



Volume 5, Number 2, 2014

Innovation Express

Science and Technology News from Agriculture and Agri-Food Canada

Has it been Ten Years Already? Pest Management Centre (PMC) Celebrates

In 2013, the [Pest Management Centre](#) (PMC) marked its first decade of bringing crop protection tools, knowledge and support to Canadian growers. It was established by Agriculture and Agri-Food Canada (AAFC) in 2003 under a unique partnership model to improve growers' access to newer, safer pest management products and practices and to increase their competitiveness.

Today the PMC is an internationally recognized model of cooperation between grower organizations, pesticide manufacturers, and the provincial and federal governments, including Health Canada's Pest Management Regulatory Agency (PMRA).

Our research capacity helps provide Canadian growers with excellent minor use pest control products and new crop protection practices that reduce dependence on pesticides.

Vigilance and sound measures are both required to effectively address the threats from existing or emerging crop pests. For 10 years, PMC has matched major weed, disease and insect problems — as identified by growers from all agricultural regions — with potential pest management solutions.

First step into the next decade

When the PMC started, Canadian growers, especially the growers of horticultural and other speciality crops, needed the technologies available to growers in other countries if they wanted to increase their competitiveness. Today, the

PMC collaboration with its counterpart in the United States not only provides the opportunity to share the data, but it also gives weight to registration submissions and facilitates the implementation of joint guidelines and data requirements.

Harmonizing pesticide registrations and maximum residue limits for pesticides, and simultaneously registering new pesticide on both sides of the border will help put Canadian growers on a more even footing with their international competitors.

The Manager of the PMC's Minor Use Pesticides Program Ian Gardiner tells us that the collaborative successes achieved by the PMC and its partners are a tribute to the collective efforts of dedicated and diligent people. The beneficiaries of this investment in science and technology are not only Canadian growers, but also consumers at home and abroad who gain from having an innovative, competitive, profitable and environmentally responsible agricultural sector. We certainly agree with him.

We are proud to present a few of the accomplishments and ongoing projects at the PMC that are helping meet growers' needs. We encourage you to learn more about it on our [Pest Management Centre page](#).

Dr. Siddika Mithani, Assistant Deputy Minister and
Dr. Gilles Saindon, Associate Assistant Deputy Minister
Science and Technology Branch
Agriculture and Agri-Food Canada

Inside

PMC in a Nutshell	2
European Biocontrol Enlisted Against Invasive Leek Moth.....	3
Oh Computer, Computer on My Desk, Who Will Infest My Fields This Summer?	4
New Generation of Thresholds Key to Even Better Pest Control Decisions	5

The War of the Fungi.....	6
Our Crunchy Orange Friends Benefit from Fewer Pesticides.....	7
Field Guide on Pests and Beneficial Insects in Field Crops in Western Canada.....	8
Minor Use Pesticides Program Closes Technology Gap for Growers	8
Program Benefits from In-house Analytical Lab	10



Agriculture and
Agri-Food Canada

Agriculture et
Agroalimentaire Canada

Canada



Pest Management Centre in a Nutshell

- Stakeholders from all agricultural regions determine the PMC's priorities for the coming year at annual workshops.
- The PMC helps growers through two national programs: [Minor Use Pesticides Program \(MUPP\)](#) [Pesticide Risk Reduction Program \(PRRP\)](#).
- The PMC has undertaken more than 950 MUPP projects and 179 PRRP projects since these programs began.
- Thanks to the PMC's work with industry and provincial specialists, to date, 1,238 new minor uses of pesticides and more than 220 uses of biopesticides have received regulatory approval from the [Pest Management Regulatory Agency](#) (PMRA), giving growers greater options for safe and effective crop protection tools and technologies.
- Organic growers have access to more than 175 pest management solutions for high-priority pest problems as a result of the combined efforts of the PMC's two programs.
- The PMC oversees all the projects from its headquarters in Ottawa and at [seven minor use research sites](#) across the country, assuring the quality of the collected data.
- The PMC has established an in-house, state-of-the-art analytical laboratory for pesticide residue analysis, a facility that will improve the efficiency of the MUPP and deliver pest management solutions to growers more quickly.
- The PMC has published and updated [30 crop profiles](#) that are used by farmers, registrants, Health Canada's PMRA and the Canadian Food Inspection Agency. These profiles have become the industry standard in identifying pest management challenges and potential solutions for key crops.
- Most of the new pesticide applications in North America are submitted to regulatory agencies in both Canada and the United States under the North American Free Trade Agreement (NAFTA) or Global Joint Reviews at the same or within a similar timeframe, thereby increasing the competitiveness of Canadian growers.
- Collaboration between the PMC and its American counterpart, U.S. IR-4, has led to 195 new uses resulting from their joint projects since 2006.
- The PMC's efforts to reduce risks from the pesticides used in agriculture have resulted in the development of 15 [pesticide risk reduction strategies](#) for priority issues, such as a single pest issue in a particular crop or a combination of multiple pests and crops. The new solutions and approaches developed through these strategies provide growers with a more diversified pest management tool box, alternatives for transitioning away from control products that are being phased out, and enable better integrated pest management, reduce the use of pesticides and encourage the adoption of sustainable crop protection practices.
- Gaps in pest management technologies resulting from the regulatory phase-out of certain older chemistries have been filled with newer, reduced-risk products. For example, alternative products have been made available through PMRA to address a variety of crop/pest issues left by phasing out the insecticide azinphos-methyl, while at the same time novel pest monitoring approaches and recommendations on the use of new tools are helping growers to implement sustainable pest management.

**The numbers listed above reflect results available in February 2014.*



Acrolepiopsis assectella adult

European Biocontrol Enlisted Against Invasive Leek Moth

To solve the problem of the new invasive pest, the leek moth, the Pesticide Risk Reduction Program (PRRP) has once again opted for an attack on multiple fronts, as well as collaboration as far away as Switzerland! And the results show it.

Growers are concerned that the leek moth, *Acrolepiopsis assectella*, will jeopardize their ability to continue producing crops using an environmentally low impact approach. This new invasive species from Europe is already established in Ontario and Quebec, and is continuing to expand its range. The larvae penetrate the young leaves and flowers of onion, leek and garlic plants in order to feed, which reduces the value of the crop, and in some cases renders it unmarketable.

The Pest Management Centre (PMC) has funded work to develop an integrated management program. Dr. Peter Mason, an Agriculture and Agri-Food Canada (AAFC) research scientist, and his team at the [Eastern Cereal and Oilseed Research Centre](#) (ECORC) in Ottawa, researchers from the Centre for Agricultural Bioscience International (CABI) in Switzerland, and crop specialists from the Ontario Ministry of Agriculture and Food (OMAF) studied the life cycle of the pest, testing reduced-risk insecticides and assessing the effectiveness of physical barriers and natural enemies.

Researchers studied the biology of the pest and evaluated insecticides and physical barriers in the Ottawa area, and sought the best biological control agent in Switzerland, where potential candidates naturally maintain leek moth levels at manageable levels.

First, pheromone traps were placed in the field to lure insects and to monitor their population level and development stages. This information combined with degree-day insect development models (which predict insect life stages based on their development rates at certain temperatures), helped researchers to determine the timing for applying two reduced-risk insecticides before the larvae could tunnel into the plant.



Traps with pheromones to attract the pest (little red tip hanging from the trap's roof)

Second, fine-mesh floating covers were placed over the rows of plants to create a physical barrier over the crop and prevent the pest from laying eggs on the crop. This was also effective at reducing the number of leek moths and damage caused by the first and second of a possible three generations of larvae, depending on the season.

Finally, in Europe, researchers found a significant number of potential natural enemies of the leek moth. Parasitoid *Diadromus pulchellus* was deemed most suitable, because it was highly specific in killing the moth without threatening local beneficial insects or the crop. In 2010, the Canadian Food Inspection Agency (CFIA) allowed release of this biological control agent in the Ottawa region, and the results are promising. *Diadromus pulchellus* survives the winter very well in Eastern Ontario, and it eliminates nearly half the number of leek moths when released in sufficient numbers. The participation of growers was a key element in the implementation and success of this integrated management project.

All participating growers said they would be willing to take part in a follow-up integrated management program against the leek moth, and would definitely recommend to other growers that they participate in the program.

This work, coordinated by the Pesticide Risk Reduction Program, gives growers the information and tools they need to minimize the damage caused by this invasive alien species without resorting to the use of conventional insecticides. The release and establishment of the biological control agent *D. pulchellus* will keep leek moth levels under control and help onion, leek and garlic growers to continue providing high-quality produce in an environmentally sustainable way.

DID YOU KNOW?

The PMC has become an internationally recognized model of cooperation between government and stakeholder groups. China, Brazil, Australia and New Zealand have sent delegations to the PMC to see firsthand how it brings diverse organizations together to solve problems and create opportunities.



Bertha larvae

Oh Computer, Computer on my Desk, Who Will Infest my Fields this Summer?

At Agriculture and Agri-Food Canada (AAFC), we don't have a crystal ball. But by "reading the signs," we can be better prepared. Crawling, jumping or flying — [Prairie Pest Management Network](#) (PPMN) helps farmers know what pests to watch for during the current and upcoming growing season.

The PPMN is a coordinated monitoring and information-exchange network of AAFC pest management experts, their provincial counterparts and academic partners. Knowledge gained through this network produces a detailed analysis of insects at approximately 1,800 sites across the Prairies to help farmers know what to look for as they inspect their crops for damage.

Originally, insect surveys were conducted by provincial agencies but it became clear that coordinating activities and compiling data and information on a regional scale would be more beneficial. For example, pest outbreaks are periodic and cyclical in nature, so when insect pest outbreaks occur in one area, their impact is eventually felt across the entire region. AAFC entomologist Dr. Owen Olfert happily volunteered to coordinate the initiative in 1996. Today, he leads a group of experts at the [Saskatoon Research Centre](#) in Saskatchewan; they work closely with provincial governments and industry organizations to gather data collected by farmers and researchers about pests — their location and abundance — and to compile weekly mapping and analyses.

This almost real-time information allows farmers to make more informed decisions about pesticides and other pest deterrents. The network also educates agricultural producers on ways to protect the natural enemies of pests.

Moreover, the network forecasts pest levels for the next growing season based on data analyzed over the winter.



Bertha adult moth

These predictions are published on the [PPMN](#) website and that of provincial canola growers by January every year. This allows farmers to make decisions about which crops to plant based on infestation cycles. Farmers might also prefer to adjust their planting schedules in order to avoid certain insect pests; for example, if wheat is planted early enough, it may already be past the flowering stage when wheat midge emerge, thereby preventing damage.

DID YOU KNOW?

According to preliminary counts from traps set for the Bertha armyworm, producers will be able to breathe a little bit easier in the summer of 2014 in their struggle against this pest — except for those from Saskatchewan. The network of traps indicated that Bertha armyworm populations started to decrease in parts of the prairies in 2013, except for in Saskatchewan.

The PPMN evolved over the years and, with the help of the PMC, put more emphasis on reducing pesticides and monitoring more pests and beneficial insects. For example, in 2013, the network started collecting counts of insects caught in traps set for the Bertha armyworm, one of the most significant insect pests of canola in Canada. While this pest prefers canola, it also feeds on rapeseed, mustard, alfalfa, flax, field peas and potatoes. The insect traps results will be analysed to see if the numbers are high enough to cause economically significant damage to crops. Producers will then be able to prioritize their field inspections based on the level of risk in their region, adjust their monitoring and take whatever control action needs to be taken.

Additionally, the monitoring program promotes the tracking and preservation of beneficial insects, such as ladybugs and certain flies, spiders and mites that are already in the field working to protect Prairie crops. Adherence to economic thresholds when applying pesticides not only protects crop yields, but also protects the beneficial insects.



Green lacewing *Chrysoperla carnea* larva eating an English grain aphid
Photo credit: T. Wist

New Generation of Thresholds Key to Even Better Pest Control Decisions

At what point, exactly, should a producer spend time and money controlling a specific bug in his fields? Thresholds are the answer. Developed for several crops, thresholds are the most widely used index in making pest management decisions. They indicate the point at which management action must be taken to prevent financial losses caused by pests.

DID YOU KNOW?

Economic threshold (sometimes called action threshold): Point at which pesticides must be sprayed in order to prevent financial losses. This point may be determined by the number of insects per trap or per specified sampling unit. Below the threshold, the cost of applying a pesticide is greater than the potential yield losses.

Revised thresholds for Lygus bugs in canola production

Dr. Hector Carcamo, research scientist at Agriculture and Agri-Food Canada's [Lethbridge Research Centre](#) and his team are helping to reduce use of insecticides on canola.

Canola is a very valuable Canadian crop that generates more than \$15 billion a year. To protect the yield, producers often err on the side of caution and use the protection methods at their disposal — insecticides. However, with access to proper information, they could reduce their pesticide sprays without fearing for their crops. **The reduced use of insecticides helps to protect the environment and beneficial insects, and saves money for the producer.**

One of the worst canola pests is the Lygus bug. Producers have traditionally managed this insect based on the economic thresholds established in the 1990s for much earlier-maturing canola cultivars.



English grain aphid family on barley head

Now, Dr. Carcamo and his team are reviewing these thresholds to reflect the climatic and environmental conditions specific to Alberta, the biology of the Lygus bug (which differs from region to region within Alberta), and the currently used canola cultivars. This will give canola growers a much more accurate way of knowing whether insecticide spraying is warranted, thereby enabling them to reduce application frequency.

Dynamic action threshold for aphid management

Aphids, small sap-sucking insects and a serious pest on many cultivated plants, occasionally cause costly damage to cereals crops. Their populations sometimes seem to collapse on their own, but that does not happen every time, and producers cannot take any chances when it comes to protecting their crops.

It is possible, however, to reduce the use of pesticides by gaining a better understanding of aphid management. Research scientists led by Dr. Chrystel Olivier at Agriculture and Agri-Food Canada's [Saskatoon Research Centre](#) are studying how parasitoids and predators suppress aphids.

DID YOU KNOW?

A parasitoid kills its host, unlike a parasite, which uses the host without killing it. A predator, on the other hand, attacks and feeds on other insects. Both lend a hand in controlling aphid populations.

The scientists will use the results to develop a tool they call the “dynamic action threshold,” which will help producers to ensure they are treating their fields only when necessary.

The PMC also supported a project at the University of Guelph where researchers developed a similar threshold, [sustainable management of the soybean aphid](#) saving producers \$20 to \$30 per acre. The purpose of the current project is to teach producers and farm advisors how to use the tool and educate them on the protection of natural enemies, which can do the work of suppressing aphids for them.



The War of the Fungi

In Canada, the estimated losses to wheat yield caused by Fusarium head blight (FHB) since the 1990s are \$1.5 billion, and the rate of infection continues to climb. It is the biggest disease threat to Canada's most valuable agricultural export, a crop that generates close to \$5.4 billion in revenue every year. Infection of wheat by *Gibberella zeae* (syn. *Fusarium graminearum*), a fungus pathogen, causes reductions in grain yield, and contamination by mycotoxins, such as deoxynivalenol (DON), reduce its value and pose a risk to animal and human health.

While FHB-resistant varieties are slowly becoming available to growers, in most wheat-producing regions, this disease is controlled by the application of fungicides to maintain yield and quality. However, for years, scientists have been researching replacement methods that are more environmentally sustainable. They are developing an integrated approach to help farmers reduce FHB development in their crops by using a variety of management practices such as crop rotation, seed quality, stubble management and use of more resistant varieties.

In 2006, plant pathologist Dr. Allen Xue, an Agriculture and Agri-Food Canada (AAFC) research scientist at the [Eastern Cereal and Oilseed Research Centre](#) (ECORC), presented another possible control option: *Clonostachys rosea* strain ACM 941, a fungal mycoparasite isolated from field pea leaves, another major crop in Manitoba. It attacks the fungus and provides protection against pathogens such as *F. graminearum*.

Stakeholders worked together to make this promising discovery into a viable biofungicide. Pesticide Risk Reduction Program (PRRP) strategy and biopesticide coordinators have been working with AAFC researchers since 2007 on the registration and commercialization of this novel product to control FHB.

Thanks to funding support from the PRRP, AAFC scientists, with colleagues from Cornell University and the product manufacturer, successfully demonstrated the effectiveness of ACM 941 and its formulations in accordance with

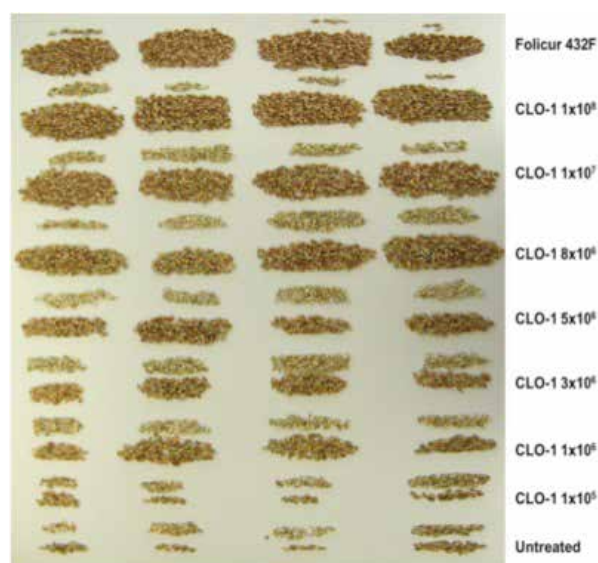
DID YOU KNOW?

Under its Biopesticides Initiative, the PMC has made 20 product submissions to Health Canada's PMRA, many of which were first-time or "Category A" submissions (new active ingredients or a new use-site category to the use pattern for a specific registered active ingredient). More than 220 new uses have been registered for 16 products.

the requirements of Health Canada's Pest Management Regulatory Agency (PMRA). The team developed five formulations containing ACM 941 for further testing.

In 2010, at the **first Biopesticides Priority Setting Workshop**, wheat producers and other stakeholders selected the product as the most promising priority solution for **Fusarium head blight management**. The Pest Management Centre facilitated the pre-submission consultation for a joint registration for ACM 941 with the United States Environment Protection Agency (EPA) and the PMRA.

The next step is commercializing this biocontrol agent and making it readily available to producers.



Comparative productivity of wheat treated against *Fusarium graminearum*: From top to bottom, with traditional fungicide, with decreasing concentrations of the new biological product, and without treatment.



Our Crunchy Orange Friends Benefit from Fewer Pesticides

It is possible to reduce the amount of herbicide applied by two thirds without affecting the production of marketable carrots. It is simply a question of spraying only where there are carrots! Referred to as herbicide banding, the herbicide is sprayed directly over the rows of carrots, rather than employing a conventional broadcast application that blankets the entire field with herbicides. Weeds in the spaces between rows can be removed by mechanical cultivation.

This may seem logical in theory, but it still had to be proven in the field! The Pest Management Centre's (PMC's) Pesticide Risk Reduction Program supported both experimental testing and commercial field testing.

During the experimental trials conducted from 2007 to 2009 at Agriculture and Agri-Food Canada's [Crops and Livestock Research Centre](#), Harrington Research Farm, in Prince Edward Island, a combination of direct herbicide spraying and mechanical cultivation eliminated over 99% of weeds. The banded plots provided total and marketable yields comparable to those treated with broadcast applications.

Encouraged by these extremely positive results, the PMC conducted two demonstration trials at two commercial farms that produce carrots on Prince Edward Island in 2010 and 2011. The spray equipment was modified fairly easily. The regular nozzles were replaced with flat fan nozzles and positioned to spray directly over each row, while the excess nozzles were plugged.

Results from the commercial demonstrations were consistent for both years as well as with those obtained from previous experimental work. **There was actually an increased marketable weight and increased number of medium carrot roots produced using the banded technology compared with broadcast herbicide application.** Average marketable carrot yield with herbicide banding was 52.9 tonnes per hectare compared with 50.4 tonnes per hectare

for the broadcast application. Weeds were well controlled in all tests.

There are several benefits to banding:

- fewer pesticides to purchase: savings of up to \$9 per hectare, including cultivation
- fewer pesticides in the environment
- relative ease of application
- reduced weed resistance to herbicides
- transferable to organic production

The work was carried out as part of a Pesticide Risk Reduction Program action plan aimed at implementing the [Reduced-Risk Strategy for Integrated Weed Management in Field Vegetables](#). For more details, please see the [Banding Herbicides in Carrot Production](#) factsheet.

DID YOU KNOW?

Reduced risk technologies, developed with support from the PMC, have garnered international attention. For example, the [Carrot Foliage Trimmer](#), which is being adopted by growers worldwide, can reduce Sclerotinia rot in carrots — a major concern in Canada, the United States and Europe — by up to 80 percent and is a simple way to reduce pesticide use in carrot production.





Wasabi

Field Guide on Pests and Beneficial Insects in Field Crops in Western Canada

It is very difficult for producers to make any pest management decisions unless they know exactly what insects they are dealing with. Is the ladybug a beneficial insect or an invasive pest? Is this bug the harmful kind that feeds on plants or the beneficial kind that preys on insect pests? Until now, the only tools at producers' disposal were their own experience and a field guide published in 1989.

Erl Svendsen, Senior Specialist in Knowledge and Technology Transfer and Dr. Owen Olfert, Research Scientist at the [Saskatoon Research Centre](#) started upgrading the Insect Pests of the Prairies field guide by adding information gathered over the past 25 years on new pests and pest management technologies. The illustrated guide for pest management in field crops will consolidate up-to-date information about the identification, biology, monitoring and management of key economically important crop and forage insect and mite pests and their associated enemies (i.e. crop beneficials: natural and/or introduced enemies, predators and parasitoids). The inclusion of biological and other non-chemical approaches in current pest control programs can help minimize losses due to pest damage while reducing risks of pesticide use to pollinators, parasitoids and other important beneficial organisms present in the crops. The updated guide is expected to be released in March 2015.

Minor Use Pesticides Program Closes Technology Gap for Growers

More than 10 years ago, when Agriculture and Agri-Food Canada (AAFC) announced the establishment of the Minor Use Pesticides Program (MUPP), horticultural and special crops producers hoped for access to the newer and better crop protection that their US competitors were already using. Over the past decade, the program has helped Canadian growers to access more and more of those tools and level the playing field.

To ensure good and consistent yields, growers of horticultural and special crops (such as hops) need pesticides just as much as the field crop producers do. However, for a long time they did not have access to the same range of pesticides specifically formulated for horticultural and speciality crops (also called minor use pesticides) as the producers in many other countries, especially in the US. Because the total acreage used for horticultural and speciality crops in Canada is relatively small, the registration of minor use pesticides proved cost-prohibitive for the manufacturers.

A big turning point was the launching of the MUPP, which was modelled after the United States Department of Agriculture's Interregional Research Project No. 4 (IR-4). An initial MUPP priority setting workshop brought together producers, producer associations, registrants and provincial specialists to prioritize and select projects for controlling the worst pests in the next year. Bringing people from industry and government together in the same room, as well as producers, and asking them to reach a consensus paid off in spades.



Ginseng



Mid-season hop from a MUPP extended grower site in Dunham, Quebec



For the past 10 years, the partners have come together every year to agree on a total of 37 priorities that include the 10 most harmful insect pests, 10 plant diseases, 10 weeds, 5 regional priorities and 2 organic production priorities. Occasionally, when there is no obvious solution to a new problem, several products can be screened.

The MUPP specialists at AAFC use various trials to determine the effectiveness of pesticides against each prioritized pest. These field, greenhouse, and/or growth chamber trials, coordinated through PMC headquarters in Ottawa, occur at seven research centres: Agassiz, British Columbia; Harrow, Ontario; Kentville, Nova Scotia; Saint-Jean-sur-Richelieu, Québec; Scott, Saskatchewan; Summerland, British Columbia; and Vineland, Ontario. Researchers also measure pesticide residues in crops; for example, a pesticide will react differently when applied to apples and raspberries.

To date, the MUPP has completed more than 950 projects and more than 1,200 new pesticide uses have been registered by Health Canada's Pest Management Regulatory Agency (PMRA).

Use of minor use pesticides is an international issue and cooperation among countries has grown substantially. Today, Canada and the United States have taken broader measures to reduce technology gaps and more closely align their regulatory systems. This will ensure that new products can be introduced on both sides of the border. This is great news not only for the producers in the two countries, who no longer risk seeing their products turned back at the border, but also for consumers, who can enjoy these products.



The new installation of poles in the hop field at the l'Acadie Experimental Farm, a satellite farm of Agriculture and Agri-Food Canada's St-Jean-sur-Richelieu research site

IMPORTANT DATES IN THE HISTORY OF THE MUPP

2003	The first priority-setting workshop
2004	First submission completed to register a minor use pesticide — for the control of Blossom Blight in coriander
2005	First minor use pesticide registered — for the control of Pythium Root Rot in turf
2008	The MUPP extended through the federal-provincial-territorial agricultural policy framework Growing Forward (2008–2013)
2009	250th submission completed to register a minor use pesticide
2010	500th new minor use of pesticides registered
2011	First "A" Priority without solution product registered for use, enabling growers to control two fungal diseases in lowbush blueberry
2012	New pesticide residues analysis lab, established at Vineland Research and Innovation Centre
2013	More than 950 projects undertaken and to date, 521 submissions for registration have been presented to the PMRA, 380 registrations received for 1,238 new uses



PMC Lab

Program Benefits from In-house Analytical Lab

There is a lot of research involved in registering a minor use pesticide. Once the pesticide is tested for its performance (efficacy) against a target pest in the field, greenhouse and/or growth chamber, the produce still needs to be analysed for post-harvest pesticide residue. Now, instead of relying on commercial laboratories, AAFC is providing this service in-house — and saving time and money in the process!

The efficacy tests have traditionally been performed by AAFC at sites across Canada, but until 2012, the produce samples were sent for residue chemical analysis to a limited number of commercial laboratories that perform this service in North America and follow Good Laboratory Practices (GLP). This resulted in the lab analysis process taking an average of 30 months to complete, which is twice as long as the process used by the Interregional Research Project No. 4 (IR-4) — the PMC's counterparts in the United States. Furthermore, a feasibility study found that the annual costs of hiring commercial labs were higher than what it would cost to manage a lab.

That is why the PMC opened an analytical chemistry lab at the Vineland Research and Innovation Centre in the Niagara Peninsula, in Ontario.



PMC Lab

Making a new lab from an old one

The new lab was built by renovating and remodelling an old Agriculture and Agri-Food Canada (AAFC) chemistry lab space. Renovating existing space rather than building a new lab from scratch resulted in further savings. Planning for the new lab focused on creating a space that would facilitate lab work, attract qualified scientists, and pass a GLP-accreditation inspection.

“We’re really excited about setting up and running our own lab,” says Helen Penny, the PMC’s Laboratory Services Manager who is serving as the lead on the service improvement project. “By leveraging existing space and equipment, we now have a state-of-the-art analytical chemistry lab that is staffed by specialized professional staff, meets our present needs and is capable of accommodating future demands.”

The new lab’s team expects to conduct 20 to 40 studies over the first two years of operation.

Any additional analytical studies will continue to be contracted out to commercial labs. However, after the first two years the PMC is planning to evaluate the possibility of conducting all residue analysis in-house. That will help to improve the regulatory submission schedules in Canada and shorten the time it takes for minor use pesticides to become available to producers.

To learn more, read the full article in [PMC’s newsletter \(Winter 2013\)](#).

DID YOU KNOW?

The expression good laboratory practice or GLP specifically refers to a system intended to promote the quality and validity of test data. It covers the organizational process and conditions under which studies are planned, performed, monitored, recorded and reported. For further information visit the Organisation for Economic Co-operation and Development’s [Good Laboratory Practice](#) page.

DID YOU KNOW?

Most of the new pesticide applications in North America are submitted to regulatory agencies in both Canada and the United States under the North American Free Trade Agreement (NAFTA) or Global Joint Reviews at the same time or within a similar timeframe, thereby increasing the competitiveness of Canadian growers.



Tell Us What You Think

Innovation Express is Agriculture and Agri-Food Canada's quarterly news magazine to promote research partnerships and technology transfer to organizations interested in agri-food research and development.

We welcome your comments and suggestions.

Contact us: innovation.express@agr.gc.ca

Electronic Distribution

Our science news magazine is on-line.

www.agr.gc.ca/innovationexpressmagazine

Sign-up for e-mail notification of new issues.

NEW – We're now on Twitter

mobile.twitter.com/AAFC_Canada

Follow AAFC on Twitter for news, interesting facts and links to resources.

© Her Majesty the Queen in Right of Canada, represented by the Minister of Agriculture and Agri-Food (2014).

Electronic version available at www.agr.gc.ca/innovationexpressmagazine

ISSN 1920-048X
AAFC No. 12232E

Paru également en français sous le titre *Innovation Express*

For more information, reach us at www.agr.gc.ca or call us toll-free at 1-855-773-0241.