", *Geoderma*, 232-234, pp. 449-458. doi : 10.1016/j.geoderma.2014.05.023

Cambouris, A.N., St. Luce, M., Ziadi, N., and Zebarth, B.J. (2014). "Soil- and plant-based indices in potato production in response to polymer-coated urea.", *Agronomy Journal*, 106(6), pp. 2125-2136. doi : 10.2134/agronj14.0041

Fan, J., Ding, W., Xiang, J., Qin, S., Zhang, J.-B., and Ziadi, N. (2014). "Carbon sequestration in an intensively cultivated sandy loam soil in the North China Plain as affected by compost and inorganic fertilizer application.", *Geoderma*, 230-231, pp. 22-28. doi : 10.1016/j.geoderma.2014.03.027

Cambouris, A.N., Zebarth, B.J., Ziadi, N., and Perron, I. (2014). "Precision agriculture in potato production.", *Potato Research*, 57(3), pp. 249-262. doi : 10.1007/s11540-014-9266-0

Messiga, A.J., Ba, Y., Ziadi, N., Bélanger, G., and Lafond, J. (2014). "Assessing the depletion of soil P following sequential extractions with Mehlich-3 and Olsen solutions.", *Archives of Agronomy and Soil Science*, 60(10), pp. 1445-1458. doi : 10.1080/03650340.2014.884709

St. Luce, M., Whalen, J.K., Ziadi, N., Zebarth, B.J., and Chantigny, M.H. (2014). "Labile organic nitrogen transformations in clay and sandy-loam soils amended with 15N-labelled faba bean and wheat residues.", *Soil Biology & Biochemistry*, 68, pp. 208-218. doi : 10.1016/j.soilbio.2013.09.033

Parent, L.-É., Parent, S.-É., and Ziadi, N. (2014). "Biogeochemistry of soil inorganic and organic phosphorus: A compositional analysis with balances.", *Journal of Geochemical Exploration*, 141, pp. 52-60. doi : 10.1016/j.gexplo.2014.01.030

2013

Li, X., Ziadi, N., Bélanger, G., Yuan, W., Liang, S., Xu, H., and Cai, Z.-C. (2013). "Wheat grain Cd concentration and uptake as affected by timing of fertilizer N application.", *Canadian Journal of Soil Science*, 93(2), pp. 219-222. doi : 10.4141/cjss2012-041

Liu, C.-Y., Jiang, X., Fan, J., and Ziadi, N. (2013). "Hexachlorobenzene accumulation in rice plants as affected by farm manure and urea applications in dissimilar soils.", *Canadian Journal of Soil Science*. doi : 10.4141/CJSS2013-001

Gagnon, B., Ziadi, N., Robichaud, A., and Karam, A. (2013). "Metal availability following paper mill and alkaline residuals application to field crops.", *Journal of Environmental Quality*, 42(2), pp. 412-420. doi : 10.2134/jeq2012.0310

Sheng, M., Lalande, R., Hamel, C., and Ziadi, N. (2013). "Effect of long-term tillage and mineral phosphorus fertilization on arbuscular mycorrhizal fungi in a humid continental zone of Eastern Canada.", *Plant and Soil*. doi : 10.1007/s11104-013-1585-4

Ziadi, N., Whalen, J.K., Messiga, A.J., and Morel, C. (2013). "Assessment and Modeling of Soil Available Phosphorus in Sustainable Cropping Systems.", in Sparks, D.L. (ed.) - *Advances in Agronomy*. Vol. 122, 1st Edition, Academic Press, Chapter 2, pp. 85-126.

Ziadi, N., Cambouris, A.N., Nyiraneza, J., and Nolin, M.C. (2013). "Across a landscape, soil texture controls the optimum rate of N fertilizer for maize production.", *Field Crops Research*, 148, pp. 78-85. doi : 10.1016/j.fcr.2013.03.023

Shi, Y., Lalande, R., Hamel, C., Ziadi, N., Gagnon, B., and Hu, Z.Y. (2013). "Seasonal variation of microbial biomass, activity, and community structure in soil under different tillage and phosphorus management practices.", *Biology and Fertility of Soils*. doi : 10.1007/s00374-013-0773-y

Lafond, J. and Ziadi, N. (2013). "Soil nitrogen and phosphorus bioavailability to wild lowbush blueberry produced in Quebec.", *Canadian Journal of Soil Science*, 93(1), pp. 33-44. doi : 10.4141/CJSS2011-106

Fan, J., Ding, W., and Ziadi, N. (2013). "Thirty-year manuring and fertilization on heavy metals in black soil and soil aggregates in northeastern China.", *Communications in Soil Science and Plant Analysis*, 44(7), pp. 1224-1241. doi : 10.1080/00103624.2012.756002

Ziadi, N., Gagnon, B., and Nyiraneza, J. (2013). "Crop yield and soil fertility as affected by papermill biosolids and liming by-product.", *Canadian Journal of Soil Science*, 93(3), pp. 319-328. doi : 10.4141/cjss2012-129

Shi, Y., Ziadi, N., Messiga, A.J., Lalande, R., and Hu, Z.Y. (2013). "Changes in Soil P Fractions for a Long-Term Corn-Soybean Rotation with Tillage and P Fertilization.", *Soil Science Society of America Journal*, 77(4), pp. 1402-1412. doi : 10.2136/sssaj2012.0427

St. Luce, M., Ziadi, N., Zebarth, B.J., Whalen, J.K., Grant, C.A., Gregorich, E.G., Lafond, G.P., Blackshaw, R.E., Johnson, E.N., O'Donovan, J.T., and Harker, K.N. (2013). "Particulate organic matter and soil mineral nitrogen concentrations are good predictors of the soil nitrogen supply to canola following legume and non-legume crops in western Canada.", *Canadian Journal of Soil Science*, 93(5), pp. 607-620. doi : 10.4141/cjss2013-005

Messiga, A.J., Ziadi, N., Bélanger, G., and Morel, C. (2013). "Soil Nutrients and Other Major Properties in Grassland Fertilized with Nitrogen and Phosphorus.", *Soil Science Society of America Journal*, 77(2), pp. 643-652. doi : 10.2136/sssaj2012.0178

Fan, J., Xia, X., Hu, Z., Ziadi, N., and Liu, C. (2013). "Excessive sulfur supply reduces arsenic accumulation in brown rice.", *Plant, Soil and Environment*, 59(4), pp. 169-174.

## 2012

Zebarth, B.J., Bélanger, G., Cambouris, A.N., and Ziadi, N. (2012). "Nitrogen Fertilization Strategies in Relation to Potato Tuber Yield, Quality, and Crop N Recovery.", in He, Z., Larkin, R.P. and Honeycutt, C.W. (eds.) - *Sustainable Potato Production: Global Case Studies*, Springer New York, Chapter 10, pp. 165-186.

Fan, J., Ding, W., Chen, Z., and Ziadi, N. (2012). "Thirty-year amendment of horse manure and chemical fertilizer on the availability of micronutrients at the aggregate scale in black soil.", *Environmental Science and Pollution Research*, 19(7), pp. 2745-2754. doi : 10.1007/s11356-012-0774-7

Gagnon, B., Ziadi, N., Chantigny, M.H., Bélanger, G., and Massé, D.I. (2012). "Biosolids from treatment of swine manure and papermill residues affect fertilizer value in corn.", *Agronomy Journal*, 104(2), pp. 483-492. doi : 10.2134/agronj2011.0327

Messiga, A.J., Ziadi, N., Bélanger, G., and Morel, C. (2012). "Process-based mass-balance modeling of soil phosphorus availability in a grassland fertilized with N and P.", *Nutrient Cycling in Agroecosystems*, 92(3), pp. 273-287. doi : 10.1007/s10705-012-9489-x

Nyiraneza, J., Cambouris, A.N., Ziadi, N., Tremblay, N., and Nolin, M.C. (2012). "Spring Wheat Yield and Quality Related to Soil Texture and Nitrogen Fertilization.", *Agronomy Journal*, 104(3), pp. 589-599. doi : 10.2134/agronj2011.0342

Gagnon, B., Ziadi, N., and Grant, C.A. (2012). "Urea fertilizer forms affect grain corn yield and nitrogen use efficiency.", *Canadian Journal of Soil Science*, 92(2), pp. 341-351. doi : 10.4141/CJSS2011-074

Lupwayi, N.Z., Lafond, G.P., Ziadi, N., and Grant, C.A. (2012). "Soil microbial response to nitrogen fertilizer and tillage in barley and corn.", *Soil & Tillage Research*, 118, pp. 139-146. doi : 10.1016/j.still.2011.11.006

Chantigny, M.H., Pelster, D.E., Perron, M.-H., Rochette, P., Angers, D.A., Parent, L.-É., Massé, D.I., and Ziadi, N. (2012). "Nitrous Oxide Emissions from Clayey Soils Amended with Paper Sludges and Biosolids of Separated Pig Slurry.", *Journal of Environmental Quality*, 42(1), pp. 30-39. doi : 10.2134/jeq2012.0196

St. Luce, M., Ziadi, N., Nyiraneza, J., Tremblay, G.F., Zebarth, B.J., Whalen, J.K., and Laterrière, M. (2012). "Near infrared reflectance spectroscopy prediction of soil nitrogen supply in humid temperate regions of Canada.", *Soil Science Society of America Journal*, 76(4), pp. 1454-1461. doi : 10.2136/sssaj2011.0443

Gagnon, B., Demers, I., Ziadi, N., Chantigny, M.H., Parent, L.-É., Forge, T.A., Larney, F.J., and Buckley, K.E. (2012). "Forms of phosphorus in composts and in compost-amended soils following incubation.", *Canadian Journal of Soil Science*, 92(5), pp. 711-721. doi : 10.4141/CJSS2012-032

Messiga, A.J., Ziadi, N., Morel, C., Grant, C.A., Tremblay, G., Lamarre, G.R., and Parent, L.-É. (2012). "Long term impact of tillage practices and biennial P and N fertilization on maize and soybean yields and soil P status.", *Field Crops Research*, 133, pp. 10-22. doi : 10.1016/j.fcr.2012.03.009

Nyiraneza, J., Zebarth, B.J., Ziadi, N., Burton, D.L., Drury, C.F., Bittman, S., and Grant, C.A. (2012). "Prediction of soil nitrogen supply in corn production using soil chemical and biological indices.", *Soil Science Society of America Journal*, 76(3), pp. 925-935. doi: 10.2136/sssaj2011.0318

Abdi, D., Tremblay, G.F., Ziadi, N., Bélanger, G., and Parent, L.-É. (2012). "Predicting Soil Phosphorus-related Properties Using Near Infrared Reflectance Spectroscopy.", *Soil Science Society of America Journal*, 76(6), pp. 2318-2326. doi : 10.2136/sssaj2012.0155

Sheng, M., Lalande, R., Hamel, C., Ziadi, N., and Shi, Y. (2012). "Growth of Corn Roots and Associated Arbuscular Mycorrhizae Are Affected by Long-Term Tillage and Phosphorus Fertilization.", *Agronomy Journal*, 104(6), pp. 1672-1678. doi : 10.2134/agronj2012.0153

Gagnon, B. and Ziadi, N. (2012). "Papermill biosolids and alkaline residuals affect crop yield and soil properties over nine years of continuous application.", *Canadian Journal of Soil Science*, 92(6), pp. 917-930. doi : 10.4141/cjss2012-026

Ziadi, N., Bélanger, G., and Claessens, A. (2012). "Relationship between soil nitrate accumulation and in-season corn N nutrition indicators.", *Canadian Journal of Plant Science*, 92(2), pp. 331-339. doi : 10.4141/CJPS2011-086

Ziadi, N., Zebarth, B.J., Bélanger, G., and Cambouris, A.N. (2012). "Soil and Plant Tests to Optimize Fertilizer Nitrogen Management of Potatoes.", in He, Z., Larkin, R.P. and Honeycutt, C.W. (eds.) - *Sustainable Potato Production: Global Case Studies*, Springer New York, Chapter 11, pp. 187-207.

Shi, Y., Lalande, R., Ziadi, N., Sheng, M., and Hu, Z.Y. (2012). "An assessment of the soil microbial status after 17 years of tillage and mineral P fertilization management.", *Applied Soil Ecology*, 62, pp. 14-23. doi : 10.1016/j.apsoil.2012.07.004

## 2011

Nyiraneza, J., Nolin, M.C., Ziadi, N., and Cambouris, A.N. (2011). "Short-range Variability of Nitrate and Phosphate Desorbed from Anionic Exchange Membranes.", *Soil Science Society of America Journal*, 75(6), pp. 2242-2250. doi : 10.2136/sssaj2011.0141

Li, X., Ziadi, N., Bélanger, G., Cai, Z.-C., and Xu, H. (2011). "Cadmium accumulation in wheat grain as affected by mineral N fertilizer and soil characteristics.", *Canadian Journal of Soil Science*, 91(4), pp. 521-531. doi : 10.4141/cjss10061

Messiga, A.J., Ziadi, N., Angers, D.A., Morel, C., and Parent, L.-É. (2011). "Tillage practices of a clay loam soil affect soil aggregation and associated C and P concentrations.", *Geoderma*, 164(3-4), pp. 225-231. doi : 10.1016/j.geoderma.2011.06.014

Bélanger, G., Claessens, A., and Ziadi, N. (2011). "Grain N and P relationships in maize.", *Field Crops Research*, 126(3), pp. 1-7. doi : 10.1016/j.fcr.2011.09.016

St. Luce, M., Whalen, J.K., Ziadi, N., and Zebarth, B.J. (2011). "Nitrogen dynamics and indices to predict soil nitrogen supply in humid temperate soils. Chapter 2.", *Advances in Agronomy (Book series)*, 112(55), pp. 55-102. doi : 10.1016/B978-0-12-385538-1.00002-0

Ziadi, N., Grant, C.A., Samson, N., Nyiraneza, J., Bélanger, G., and Parent, L.-É. (2011). "Efficiency of controlled-release urea for a potato production system in Quebec.", *Agronomy Journal*, 103(1), pp. 60-66. doi : 10.2134/agronj2010.0298

Tremblay, N., Fallon, E., and Ziadi, N. (2011). "Sensing of Crop Nitrogen Status: Opportunities, Tools, Limitations, and Supporting Information Requirements.", *HortTechnology*, 21(3), pp. 274-281.

Lafond, J. and Ziadi, N. (2011). "Nitrogen and phosphorus fertilization in wild lowbush blueberry in Quebec.", *Canadian Journal of Plant Science*, 91(3), pp. 535-544. doi : 10.4141/cjps10133

Bélanger, G., Claessens, A., and Ziadi, N. (2011). "Relationship between P and N concentrations in maize and wheat leaves.", *Field Crops Research*, 123(1), pp. 28-37. doi : 10.1016/j.fcr.2011.04.007

Gagnon, B., Ziadi, N., Rochette, P., Chantigny, M.H., and Angers, D.A. (2011). "Fertilizer Source Influenced Nitrous Oxide Emissions from a Clay Soil under Corn.", *Soil Science Society of America Journal*, 75(2), pp. 595-604. doi : 10.2136/sssaj2010.0212

## Other Science Related Publications:

### 2015

St. Luce, M., Whalen, J.K., Ziadi, N., and Zebarth, B.J. (2015). "Net nitrogen mineralization enhanced with the addition of nitrogen-rich particulate organic matter.", *Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference*, Montreal, QC, Canada, July 5-10, 2015.

Royer, I., Cambouris, A.N., Claessens, A., Angers, D.A., Ziadi, N., and Perron, I. (2015). "Soil contaminated with trace metal for the production of bioenergy from biomass.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, McGill University, Montreal, QC, Canada, July 5-10, 2015. (Poster)

Bélanger, G., Ziadi, N., Lajeunesse, J., and Lafond, J. (2015). "Fertilisation en phosphore des graminées: Trop ou pas assez?", Conférence donnée à la Journée d'information scientifique Bovins laitiers et plantes fourragères, Drummondville, QC, Canada, 25 février, 2015. (Presentation)

Shi, Y., Ziadi, N., Hamel, C., Lajeunesse, J., and Lafond, J. (2015). "Timothy root and associated arbuscular mycorrhizae as affected by phosphorus fertilization in eastern Canada.", 9th Symposium for the International Society of Root Research, Canberra, Australia, October 6-9, 2015.

Shi, Y., Ziadi, N., Hamel, C., Lajeunesse, J., and Lafond, J. (2015). "Growth of Timothy root and associated arbuscular mycorrhizae as affected by phosphorus fertilization in North Quebec.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015.

Abdi, D., Cade-Menun, B.J., Ziadi, N., Shi, Y.Z., Bélanger, G., Lajeunesse, J., and Lafond, J. (2015). "The influence of phosphorus fertilization on grassland soil phosphorus forms: A  $^{31}\text{P}$ -NMR study.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, Montreal, QC, Canada, July 5-10, 2015, Presentation.

Alotaibi, K., Cambouris, A.N., Ziadi, N., Perron, I., and Tremblay, N. (2015). "Corn Yield and quality as a function of nitrogen.", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, McGill University, Montreal, QC, Canada, July 5-10, 2015. (Poster)

Perron, I., Cambouris, A.N., and Ziadi, N. (2015). "Soil Phosphorus distribution under two contrasting grasslands (2 and 10 yrs old).", Canadian Soil Science Society (IUSS-CSSS-AQSSS) Conference, McGill University, Montreal, QC, Canada, July 5-10, 2015. (Poster)

## 2014

Cambouris, A.N., Zebarth, B.J., Ziadi, N., and Perron, I. (2014). "Precision Agriculture in Potato Production.", 19th Triennial Conference of EAPR (European Association for Potato Research), Brussels, Belgium, July 6-11, 2014, Invited oral presentation.

Rochette, P., Chantigny, M.H., Ziadi, N., Angers, D.A., Bélanger, G., Charbonneau, É., Pellerin, D., Liang, C., and Bertrand, N. (2014). "Nitrous oxide emission factors for dairy cow excreta in eastern Canada.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, 30 juin -3 juillet, 2014.

Cambouris, A.C., Zebarth, B.J., Ziadi, N., and Perron, I. (2014). "Precision Agriculture in Potato Production.", 19th Triennial Conference of EAPR (European Association for Potato Research), Brussels, Belgium, July 6-11, 2014.

Cambouris, A.C., Zebarth, B.J., Ziadi, N., and Grant, C.A. (2014). "Statistical model impacts on nitrogen recommendation, potato yield, nitrogen uptake efficiency and residual soil nitrate.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014.

Ziadi, N., Messiga, A.J., Morel, C., Jouany, C., Virkajärvi, P., Sinaj, S., and Bélanger, G. (2014). "Phosphorus budget as a tool to monitor soil P changes under grassland production.", 20th World Congress of Soil Science, Jeju, South Korea, June 8-13, 2014. (Poster)

Abdi, D., Cade-Menun, B.J., Ziadi, N., and Parent, L.-É. (2014). "Effet à long terme du travail du sol et de la fertilisation phosphatée sur les formes du phosphore déterminées par spectroscopie RMN- $^{31}\text{P}$ .", Journées d'Étude des Sols, Université de Savoie, Chambéry, France, June 30-July 4, 2014. (Presentation)

Shi, Y.Z., Ziadi, N., Lalande, R., Hamel, C., Lajeunesse, J., Lafond, J., and Bélanger, G. (2014). "Soil microbial biomass, activity, and community structure as affected by mineral P fertilization in two grassland soils.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014. (Poster)

Ziadi, N., Shi, Y.Z., Messiga, A.J., and Lalande, R. (2014). "Disponibilité du phosphore du sol tôt au printemps: effet de l'hiver québécois.", Congrès annuel de l'association québécoise des spécialistes en sciences du sol, Victoriaville, Québec, Canada, May 26-29, 2014, Oral presentation.

Cambouris, A.N., Zebarth, B.J., Ziadi, N., and Grant, C.A. (2014). "Statistical model impacts on nitrogen recommendation, potato yield, nitrogen uptake efficiency and residual soil nitrate.", 18th Nitrogen Workshop. The nitrogen challenge: Building blueprint for nitrogen use efficiency and food security, Lisbon, Portugal, June 30-July 3, 2014. (Poster)

Shi, Y.Z., Ziadi, N., and Lalande, R. (2014). "Effects of tillage and fertilization on nitrate and phosphate desorbed from anionic exchange membranes over winter.", 20th World Congress of Soil Science, Jeju, South Korea, June 8-13, 2014. (Poster)

Abdi, D., Cade-Menun, B.J., Ziadi, N., Shi, Y.Z., and Bélanger, G. (2014). "Soil phosphorus forms determined by  $^{31}\text{P}$ -NMR in a grassland production.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014. (Poster)

Bélanger, G., Ziadi, N., Sinaj, S., Virkajärvi, P., Jouany, C., Lajeunesse, J., and Nyiraneza, J. (2014). "Critical P concentration of forage grasses.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014. (Poster)

Li, H.J., Ziadi, N., Shi, Y.Z., and Parent, L.-É. (2014). "Relations entre les fractions du P dans le sol et le bilan annuel du P dans un système maïs-soya.", Congrès annuel de l'association québécoise des spécialistes en sciences du sol, Victoriaville, Québec, Canada, May 26-29, 2014. (Poster)

Faubert, P., Bertrand, N., Bouchard, S., Chantigny, M.H., Côté, R., Dessureault, P.L., Durocher, S., Lemay-Bélisle, C., Paré, M., Rochette, P., Tremblay, P., Ziadi, N., and Villeneuve, C. (2014). "Management of paper mill sludge: what is the best scenario to mitigate greenhouse gas emissions? Oral presentation.", 7th Canadian Biosolids and Residual Conference - BC Water and Waste Association, Vancouver, BC, Canada, June 4-7, 2014.

Ziadi, N. and Bélanger, G. (2014). "Connaissances et outils pour mieux gérer le phosphore dans les systèmes agricoles.", Séminaire donné au CRDSGC, Québec, Canada, 24 avril 2014. (Presentation)

Shi, Y.Z., Ziadi, N., Lalande, R., Hamel, C., Lajeunesse, J., Lafond, J., and Bélanger, G. (2014). "Seasonal variation of soil microbial biomass, activities and community structure as affected by mineral P fertilization in two grassland soils.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

Cambouris, A.N., Perron, I., Ziadi, N., Lafond, J., Zebarth, B.J., Nyiraneza, J., Nelson, A., Carvers, C., and Tremblay, N. (2014). "Fertilisation azotée du centre à l'est du Canada sous culture de la pomme de terre : saison 2013.", Congrès annuel de l'AQSSS, Victoriaville, QC, Canada. (Presentation)

Abdi, D., Cade-Menun, B.J., Ziadi, N., Tremblay, G.F., and Parent, L.-É. (2014). "Near-infrared reflectance spectroscopy for soil organic phosphorus.", ASA, CSSA and SSSA International Annual Meeting 2014, Long Beach, CA, USA, November 2-5, 2014.

Abdi, D., Cade-Menun, B.J., Ziadi, N., Tremblay, G.F., and Parent, L.-É. (2014). "Predicting soil organic phosphorus using near-infrared reflectance spectroscopy.", 20th World Congress of Soil Science, Jeju, South Korea, June 8-13, 2014.

Cambouris, A.C., Perron, I., Ziadi, N., Lafond, J., Zebarth, B.J., Nyiraneza, J., Nelson, A., Carvers, C., and Tremblay, N. (2014). "Fertilisation azotée dans la production de pomme de terre du centre à l'est Canadien : saison 2013.", Congrès annuel de l'association québécoise des spécialistes en sciences du sol, Victoriaville, Québec, Canada, May 26-29, 2014, Oral presentation.

## 2013

Nyiraneza, J., Peters, R.D., Rodd, A.V., Grimmett, M.G., Zebarth, B.J., Ziadi, N., Bélanger, G., and Jégo, G. (2013). "Impact of Crop Rotations, and Mineral and Organic N fertilizer on Soil Nitrogen Availability and Potato Yield.", Northeast Potato Technology Forum 2013, Delta Prince Edward, Charlottetown, PEI, Canada, March 5-6, 2013.

Cambouris, A.N., Zebarth, B.J., Ziadi, N., and Grant, C.A. (2013). "Agri-environmental Impacts of Nitrogen Fertilizer on Potato Productivity, Nitrogen uptake efficiency and residual soil nitrate.", 6th International Nitrogen Conference, Kampala, Uganda, November 18-22, 2013.

Cambouris, A.N., Zebarth, B.J., Ziadi, N., Grant, C.A., and Perron, I. (2013). "Impact agronomique du modèle de calibration pour la recommandation en azote sur la production de pomme de terre.", Association Québécoise de Spécialistes en Sciences du Sol (AQSSS), 27e congrès, Hôtel Chicoutimi, Chicoutimi, QC, Canada, May 28-30, 2013, Oral presentation.

Cambouris, A.N., Messiga, A.J., Ziadi, N., Morel, C., Parent, L.-É., and Perron, I. (2013). "Micro-variability of soil P distribution in a long term experimental site from eastern Canada.", 7th International Phosphorus Workshop (IPW7), Uppsala, Sweden, September 9-13, 2013. (Poster)

Ziadi, N., Tremblay, G.F., Bélanger, G., Abdi, D., St. Luce, M., and Parent, L.-É. (2013). "La spectroscopie dans le proche infrarouge au service de la science du sol.", 27e Congrès de l'AQSSS (Association québécoise de spécialistes en sciences du sol), « Les sols à bout de souffle ? », Hôtel Chicoutimi de Saguenay, 27 au 30 mai, 2013.

Cambouris, A.N., Messiga, A.J., Ziadi, N., Morel, C., Parent, L.-É., Perron, I., and Shi, Y.Z. (2013). "Soil phosphorus distribution in long term no-tilled soil in eastern Canada.", ASA/CSSA/SSSA International annual meeting: Water, Food, Energy and Innovation for a Sustainable World, Tampa, Florida, USA, November 3-6, 2013. (Poster)

Ziadi, N., Bélanger, G., Grant, C.A., Cade-Menun, B.J., Lalande, R., Hamel, C., Lafond, J., Lajeunesse, J., Pageau, D., Tremblay, G.F., and Zhang, T.Q. (2013). Soil and plant phosphorus assessment and modeling in Canadian agro-ecosystems. Final report SAGES#1475. (Report)

Nyiraneza, J., Peters, R.D., Rodd, A.V., Grimmett, M.G., Zebarth, B.J., Ziadi, N., Bélanger, G., and Jégo, G. (2013). "Soil N supply and potato yield as affected by Crop Rotations and N sources.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013, #038.

Ziadi, N. (2013). "Efficacité de l'utilisation de l'azote : Nouvelles avenues.", 26e séminaire du CRDSGC / 26th seminar of SCRDC, Centre de Recherche et de Développement sur les Sols et les Grandes Cultures / Soils and Crops Research and Development Centre, Québec City, QC, Canada, April 24, 2013. (Presentation)

Cambouris, A.N., Zearth, B.J., Ziadi, N., Grant, C.A., and Parent, L.-É. (2013). "Calibration Model Impacts on Nitrogen Recommendation and Potato Productivity.", 97th Annual Meeting of the Potato Association of America (PAA), Québec City, QC, Canada, July 28-August 2, 2013, Oral presentation.

## 2012

Ziadi, N., Bélanger, G., Cambouris, A.N., and Zearth, B.J. (2012). "Soil and plant diagnostic tools to improve nitrogen use efficiency.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012.

Ziadi, N. (2012). "Soil phosphorus fractions following tillage and phosphorus fertilization in a long term maize-soybean rotation.", 4th International Congress EUROSOL: Soil Science for the Benefit of Mankind and Environment, Bari, Italy, July 2-6, 2012, W11.01-P -7 S.

Ziadi, N. (2012). "Over winter change of soil phosphorus dynamics as affected by tillage practices in a long-term soybean-maize rotation.", 4th International Congress EUROSOL: Soil Science for the Benefit of Mankind and Environment, Bari, Italy, July 2-6, 2012, W11.01-P -3.

Cambouris, A.N., Bélanger, G., Ziadi, N., and Parent, G. (2012). "Biomass Productivity on Marginal Land Using Low Cost Fertilizer.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012.

Cambouris, A.N., Bélanger, G., Ziadi, N., Mongrain, D., Parent, G., and Perron, I. (2012). "Biomass Productivity On Marginal Land Using Low Cost Fertilizer.", 2012 Annual Meeting of ASA/CSSA/SSSA, Cincinnati, Ohio, USA, October 21 -24, 2012.

Gagnon, B., Ziadi, N., Chantigny, M.H., Bélanger, G., Tremblay, G.F., and Massé, D.I. (2012). "Valorisation des sous-produits du traitement des lisiers de porc et des eaux usées de papeteries en production de maïs-fourragers.", Demi-journée d'information scientifique sur les fourrages 2012, Victoriaville, QC, Canada, February 21, 2012, pp. 34-37.

Mervin St. Luce, M., Ziadi, N., Cambouris, A.N., Zearth, B.J., and Whalen, J.K. (2012). "Anionic exchange membranes as a predictor of nitrogen supply from controlled-release nitrogen fertilizer in potato production.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012.

Bélanger, G., Ziadi, N., Sinaj, S., Virkajärvi, P., Jouany, C., Lajeunesse, J., and Nyiraneza, J. (2012). "Critical P concentration of timothy and multispecies swards.", 24th General Meeting of the European Grassland Federation, Lublin, Poland, June 3-7, 2012. (Poster)

Nyiraneza, J., Cambouris, A.N., Ziadi, N., Tremblay, N., and Nolin, M.C. (2012). "Effets de la texture et de la fertilisation azotée sur le rendement et la qualité de blé de printemps.", Journée scientifique sur les grandes cultures, Centre de Référence en Agriculture et Agroalimentaire du Québec (CRAAQ), Drummondville, QC, Canada, February 23, 2012. (Presentation)

Abdi, D., Tremblay, G.F., Ziadi, N., Bélanger, G., and Parent, L.-É. (2012). "Analysis of soil phosphorus by near infrared reflectance spectroscopy.", 4th International Congress EUROSOL: Soil Science for the Benefit of Mankind and Environment, Bari, Italy, July 2-6, 2012. (Abstract)

Nyiraneza, J., Ziadi, N., Cambouris, A.N., and Nolin, M.C. (2012). "Corn nitrogen response and residual soil nitrate are affected by soil texture, N rate and growing season conditions.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012. (Presentation)

Nyiraneza, J., Zearth, B.J., Ziadi, N., Sharifi, M., Burton, D.L., Drury, C.F., Bittman, S., and Grant, C.A. (2012). "The ability of soil chemical and biological N availability indices to predict soil nitrogen supply of contrasting soils under corn.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012. (Poster)

Cambouris, A.N., Nolin, M.C., Zearth, B.J., and Ziadi, N. (2012). "Precision farming: lessons learned from N management.", Canadian Society of Soil Science (CSSS) and Association Québécoise de Spécialistes en Sciences du Sol (AQSSS) Joint Meeting, Manoir St-Castin, Lac Beauport, QC, Canada, June 3-8, 2012, Invited speaker presentation.

## 2011

Bélanger, G., Ziadi, N., Cambouris, A.N., and Zearth, B.J. (2011). "Plant-based N diagnostic methods: Whole plants or some parts of the plants?", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Nyiraneza, J., Nolin, M.C., Ziadi, N., and Cambouris, A.N. (2011). "Variabilité à petite échelle des nitrates et phosphates adsorbés sur les membranes échangeuses d'anion.", 25<sup>ème</sup> congrès de l'Association Québécoise des Spécialistes en Science du Sol (AQSSS): Les sciences du sol au 21<sup>ème</sup> siècle : Défis à relever pour une ressource à préserver, Wendake, QC, Canada, May 25-27, 2011. (Presentation)



Nyiraneza, J., Nolin, M.C., Ziadi, N., and Cambouris, A.N. (2011). "Short-range Variability of Nitrate and Phosphate desorbed from Anionic Exchange Membranes.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011. (Poster)

Cambouris, A.N., Zebarth, B.J., Ziadi, N., Grant, C.A., and Drury, C.F. (2011). "Impacts agro-environnementaux de divers fertilisants azotés sur la production de pomme de terre. Association québécoise de spécialistes en sciences du sol.", 25<sup>ème</sup> congrès annuel de l'AQSSS, Wendake, QC, Canada, May 25-27, 2011.

Zebarth, B.J., Ziadi, N., Bélanger, G., and Cambouris, A.N. (2011). "Can we predict soil N supply using soil N tests?", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

St. Luce, M., Ziadi, N., Nyiraneza, J., Tremblay, G.F., Zebarth, B.J., Whalen, J.K., and Laterrière, M. (2011). "Prediction of soil properties and soil N supply using near infrared reflectance spectroscopy.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.

Cambouris, A.N., Zebarth, B.J., Ziadi, N., Grant, C.A., Hu, Z., Gagnon, B., Drury, C.F. (2011). "Agri-environmental effect of N fertilizer on potato production.", 2011 ASA-CSSA-SSSA International Annual Meeting: Fundamental for life: soil, crop and environmental sciences, San Antonio, TX, USA, October 16-19, 2011.