



Agriculture and
Agri-Food Canada

Agriculture et
Agroalimentaire Canada



SCIENCE MONITOR

An annual report on external communications activities
that promote AAFC science, innovation and technology

2012–2013



Science Monitor, 2012-2013

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AAFC No. 12208E

Paru également en français sous le titre L'Observateur Scientifique

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INTRODUCTION

Welcome to the fourth volume of the *Science Monitor*, a regular report of our communications activities that promote Agriculture and Agri-Food Canada (AAFC) science, innovation and technology transfer. This issue covers the period from July 1, 2012, to June 30, 2013, during which we continued to adapt our communications activities to the new department structure and how it conducts research and delivers results for the sector.

We saw the groundwork laid in the past lead up to the launch of the AgrilInnovation Program (AIP), one of three broad federal programs under the *Growing Forward 2 (GF2)* policy framework.

During this reporting period, AAFC's website underwent extensive usability testing, content review and redesign. These changes brought the site up to the new Government of Canada Web Standards and made it more client centred, making it easier to find information. We also continued to move away from print-based communications through better use of digital tools.

Across the department, communicators and scientists continued to spread the word about AAFC's science work both in our own labs and with industry and other partners. The following pages show how.

The producers of the *Science Monitor* welcome feedback, comments or suggestions. Send an e-mail to sciencemonitor@agr.gc.ca or call us at 613 773-0251.

SCIENCE IN THE NEWS

Announcements

Public announcements give our Minister and other elected officials the opportunity to communicate about new projects, research results and departmental priorities to the media, stakeholders and producers through news and media event releases.

A total of 54 science, innovation and technology-related announcements were made by Minister Gerry Ritz, Minister of State Christian Paradis, Parliamentary Secretary Pierre Lemieux, or their delegates across the country:

Two Agricultural Greenhouse Gases Program (AGGP) announcements:

- Canadian Fertilizer Institute, \$700K, announced on September 13, 2012, in Saskatchewan.
- Institut de recherche et de développement en agroenvironnement, \$350K, announced on October 24, 2012, in Quebec.

Five Agricultural Flexibility (AgriFlex) announcements:

- Foin Saint-Laurent Inc., \$300K, announced on July 23, 2012, in Quebec.
- BHJ Canada Meat Products Inc., \$1M repayable contribution, announced on September 20, 2012, in Alberta.
- West Nova Agro-Commodities, \$1.3M, Atlantic Centre for Agricultural Innovation in Truro, \$2.1M, and Collaborate to Compete Initiative, \$2.1M announced on August 9, 2012, in Nova Scotia.
- Platform for Innovation in Organic Agriculture, \$2.170M, announced on May 3, 2013, in Quebec.
- Serres Lefort, \$440K, announced on May 31, 2013, in Quebec.

Twenty-three Agricultural Innovations Program (AIP) announcements:

- Martin's Family Fruit Farm, \$1.5M, announced on July 4, 2012, in Ontario.
- Mifarm.ag Management Inc., \$750K, announced on July 12, 2012, in Alberta.
- Le Centre de recherche, de développement et de transfert technologique acéricole du Québec, \$197,790 and the Fédération des Producteurs Acéricoles du Québec, \$1.5M, announced on July 30, 2012, in Quebec.



SCIENCE IN THE NEWS

- Canadian Horticulture Council, \$67K and BioAtlantech, \$185K, announced on August 8, 2012, in New Brunswick.
- Neo Ventures Biotechnology Inc., \$106K on August 13, 2012, in Ontario.
- Cook's Dairy Farm, \$94K announced on August 20, 2012, in Nova Scotia.
- Prairie Plant Systems Inc., \$101K, announced on August 20, 2012, in Saskatchewan.
- Eastern Canada Oilseeds Development Alliance, \$800K, announced on August 22, 2012, in Prince Edward Island.
- Composites Innovation Centre, \$860K and Prairie Pulp and Paper Inc., \$385K, announced on September 6, 2012, in Manitoba.
- Canola Council of Canada, \$43K, announced on September 18, 2012, in Manitoba.
- Mazza Innovation Ltd., \$175K, announced on October 10, 2012, in British Columbia.
- Flowers Canada Growers, \$145K, announced on October 11, 2012, in Ontario.
- SFN Biosystems Inc., \$820K, announced on October 12, 2012, in Alberta.
- Kinnikinnick Foods Inc., \$1M, announced on November 14, 2012, in Alberta.
- Pulse Canada, \$615K, announced on November 13, 2012, in Manitoba.
- Canadian Hemp Trade Alliance, \$64K, announced on November 5, 2012, in Alberta.
- AIP program announced under GF2 on December 7, 2012, in Alberta.
- Canaryseed Development Commission of Saskatchewan, \$54K, announced on January 7, 2013, in Saskatchewan.
- Delta Genomics Centre, \$575K, announced on January 10, 2013, in Alberta.
- Stoneboat Vineyards, \$125K, announced on February 15, 2013, in British Columbia.
- Prairie Tide Chemicals Inc., \$200K, announced on March 4, 2013, in Saskatchewan.
- Armstrong Milling Company, \$1.195M, announced on April 3, 2013, in Ontario.
- Competitive Green Technologies, \$360K, announced on May 31, 2013, in Ontario.



Government investment in Canadian wheat

The federal government has announced that Neo Ventures Biotechnology Inc. will receive \$106,222 to help bring to market their innovative Targeted Chlorella (TChlo) Platform technology.

This new tool will allow growers to improve the quality and consistency of protein, oil, and other traits in grain with a liquid application to the crop at flowering time. The technology will improve the consistency of the grain by minimizing environmental influences on the production of the proteins responsible for good baking quality. By offering processors wheat with the right protein consistency, Canadian wheat growers could net a premium of over \$22 million annually from domestic market alone. As an alternative to genetic crop modification, this technology could open new premium markets for Canadian wheat around the world.

This investment is being made under the Agricultural Innovation Program (AIP).

The program boosts the development and commercialization of innovative new products, technologies, and processes for the agricultural sector. For more information about this and other Agriculture and Agri-Food Canada programs go to www.agr.gc.ca.

Government investment in soybean research

More than \$800,000 will be invested by the federal government to help the soybean industry develop varieties that match the tastes and demands of the Japanese consumer.

The Eastern Canada Oilseeds Development Alliance (ECODA) will test soybean varieties and related soy products for their individual taste, texture, odour and appearance to find the variety that best matches the demands of the Japanese marketplace. Plant breeders, genetic and biosecurity researchers, growers and customers will

all be involved in the evaluations. This screening system will identify the biochemical compounds in soybeans that give soy products their distinct taste and texture, and will link this back to soybean breeding work.

"ECODA focuses on research that involves supply chain partners and projects that have a direct link to the marketplace," said Rury Francis, President of ECODA. "Commercialization of research results will ensure that producers and processors see the return on their \$269,000 research investment in this project."

ECODA brings together partners from Ontario, Quebec and the Maritimes. The partners include Seneca International (St. Catharines, Ontario) and Bero River (PEI), TRIFLECO de Québec (Bancroft, Ontario), the Atlantic Grains Council and the Prince Edward Island Agriculture. ECODA's mission is to coordinate the efforts of producers, processors, exporters, researchers, and government organizations in increasing the economic value and impact of the oilseed sector in eastern Canada.

Bioproducts research receives federal funding

by Comments Posted Sep. 10, 2012 by Robert Johnson

A proposed paper mill and an existing bioproducts centre in Manitoba has received a financial boost from the federal government.

Agriculture Canada will invest \$385,000 in Prairie Pulp & Paper, which intends to build a wheat and flax straw paper mill in Manitoba.

Prairie Pulp & Paper produces straw based paper at a plant in India and sells its



SCIENCE IN THE NEWS

Four *Growing Forward* (GF) announcements:

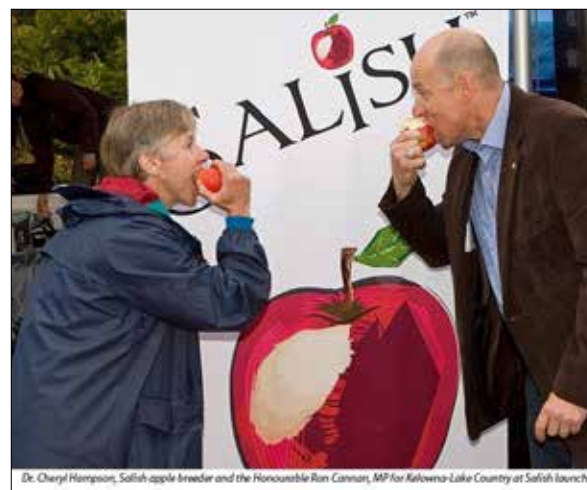
- Agrifoods and Garden Show announcement on October 12, 2012, in Newfoundland and Labrador.
- Crop Research funding through the Saskatchewan Agriculture Development Fund, \$6.6M on January 10, 2013, in Saskatchewan.
- Saskatchewan Agriculture Development Fund under *Growing Forward* and *Growing Forward 2*, \$3.4M for 23 livestock and forage research projects, announced on January 23, 2013, in Saskatchewan.
- Agriculture Demonstration of Practices and Technologies (ADOPT), \$600K, announced on May 28, 2013, in Saskatchewan.

Three *Growing Forward 2* (GF2) announcements:

- Manitoba announces GF2 programs, April 22, 2013, in Manitoba.
- Farm and Ranch Water Infrastructure Program, \$65M over 5 years, announced on May 3, 2013, in Saskatchewan.
- Saskatchewan Lean Improvements in Manufacturing Program, \$10M over 5 years, announced on May 10 2013, in Saskatchewan.

Three other announcements:

- New Salish apple variety launch, October 13, 2012, in British Columbia.
- Pulse Days, January 8, 2013, in Saskatchewan.
- Official opening of the new \$10M state-of-the-art greenhouse facility at the Southern Crop Protection and Food Research Centre, announced on June 13, 2013, in Ontario.



Dr. Cheryl Hongson, Salish apple breeder and the Honourable Ron Cannan, MP for Kelowna-Lake Country at Salish launch

SCIENCE IN THE NEWS

News Releases

Five Agricultural Innovation Program (AIP) news releases:

- Cardinal Meat Specialists, \$826K, announced on August 14, 2012, in Ontario.
- Vineland Research and Innovation Centre, \$115K, announced on October 3, 2012, in Ontario.
- SemiosBIO Technologies Inc., \$485K announced on July 26, 2012, in British Columbia.
- Diacarbon Energy Inc., \$142,575, and GreenScene AgriTek Inc., \$146,600, announced on August 8, 2012, in British Columbia.
- \$289,175 under the Canada-B.C. Agri-Innovation Program for two projects to explore turning agricultural waste into quality biofuels.

Two *Growing Forward (GF)* News releases:

- NuWave Research Inc., \$120K, announced on July 3, 2012, in British Columbia.
- Chicken Farmers of Canada, \$72,500K, announced on July 24, 2012, in Manitoba.

Six other news releases:

- Open Farm Day in Nova Scotia announcement on September 7, 2012, in Nova Scotia.
- Open Farm Day in New Brunswick announcement on September 7, 2012, in New Brunswick.
- Open Farm Day in Prince Edward Island announcement on September 7, 2012, in Prince Edward Island.
- Creation of an Agri-Innovators' Committee, announced on September 14, 2012, in Yukon.
- Letter of intent with Ceapro Inc. to complete the breeding process, to test, and to register a specialty oat variety developed by Agriculture and Agri-Food Canada, announced on November 13, 2012, in Alberta.
- First meeting of the new Agri-Innovators' Committee, Announced on November 29, 2012, in Ontario.

Between three and five media representatives and an average of five stakeholders attended each event. Some events drew audiences of over one 100.



SCIENCE IN THE NEWS

Announcement events were pitched to regional, provincial and national media, resulting in at least 160 print stories, radio segments, TV spots and online stories.

The Pest Management Centre (PMC) sent out 24 separate e-mail announcements, with information on new pest management tools and links to their website, to over 1,000 stakeholders.

Proactive Media Pitches

Our scientists are the best ambassadors for their work. We draw media attention to their research, innovation, environment and technology transfer by actively pitching story ideas and offering interview opportunities with the scientists directly involved.

Media coverage resulting from pitches and featured articles is consistently strong, especially in regional papers and sector magazines.

Fifty-five story ideas were pitched to at least 130 local, regional, national and international media outlets, reporters and editors over the twelve-month period on a variety of topics including:

National:

- Antibiotic eating bacteria;
- New online tool to report agroclimate impacts; and
- Barley is 'in' when it comes to heart health¹.

British Columbia/Alberta Region:

- Introduction of the new Salish (SPA493) apple;
- Development of a naturally occurring biopesticide that prevents the growth of and/or kills the fire blight bacteria by 50% (coordinated with Ontario pitch); and
- Awarding of the Queen Elizabeth Diamond Jubilee Medal to Entomologist Dr. Tom Lowery in recognition of his leadership in integrated and sustainable pest management for grapes and his contribution to AAFC's National Plum Pox Virus Program.



¹ In addition to pitching this story nationally, a feature article was posted on AAFC's website.

SCIENCE IN THE NEWS

Saskatchewan / Manitoba Region:

- Saskatoon Research Centre scientists showing off their work;
- Presentation of the LB Thomson Award to Don Lobb for spearheading the no-till movement;
- Focus on Dr. Sukhdev Mahli's research on nitrogen intercropping as an opportunity for organic farmers;
- Midge tolerance in wheat varietal blends;
- Promotion of the SPARC open house;
- Agroforestry Development Centre collaborators Don and Marie Ruzicka of Alberta receive a Pollinator Award at the Canadian Embassy in Washington, DC;
- Cellulosic Biofuels Network Videos are now online;
- Dr. Yantai Gan explains how sustainable cropping practices create a sustainable world;
- Purple Prairie Clovers, Hybrid sunflowers, Purple wheat;
- 5,000 seed samples to be sent from Saskatoon to Norway as part of an international seed gene bank; and
- Saskatchewan Pulses and Canola to be featured on Indian Food Network.

Ontario Region:

- Unusual discovery will change major soybean disease research;
- Announcement with MP Michael Chong (Wellington-Halton Hills) on investment that will help grain farmers grow their businesses;
- Promoting agriculture at the Royal Agricultural Winter Fair;
- Support for the next generation of farmers;
- Dr. Krista Power discusses whole foods and Inflammatory Bowel Disease;
- Agriculture in the City educates Burlington about local farming;
- Fire blight threat to apples and pears meets its nemesis (coordinated with British Columbia pitch);
- Developing colourful wheat to boost health and economy; and
- Mapping bean genome means new markets ahead.

Quebec Region:

- Promotion of AAFC research and announcement of a new discovery at the Salon de l'agriculture, de l'alimentation et de la consommation (SAAC);
- Presentations and in-booth scientific demonstrations with the Food Research and Development Centre (FRDC) scientists;



SCIENCE IN THE NEWS

- 100th anniversary of the Horticulture Research and Development Centre;
- Presentations and scientific demonstrations by AAFC research scientists at Expo Québec;
- Dairy cattle feed and greenhouse gas reduction;
- Promotion of AAFC funding to the Fédération des producteurs acéricoles du Québec (FPAQ) and the Centre ACER;
- Promotion of a scientific breakthrough on soybean root rot disease; and
- Scientific advances in probiotics at the FRDC.

Atlantic Region:

- New pink potato among 14 new selections released for further industry trials by the Potato Research Centre;
- Workshop on environmental and economic benefits of growing willows on the farm;
- *Growing Forward*-funded project showing the effectiveness of using soybean straw for heating;
- AAFC-supported Newfoundland Agriculture Symposium;
- *Growing Forward*-funded New Brunswick dairy technology workshop in Sussex;
- Futurist Robert Treadway to speak to the PEI Potato Board annual meeting;
- Four AAFC scientists making presentations on their organic work to an ACORN organic conference;
- Bruce Huffaker (president, north American Potato Market News) speaking at the annual meeting of Potatoes New Brunswick;
- Nappan beef and lamb research field day;
- Potato Research Centre 100th anniversary tabloid is online;
- Atlantic Cool Climate Crop Research Centre open house;
- Workshop on giving the Chinese Canadian community information about the agriculture sector;
- Presentation by AAFC research technician Roger Henry on his recent visit to Kenya to assist farmers in upgrading their knowledge of composting;
- Harvesting sea lettuce for fertilizer could be short-term solution to problem plant; and
- Presentation to the public at the Eureka! Festival in Montreal next June 16 on how dairy cows can reduce greenhouse gas.



SCIENCE IN THE NEWS

Responsive Media Coverage

AAFC received and responded to 459 media calls through the AAFC media line related to the environment, weather, research and innovation and technology transfer during this reporting period. A monthly average of 77% of science- and research-related media calls were referred directly to researchers working on projects.

Media Statistics

Number of calls by month

- July – 78
- August – 53
- September – 39
- October – 39
- November – 25
- December – 13
- January – 28
- February – 22
- March – 22
- April – 25
- May – 89
- June – 26

Many media outlets contacted AAFC on more than one occasion, including the following:

- CBC/Radio Canada – 70
- *Western Producer* – 35
- Local radio stations – 30
- CTV – 15
- *Manitoba Cooperator* – 12
- *Grainnews* – 11
- *The Ottawa Citizen* – 9
- *Better farming* – 8
- *Ontario Farmer* – 7
- Global – 6
- *The Toronto Star* – 6
- Canadian Press – 5
- *The Globe & Mail* – 5
- *Top Crop Manager* – 5



SCIENCE IN THE NEWS

- Postmedia – 4
- Télé-Québec – 4
- *The Vancouver Sun* – 4

Principal subject by month

The subject matter of media calls varied widely from month to month, with the majority being one-off requests. These are captured under the "Other" category below.

July

- Dry weather conditions and impact on agriculture (24)
- Northern greenhouses (5)
- Other (49)

August

- Dry Weather conditions and impact on agriculture (6)
- ASHS Cultivar Award (3)
- AIP announcements (3)
- Farm closures (2)
- Other (39)

September

- Dry weather conditions and impact on agriculture (3)
- Animal Welfare (3)
- Kochia study (2)
- Other (31)

October

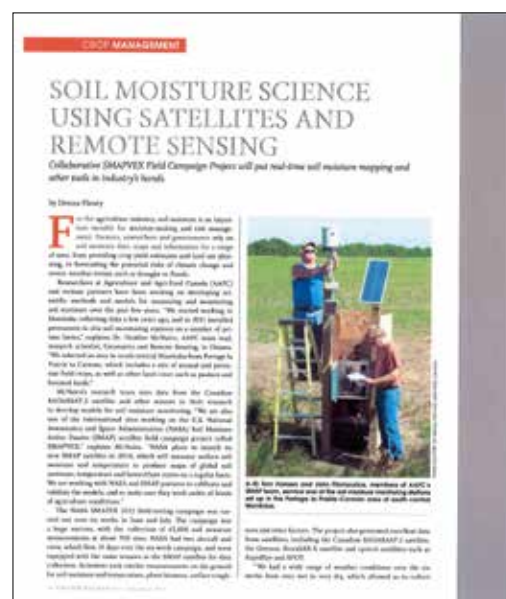
- Salish apple launch(3)
- Pesticide/herbicide resistance (3)
- Other (33)

November

- Barley is 'in' media pitch (4)
- Two requests to talk to AAFC's Dr. Ernie Small on his research (one on his research into cannabis and the other on his research into conserving animals considered unattractive)
- Other (19)

December

- Pork production (2)
- Impact of Budget 2013 on Rosetown, SK, area (2)
- Other (7)



SCIENCE IN THE NEWS

January

- Soil Moisture (2)
- Quinoa (3)
- Other (23)

February

- Changes in research infrastructure and priorities (5)
- Other (17)

March

- Changes in research infrastructure and priorities (3)
- Shelterbelts as snowtraps (2)
- Fusarium (2)
- Other (15)

April

- Changes in research infrastructure and priorities (6)
- New varieties of apples and pear (4)
- Other (15)

May

- Changes in research infrastructure and priorities (45)
- Geese at the CEF (7)
- Other (37)

June

- Changes in research infrastructure and priorities (4)
- Other (22)



SCIENCE AND TECHNOLOGY ON DISPLAY

AAFC brings agricultural science and technology closer to Canadians by participating in exhibits and by hosting public events at research facilities across the country.

Corporate Exhibits

Whenever AAFC participates in fairs and exhibits, science is always part of the mix. Communications materials included:

- The Check-Out Agriculture! interactive display, where visitors can scan grocery items to see videos about the science behind them, continues to be used;
- Barley is 'in' When it Comes to Heart Health display, November 2012
- Additional regionally developed products and display materials such as postcards with photos of various pests;
- Banners featuring slogan and design of the 125th anniversary of federal agricultural research in Canada continued to be used until January 2013; and
- Posters highlighting the 125th anniversary and fact sheets continued to be used until January 2013.

The events for this reporting period were:

- Farm Progress Show, Regina, Saskatchewan, June 20–22, 2012
- Calgary Stampede, Calgary, Alberta, July 6–15, 2012
- Crapaud Exhibition, Crapaud, Prince Edward Island, July 28, 2012
- Expo Quebec, Quebec City, August 15–26, 2012
- Fredericton Exhibition, Fredericton, New Brunswick, September 2–8, 2012
- Trinity Conception Fall Fair, Harbour Grace, Newfoundland, September 20–23, 2012
- Maritime Fall Fair, Exhibition Park, Halifax, Nova Scotia, October 3–8, 2012
- Royal Agricultural Winter Fair, Toronto, Ontario, November 2–18, 2012
- Manitoba Ag Days, Brandon, Manitoba, January 15–17, 2013
- Pacific Agriculture Show, Abbotsford, British Columbia, January 24–26, 2013
- Down Home Expo, Mount Pearl, Newfoundland, April 12–14, 2013
- Eat! Vancouver Food and Cooking Festival, Vancouver, British Columbia, May 24–26, 2013



SCIENCE AND TECHNOLOGY ON DISPLAY

Public Events

Special public events are an opportunity for Canadians to connect with the agricultural science and technology happening in their communities and another way for AAFC to spread the word about our important work. In this reporting period, AAFC participated in the following community special events:

Agriculture in the City

Agriculture in the City (AIRC) events are a perennial hit with visitors. They are an opportunity for urban residents to learn about farming, food processing, the science behind their food, and the ways agriculture is harnessed for uses beyond just food production. The events are organized by joint committees led by AAFC and involving the provincial agriculture departments, municipal governments, and regional agricultural associations.

Atlantic

Farm Day in the City, Charlottetown, Prince Edward Island (September 30, 2012)

Thousands of people turned out in downtown Charlottetown despite poor weather to learn about the agriculture industry in PEI. The event included an AAFC exhibit that showcased insect research as part of a general promotion of agriculture awareness.

Ontario

Discover Agriculture in the City, Burlington (October 13–14, 2012)

More than 20,000 people visited Discover Agriculture in the City at the Burlington Mall and learned the important role food and farming play in the province. Highlights included cooking demonstrations, lectures on healthy eating, an aquaponics presentation, and the “*So You Think You Can Farm*” quiz. Twitter and Facebook were used to promote the event. One hundred tweets were sent out by exhibitors and key organizers reaching an audience of 30,000. Over 250,000 media impressions were recorded.



SCIENCE AND TECHNOLOGY ON DISPLAY

Manitoba

Discover Agriculture in the City (March 15–17, 2013)

Thirty agricultural organizations, including government and industry, participated in Discover Agriculture in the City at The Forks Market in Downtown Winnipeg. Approximately 20,000 people attended. Main stage events included a student speaking competition on modern agriculture for students, a competition put on by the University of Manitoba called Food Fight, game shows, cooking demonstrations and a farmer panel discussion. AITC is an annual fixture at The Forks. CTV broadcasted live from The Forks for the opening of the event and other media attended AITC throughout the weekend.

Saskatchewan

Agriculture in the City 2013 (April 13, 2013)

This event was held on April 13 in Saskatoon, at the Mall at Lawson Heights. This one-day event saw over 4,000 attendees and 15 participating organizations. The event had a main stage with activities, a tradeshow featuring agricultural industry groups, and a kidzone with a collection of interactive learning activities organized by Agriculture in the Classroom, an informal network of provincial organizations that promote agricultural awareness among students.



Doors Open

Doors Open is a popular annual event that gives Canadians the chance to go inside historic and modern buildings, private homes, industrial areas and other interesting venues, some of which are rarely accessible to the public. Some AAFC research centres participate and provide visitors with an inside look at the labs, fields, research plots and people who bring the benefits of agricultural science and innovation to Canadians, farmers and the sector.

Quebec

100th Anniversary – Horticultural Research and Development Centre (HRDC), Saint-Jean-sur-Richelieu (September 8, 2012)

Nearly 250 visitors enjoyed visiting the Doors Open event at the HRDC that included the opportunity to speak directly with AAFC researchers

SCIENCE AND TECHNOLOGY ON DISPLAY

at 15 kiosks. Visitors were captivated by the researchers' passion for their work and expressed a desire for the event to be repeated annually. Proactive media pitching resulted in nine print articles focused on the work of HRDC's researchers.

Open Farm Day in Quebec and Grande fête agricole à Montréal (September 9, 2012)

Open Farm Day in Quebec welcomed over 167,000 visitors on more than 100 farms. Thirty-four thousand visitors choosing the Grande fête agricole à Montréal as their destination where AAFC's booth feature information on research innovation from four Quebec-based research centres. The "Wheel of Science" questionnaire focused on innovations from Quebec, and was a popular activity for all ages. Over 2,000 innovation cards and 24,000 innovation brochures were distributed.

Open houses and field days

Atlantic

Open Farm Day in the Maritimes (September 16, 2012)

The 11th annual Open Farm Day in the Maritimes was a record-setting success with 125 farms and over 41,000 visitors participating across Prince Edward Island, New Brunswick and Nova Scotia. Extensive coverage through radio and print media preceded and followed the event day, including a remote broadcast from the Live At Five Evening News crew from several farms in Nova Scotia the Friday before. By event day, Nova Scotia's Meet Your Farmer Facebook page had over 1,500 "likes" and 541 "talk abouts." Children enjoyed pony rides and animal petting areas. Open Farm Day is now an established September outing for many Maritime families.

54th Farm Field Day, St. John's, Newfoundland and Labrador (July 31, 2012)

Close to 4,500 people attended the 54th Farm Field Day at the Atlantic Cool Climate Crop Research Centre to find out about agriculture and food production in Newfoundland. AAFC partnered with the provincial Forestry and Agrifoods Agency and industry to tell the agriculture story. The event included AAFC research displays, opportunities to talk to the scientists, and tractor tours of the research grounds.



SCIENCE AND TECHNOLOGY ON DISPLAY

Saskatchewan

Semi-arid Prairie Agricultural Research Centre (SPARC) Open House (October 16, 2012)

In an effort to highlight the link between agricultural research and food that ends up on the dinner plate, SPARC's staff chose World Food Day (October 16) for its Open House.

Morning tours were reserved for several local Grade 7 classes, while afternoon and evening sessions were open to the public. Tours brought visitors through several research labs, the new greenhouse, the design shop, the barn area and a geocaching expedition (a GPS treasure-hunting game).



British Columbia

Pacific Agri-Food Research Centre Open House, Agassiz, British Columbia (July 28, 2012)

The Research Centre, for the second year in a row, hosted an open house in conjunction with the Agassiz Slow Food Cycle Tour. Over 1,000 visitors enjoyed meeting the Centre's scientists and exploring the links between science and farming. As always, berry sampling was popular, as were the arboretum and the field tour.



Other significant regional events featuring AAFC science and technology

Regional events, such as agricultural shows, fairs, exhibitions, and meetings allow AAFC to reach a broad Canadian audience. Publications on research projects and on our science and innovation priorities can be distributed while exhibit staff interact with visitors, raising awareness of the importance of agriculture. AAFC participated in 43 such events from July 1, 2012, to June 30, 2013.

British Columbia/Alberta Region

- Pacific Agriculture Show, Abbotsford, British Columbia (January 24–26, 2013);
- Islands Agriculture Show, Vancouver Island, British Columbia (February 1–2, 2013);
- Brighthouse "Science Bash," Richmond, British Columbia (for Science and Technology Week) (October 19, 2012);
- Agassiz Fall Fair, Agassiz, British Columbia (September 14–15, 2012);

SCIENCE AND TECHNOLOGY ON DISPLAY

- 60th Annual Beekeepers' Field Day, Beaverlodge Research Farm, Beaverlodge, Alberta. Full-day public event and BBQ (June 21, 2013).

Saskatchewan/Manitoba Region

- 30th Annual Crop Production Show, Saskatoon, Saskatchewan (January 7–10, 2013);
- Agribition, Regina, Saskatchewan (November 19–24, 2012).

Ontario Region

- Western Fair Farm Show, London (March 6–8, 2013);
- Canadian International Farm Show, Mississauga (February 5–7, 2013);
- Ontario Fruit and Vegetable Convention, Niagara Falls (February 20–21, 2013);
- Royal Agricultural Winter Fair, Toronto (November 2–11, 2012);
- Agri-Processors/Producers Summit, Toronto (November 30, 2012);
- Food Safety Symposium, Guelph (October 16, 2012);
- Canada's Outdoor Farm Show, Woodstock (September 11–13, 2012);
- International Plowing Match, Roseville (September 18–22, 2012);
- Canadian National Exhibition, Toronto (August 17–September 2, 2012).

Quebec Region

- Salon de l'agriculture, Saint-Hyacinthe (January 15–17, 2013);
- Semaine de l'Agriculture, de l'Alimentation et de la Consommation (SAAC), Quebec City (January 18–20, 2013);
- Congrès mondial des agronomes, Quebec City (September 19–20, 2012);
- EXPO Québec, Quebec City (August 15–26, 2012);
- Festival Eureka, Montreal (June 14–16, 2013).

Atlantic Region

- Crapaud Exhibition, Crapaud, Prince Edward Island (July 28, 2012);
- Fredericton Exhibition, Fredericton, New Brunswick (September 1–3, 2012);
- Meet Your Farmer at the Mall, Dartmouth, Nova Scotia (September 7–8, 2012).



SCIENCE AND TECHNOLOGY ON DISPLAY

- Trinity-Conception Fall Fair, Harbour Grace, Newfoundland and Labrador (September 20–23, 2012);
- Farmer for a Day, Cole Harbour, Nova Scotia (September 24–25, 2012);
- Farm Day in the City, Charlottetown, Prince Edward Island (September 25, 2012);
- Maritime Fall Fair, Halifax (Nova Scotia, October 4–8, 2012);
- Agrifoods and Garden Show, Corner Brook, Newfoundland and Labrador (October 12–14, 2012);
- Wild Blueberry Producers Association of Nova Scotia AGM, Truro, Nova Scotia (November 16, 2012);
- Apple science exhibit at the Nova Scotia Federation of Agriculture Annual General Meeting, Truro, Nova Scotia (November 29–30, 2012);
- Canada's Outstanding Young Farmers annual gala, Charlottetown, Prince Edward Island (November 27–December 2, 2012);
- PEI Potato Board AGM, Charlottetown, Prince Edward Island (November 16, 2012);
- Agricultural Alliance of New Brunswick AGM, Fredericton, New Brunswick (January 17, 2013);
- Newfoundland and Labrador Federation of Agriculture AGM, Gander, Newfoundland and Labrador (January 25, 2013);
- PEI Federation of Agriculture AGM, Charlottetown, Prince Edward Island (January 25, 2013);
- Horticulture Nova Scotia AGM, Wolfville, Nova Scotia (January 29–30, 2013);
- Tree Fruit Growers of Nova Scotia AGM, Wolfville, Nova Scotia (January 31 – February 1, 2013);
- Potatoes New Brunswick Conference & Trade Show, Grand Falls, New Brunswick, (February 7, 2013);
- PEI Soil Crop Improvement Association AGM, Charlottetown, Prince Edward Island (February 26–27, 2013);
- Canada-Wide Science Fair, Charlottetown, Prince Edward Island (May 12–19, 2013).



SCIENCE ON THE WEB, IN VIDEO AND IN PRINT

Website

Improvements and updates continue to be made to the AAFC science and innovation web pages. Significant website usability testing was completed this year, with changes that will be reported in the next edition of this report, including the consolidation of the Science and Innovation Lane and Agri-Environment Lane into one lane.

Science and Innovation Lane had 845,544 visits during this reporting period, up 40% from the 337,625 visits during the previous reporting period.

Agri-Environment Lane had 340,549 visits during this reporting period, up almost 58% from the 197,464 visits during the previous reporting period.

Science Videos

No new videos were produced in this reporting period though work was begun on an innovation-themed modern agriculture video.

"The Innovators" video and "Check Out Agriculture!" interactive display and game videos, produced during the last reporting period, continues to be used. The videos were uploaded to AAFC's YouTube channel.

Publications

AAFC science is also being featured in a variety of print media, including:

- *Innovation Express* – a quarterly newsletter meant for partners and stakeholders, produced by the Science and Technology Branch (STB) with support from Communications and Consultations Branch (CCB). The issue of this newsletter produced and distributed during this reporting period included articles on:
 - "Discovery Helps Protect Global Wheat Supply"
 - "Partnership Documents Changing Horticultural Pest Situation"
 - "Milestone for Pest Forecasting Software"
 - "A Potato with Diabetics in Mind"



SCIENCE ON THE WEB, IN VIDEO AND IN PRINT

- "Canadian Oats Help Soothe Sensitive Skin"
- "Hairy Canola Brushes Off Flea Beetles"
- "Yukon Gold: Growing Potatoes North of 60"
- "Bacteria Breaks Down Antibiotics in Soils"
- "Science and Technology News from Agriculture and Agri-Food Canada"
- "Soil Microorganisms Hold Potential to Boost Crop Yields"
- "*Growing Forward 2* Has Arrived"
- "Satellite Monitors Soil Moisture from Space"
- "AAFC Contributes to Overview of Canadian Soils"
- "Pest Management Centre Helps Keep Pests at Bay"
- "Bees: The New Pest Control Applicators"
- "Bioreactor Reduces Nitrates in Tile Drainage Water"
- "Farming Practices Studies to Improve Water Quality"
- "Precision Farming and Earth Observation: Giving Eyes to Crop Models"
- "Food Research and Development Centre Honoured"
- "New Books by AAFC Scientists"
- "Barley is 'In' When it Comes to Heart Health"
- "New Strategic Direction Guides AAFC Scientists"

For access to this and other issues of Innovation Express, please visit <http://www.agr.gc.ca/eng/science-and-innovation/science-publications-and-resources/innovation-express-magazine/?id=1275605179566>

- *Sustainable Crop Protection* is a factsheet series that provides information on reduced risk pest management approaches from the PMC's Pesticide Risk Reduction Program. These factsheets provide information developed through Program activities to a broad audience, and encourage the adoption of environmentally and economically sustainable pest management approaches founded on the principles of integrated pest management. The most recent topics include:
 - "Banding Herbicides in Carrot Production: Small Spray with Big Benefits;" and
 - "A New Biofungicide to Manage Fusarium Head Blight of Wheat."
- *Crop Profiles* are documents that provide pest management information on a commodity basis. National in scope, they identify gaps in pest management and issues faced by Canadian growers.



SUSTAINABLE CROP PROTECTION
Results from the Pesticide Risk Reduction Program

**Banding herbicides in carrot production:
Small Spray with Big Benefits**

Carrot growers are continually striving to reduce pesticide use while improving the economic bottom line in their productions. The herbicide application technology known as banding is a potential option to achieve these goals. Herbicide banding consists of spraying the herbicide in a band directly over the crop row as opposed to making a broadcast application that blankets the entire carrot field with herbicide. The banded herbicide is applied pre-emergence (PRE) and/or post-emergence (POST) of the crop. Weeds in the space between the rows are removed by mechanical cultivation. This practice can decrease herbicide use by up to 66%.

Commercial sprayers can be easily converted to deliver banded herbicide applications. Boom nozzles are repositioned so they spray directly over the plant row, and excess nozzles can be blocked off. For banding, regular nozzle tips are replaced with flat fan even spray tips. To achieve a specific band width, various combinations of nozzle tip, spray angle and spray height can be used.

The Pesticide Risk Reduction Program of Agriculture and Agri-Food Canada's (AAFC) Pest Management Centre has supported research and development work to first determine the efficacy and then demonstrate the feasibility of commercial implementation of the banding technology in carrot production.

Phase 1: Experimental testing

Two experimental trials, at four testing sites, were conducted during 2007-2009 in carrot crops grown on mineral soils at the AAFC's Crops and Livestock Research Centre, Harrington Research Farm in Prince Edward Island (PEI). Both Trial 1 and Trial 2 compared the efficacy of the herbicide linuron on weed control and crop yield when applied as a broadcast or banded over the row. An untreated control was included in Trial 1 only. Carrots, cv. Neptune, were seeded on raised beds spaced at 90 cm between beds (Figure 1).



Figure 1. Carrot seeding on raised beds

For the banded application, the herbicide was sprayed on a 30 cm wide band over the carrot row using TeeJet® 8002EVS nozzle tips positioned at 18 cm height above the row (i.e. measured from the ground level at PRE, and from the top of carrot canopy at POST applications) (Figure 2).



Figure 2. Banding herbicide spray on carrots

Canada

SCIENCE ON THE WEB, IN VIDEO AND IN PRINT

Crop profiles are developed through an extensive consultative process and are reviewed by industry and provincial specialists prior to publication. No new profiles were created during the reporting period, but seven were updated:

- Lowbush Blueberry
- Highbush Blueberry
- Greenhouse Cucumber
- Greenhouse Lettuce
- Greenhouse Pepper
- Potato
- Greenhouse Tomato

Special Publications

AAFC Atlantic Communications produced a 100th anniversary tabloid newspaper in September 2012 detailing the history of the Potato Research Centre in Fredericton. The publication won first place in the Best Periodical category at the Canadian Farm Writers annual awards. Articles included:

- "With deep roots in agriculture, Potato Research Centre celebrates 100 years"
- "An annual showcase on potential new varieties suggests the potato's best days may still be ahead"
- "Back to the future: Collection of older potato varieties sows seeds for the future"
- "Kitchen research gives potato breeders something to chew on"
- "You need to bring your bee game when developing new varieties"
- "Benton Ridge Research Farm: To make the cut, new potato varieties need to prove themselves in the field"
- "A return to the potato's wild side more than 40 years ago has Canada poised to take on the future"
- "Scientists without borders: The international appeal of potato research"
- "The Potato Research Centre helped map the potato's DNA; Now a new journey begins towards the potato's future"
- "When you can't judge a potato by its cover, DNA fingerprinting makes the ID"
- "How an order of fries and a career in potato research led to the Order of Canada"



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- "George Tai's inventions helped find gold in the French fry market"
- "New Directions: Re-imagining the Potato"
- "New Directions: The potato's colourful side is gaining notice for more than its looks"
- "New Directions: Chef sees bright future in coloured potatoes"
- "New Directions: A diabetic-friendly potato"
- "Environment: Science unearths a teeming, living world of potential in the soil"
- "Environment: Taking a page from the service station, researchers take a look under the potato's hood"
- "Environment: A closer look at insect behaviour produces new insights into pest control"
- "Environment: Foiled with oil Roy Bradley's discovery 50 years ago has saved countless potato crops"
- "Environment: How a reminder of the atomic era is helping farmers protect the water in New Brunswick's potato belt"
- "Environment: Virologist keeps farmers ahead of a potato virus as changeable as the flu"
- "Environment: A new dimension on water quality"
- "Environment: A watershed moment for farming and the environment"
- "People: Team effort behind centre's century of science"

The complete publication is available at <http://www.agr.gc.ca/eng/science-and-innovation/research-centres/atlantic-provinces/potato-research-centre/?id=1180622499704>

Agricultural Trade Magazines

Twenty-two articles written by AAFC have also been published in periodicals and trade magazines:

- "Innovative methods of managing flea beetles in canola," *Top Crop Manager* (Western edition), November 2012, pp-76–78;
- "Has the faba bean's time arrived?, *Pulse Crop News*," 2012 Winter;
- "Near infrared reflectance spectroscopy; an alternative technology to predict meat quality," *Prairie Post Bull Breeders*, (February 2013);
- "Monitoring soil moisture from space," *Farming for Tomorrow*, February/March 2013;
- "Improved farming practices can reduce crops' carbon footprints," *Farming for Tomorrow*, February/March 2013;



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- "Effect of multiple BMPs on water quality and runoff," *Farming for Tomorrow*, February/March 2013;
- "Shelterbelts: a sight for sore noses, *Farming for Tomorrow*," February/March 2013;
- "Shelterbelts the bees knees for pollinators, *Farming for Tomorrow*," February/March 2013;
- "A river runs through it, *Farming for Tomorrow*," February/March 2013;
- "Health food for cattle, *Farming for Tomorrow*," April/May 2013;
- "Calling on more troops, *Farming for Tomorrow*," April/May 2013;
- "The art of winter bale grazing, *Farming for Tomorrow*," April/May 2013;
- "Eco-buffers enhance environment and increase profit," *Farming for Tomorrow*, April/May 2013;
- "Walk in the trees, *Farming for Tomorrow*," April/May 2013;
- "Top Canadian Ornamental Plants," Overview. Part 3. Poinsettia. *Canadian Botanical Association Bulletin*, January 2012, 45(1);
- "Top Canadian Ornamental Plants," Part 2. Roses. *Canadian Botanical Association Bulletin*, February 2012, 45(2);
- "Top Canadian Ornamental Plants," Part 3. Poinsettia. *Canadian Botanical Association Bulletin*, March 2012, 45(3);
- "Managing Herbicide-Resistant Weeds in Pulses," *PulsePoint*, January 2012, 12(1);
- "Fibres alimentaires; sept questions sur la santé," *L'Actualité Alimentaire*, March 2013, 9(6).





FINAL WORDS

AAFC remains committed to promoting the great work of its scientists and staff and raising awareness of the importance of agricultural science and technology in our lives. In the next reporting period, we are looking forward to more communications opportunities on our newly redesigned user-focused website and incorporating more social media strategies through AAFC's Twitter account. Watch for information on how we are using these new communications tools in the next issue of *Science Monitor*.

This report has been produced by Communications and Consultations Branch, in consultation with the Science and Technology Branch. We extend our thanks to all those who participate in events and publications, making it possible to spread the news of our achievements in agricultural science and innovation.