



Agriculture and
Agri-Food Canada

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REPORT: Evaluation of the Minor Use Pesticides Program

Office of Audit and Evaluation

The AAFC Evaluation Committee recommended this evaluation report for approval by the Deputy Minister on May 28, 2013.

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EXECUTIVE SUMMARY

This evaluation examines the relevance and performance of the Minor Use Pesticides Program (MUPP). The MUPP is one of four initiatives of the Agricultural Regulatory Action Plan, a component of Growing Forward, Canada's agricultural policy framework. The Agricultural Regulatory Action Plan was designed to address regulatory pressures facing the agriculture and agri-food sector and to support the achievement of the Growing Forward strategic outcome of a competitive and innovative sector.

The evaluation was conducted by Agriculture and Agri-Food Canada's (AAFC's) Office of Audit and Evaluation in accordance with the Treasury Board Policy, Directives and Standards on Evaluation (2009). The evaluation was undertaken to inform program and policy development for Growing Forward 2, the next agricultural policy framework.

Background and Profile

Since at least the 1960s, Canadian producers, especially those in the horticultural and specialty-crop industry, have lacked access to the same range of pest control products as producers in the United States (US). Pesticide manufacturers have traditionally been unwilling to pursue minor use pesticide registrations because minor crops involve diverse pest control products and small acreages and it is perceived that the cost of registration could exceed potential profits. The MUPP was launched in June 2003 to increase producer competitiveness by supporting the availability of minor use pesticides in Canada. AAFC renewed its commitment to the program under Growing Forward in 2008.

The MUPP is delivered by the Pest Management Centre (PMC) of AAFC's Science and Technology Branch and the Pest Management Regulatory Agency (PMRA) of Health Canada. Specific activities include:

- Facilitating the identification and prioritisation of pest control product needs (AAFC);
- Facilitating literature searches, data generation, and outreach activities (AAFC);
- Compiling data, drafting reports and assembling regulatory submissions for minor uses of pesticides (AAFC); and
- Reviewing minor use pesticide regulatory submissions and making regulatory decisions (Health Canada).

For the period from 2008-2009 to 2011-2012, MUPP expenditures totaled \$25.1 million for PMC and \$12.0 million for PMRA. AAFC transferred funding for the MUPP to Health Canada via a Memorandum of Understanding (MOU), which defines the funding agreement, roles and responsibilities, performance indicators, and reporting structures for the program.

As part of AAFC's Program Activity Architecture, the MUPP comprised the Sub-Activity of Pest Management (2.4.1) under the Program Activity of Regulatory Efficiency Facilitation (2.4). The MUPP supported AAFC's strategic outcome of "a competitive agriculture, agri-food and agri-based products sector that proactively manages risk."

Evaluation Scope and Methodology

The evaluation examined the MUPP's relevance and performance for the period from 2008-2009 to 2011-2012. Consistent with the provisions of the MOU which gave Health Canada responsibility for evaluating the parts of the initiative delivered by PMRA, the evaluation focused primarily on the MUPP components delivered by AAFC's PMC.

Quantitative and qualitative data were collected through the following lines of evidence: a document review; program performance and financial data; key informant interviews (n=22); an online survey of program stakeholders (n=247); and case studies of two minor use pesticide projects (Ripcord on grapes and Allegro on carrots).

Key Findings

Minor use pesticides are important to the competitiveness and environmental sustainability of the agricultural sector. The MUPP helps to address an ongoing need for grower access to minor use pesticides that is not filled by the provinces and industry. Without support for minor use pesticide registrations, the Canadian sector would be at a competitive disadvantage, particularly with the United States where a similar government program, the Interregional Research Project Number 4 (IR-4), has existed since the 1960's. The program is aligned with federal priorities and the AAFC strategic outcome of a competitive agriculture, agri-food and agri-based products sector that proactively manages risk.

The MUPP has substantially increased the availability of new minor uses of pesticides in Canada. The program consistently exceeded both its target number of annual minor use registration submissions by PMC, and the target number of submissions reviewed by PMRA. From 2008-2009 to 2011-2012, a total of 1,439 minor uses were registered through the MUPP. This has helped to narrow the longstanding "technology gap", or the gap in availability of minor use pest control products, between Canada and the US. In addition, the program has supported significant harmonization activities between Canada and the US, which improve the timeliness and cost-effectiveness of minor use pesticide registrations. Through increasing the number of minor uses available to growers, the program is contributing to improved crop protection practices and pesticide resistance management.

PMC has seen improvements in its operations and capacity during Growing Forward, including increased capacity and improvements to internal management processes. The overall governance structure for the MUPP, including the MOU and Joint Management Committee (JMC) between AAFC and Health Canada, was found to be effective in ensuring accountability and the achievement of results.

The evaluation identified the following areas requiring attention:

- Performance measurement and reporting would have benefitted from a stronger focus on outcomes. Reporting to the JMC was output- and activity-based, and the

program has not completed an assessment of the impact of the program on the Canadian economy.

- There remains a sizeable backlog of projects at PMC that were identified as priorities during the early years of the program. While it typically takes four years to complete projects, at the time of the evaluation, PMC had yet to complete projects for 67 priorities identified prior to 2009 (or 14% of priorities from 2003 to 2008). Some of these may no longer be industry priorities due to, for example, changing pest conditions and new pesticides.
- While the industry-driven annual workshop facilitated by PMC to prioritise pesticide registration projects is generally viewed favourably, there were some concerns that some growers, particularly those of micro-crops, may not receive an equitable share of priorities. Further, given the emphasis on international regulatory harmonization, some stakeholders identified the potential for increased integration of IR-4 in the priority-setting process.
- PMC lapsed 21% of its funds during Growing Forward (ranging from 13% to 27% of annual budgets lapsed). The program indicated that unforeseen delays in expenditures related to conducting field trials was a primary reason for funds being lapsed.

Recommendations

The evaluation identifies the following four recommendations:

Recommendation #1:

PMC should work with the Research and Analysis Directorate to:

- Quantify the economic impact of the MUPP on the Canadian economy by Year Two of Growing Forward 2.

Recommendation #2:

PMC should:

- Develop and implement service standards for the development of minor use pesticide submissions.

Recommendation #3:

PMC should:

- Develop and implement a process for addressing projects that are older than five years by either completing the submissions or deciding not to proceed with a submission.

Recommendation #4:

PMC should work with stakeholders to:

- Examine the project selection process to ensure that it is designed to respond to the current and future needs of PMC and its stakeholders, and report back to senior management in Science and Technology Branch on its assessment.

LIST OF ACRONYMS

AAFC	Agriculture and Agri-Food Canada
ADM	Associate Deputy Minister
EPA	Environmental Protection Agency
GLP	Good Laboratory Practices
FTE	Full Time Equivalent
IR-4	Interregional Research Project Number 4
JMC	Joint Management Committee
MOU	Memorandum of Understanding
MUPP	Minor Use Pesticides Program
OAE	Office of Audit and Evaluation
NAFTA	North American Free Trade Agreement
OECD	Organisation for Economic Co-operation and Development
PMC	Pest Management Centre
PMRA	Pest Management Regulatory Agency
RCC	Regulatory Cooperation Council
US	United States

1.0 INTRODUCTION

The Office of Audit and Evaluation (OAE) of Agriculture and Agri-Food Canada (AAFC) conducted an evaluation of the Minor Use Pesticides Program (MUPP) between March and November 2012. The MUPP is one of four initiatives of the Agricultural Regulatory Action Plan, a component of Growing Forward, Canada's agricultural policy framework. The Agricultural Regulatory Action Plan was designed to address regulatory pressures facing the sector, and support the Growing Forward strategic outcome of a competitive and innovative sector. With Growing Forward set to expire at the end of 2012-2013, the evaluation was undertaken to inform program and policy development for Growing Forward 2, the next agricultural policy framework.

This report includes the findings, conclusions and recommendations related to the MUPP. A separate evaluation report has been prepared for the other three initiatives under the Agricultural Regulatory Action Plan, which include initiatives related to:

- Health Claims, Novel Foods and Ingredients;
- Food Fortification; and
- Veterinary Drugs.

1.1 EVALUATION SCOPE

As per the Treasury Board Directive on the Evaluation Function, the evaluation examined the evaluation issues of relevance and performance. Related to relevance, the evaluation examined: continued need for the program; appropriateness of federal roles and responsibilities; and alignment with federal government priorities and departmental strategic outcomes. Related to performance, the evaluation examined the extent to which the program achieved its expected outcomes and demonstrated efficiency/economy. In addition the evaluation also examined the effectiveness of the program's governance structure in facilitating accountability and achievement of results.

Consistent with the provisions of the Memorandum of Understanding (MOU) which gave Health Canada responsibility for evaluating the parts of the initiative delivered by its Pest Management Regulatory Agency (PMRA), the evaluation focused primarily on the MUPP components delivered by AAFC's Pest Management Centre (PMC). The evaluation did include information, based on performance reporting and a small number of interviews with Health Canada officials, on the outcomes achieved by the PMRA. The evaluation examined the period from 2008-2009 to 2011-2012.

1.2 EVALUATION APPROACH AND METHODOLOGY

The evaluation used a non-experimental design, incorporating both quantitative and qualitative data to address the evaluation issues. The evaluation included multiple lines of evidence:

1. Document and Data Review

A document review provided information on program design and delivery and helped to assess the program's alignment with departmental strategic outcomes and federal priorities. The document review also provided information on the achievement of results. The review was comprised of program documentation, including the MOU and performance reports, Joint Management Committee (JMC) reports, project descriptions, copies of submissions made to PMRA, and foundational documents. An analysis of financial data was also undertaken to examine program budgets and expenditures.

The "Summative Evaluation of the Building Public Confidence in Pesticide Regulation and Improving Access to Pest Management Products Horizontal Initiative", a 2010 horizontal evaluation that included the MUPP, was an important source of background information, and its stakeholder survey was used as a baseline in the current evaluation.

2. Key Informant Interviews

Interviews with key stakeholders from government, industry and academia provided information related to all evaluation questions. A total of 22 interviews were completed, including eight program officials (five from AAFC and three from Health Canada), and 14 other stakeholders (including three grower representatives, three pesticide manufacturer representatives, three officials from provincial governments involved in the program, two members of the United States (US) government's Interregional Research Project Number 4 (IR-4), and three external experts from academia and industry).

Interviewees were selected by OAE to represent a wide cross-section of perspectives on the program from across Canada. External stakeholders were also selected to include experts who were not currently program beneficiaries or involved in program delivery, in order to obtain more neutral perspectives on the program.

3. Stakeholder Survey

OAE conducted an online survey of PMC's listserv subscribers in October 2012. The survey collected information on stakeholders' satisfaction with the MUPP; their views on the regulation of pesticide uses in Canada; perceived program impacts; and suggestions for improving the program. The survey was emailed to 1,144 stakeholders, with a total of 247 stakeholders completing the survey. Survey respondents included representatives of federal and provincial governments, grower associations, growers, pest control product manufacturers, academia and consultants. The response rate of 22% is comparable to other online surveys of this type.

4. Case Studies

To examine in more detail the performance of the MUPP, OAE conducted case studies of two minor use pesticide projects: Ripcord (cypermethrin) for the control of Multi-coloured Asian Lady Beetles on grapes; and Allegro (fluazinam) for the control of white mold

(sclerotinia) on carrots. The case studies were selected by OAE to include different types of crops and pesticides, and to involve projects that included residue and efficacy trials. Further, in one case the submission research was undertaken in collaboration with IR-4, while the other was completed by PMC alone. Each case study included a review of relevant documentation and interviews with AAFC, Health Canada and industry stakeholders knowledgeable about the project.

1.3 METHODOLOGICAL CONSIDERATIONS

There are three methodological limitations to note when reading this report. Table 1 below details the limitations, OAE's mitigation strategy for each, and the impacts on the evaluation.

Table 1: Methodological Limitations of the Evaluation		
Limitation	Mitigation Strategy	Impact on Evaluation
The program has collected data on the production of outputs, but program data on the achievement of outcomes were not available.	OAE conducted a stakeholder survey to collect data on achievement of outcomes.	Outcome data are based on the perceptions of a sample of program stakeholders only.
The extent to which the stakeholder survey data are representative of the views of all program stakeholders is not known.	OAE conducted interviews and case studies in order to collect stakeholder perspectives from other sources of data in addition to the stakeholder survey, and survey results have been compared with those of the BPC Initiative survey in order to put these results into a broader perspective.	Stakeholder survey results may not be representative of stakeholders generally, and should not be seen as conclusive.
No ability to calculate the full impact of the program on the Canadian economy.	Stakeholder estimates of the financial impact of the program on their operations or their members' operations were collected through the stakeholder survey.	Limited financial impact data presented in the evaluation, and no overall assessment of the economic impact of the program on the Canadian economy.

2.0 PROFILE OF THE MINOR USE PESTICIDES PROGRAM

2.1 BACKGROUND

Since at least the 1960's, Canadian producers, especially those in the horticultural and specialty-crop industry, have not had access to the same range of pesticides as producers in the US. This was especially true for producers of minor crops, which include crops other than wheat, canola, barley, soybean and corn. Pesticide manufacturers have been traditionally unwilling to pursue minor use pesticide registrations because minor crops involve diverse pest control products and small acreages and the cost of registration could exceed potential profits from the uses.

As a result, the MUPP was launched in June 2003 to increase producer competitiveness by increasing the availability of minor use pesticides in Canada. The MUPP was a component of the Agricultural Policy Framework, the first comprehensive federal and provincial/territorial policy and program framework for the agricultural sector.

An evaluation of the MUPP was completed in 2010 as part of a broader evaluation of the Building Public Confidence in Pesticide Regulation and Improving Access to Pest Management Products Horizontal Initiative, led by PMRA. That evaluation examined pest management-related initiatives of six federal departments during the period from 2002-2003 to 2007-2008. The evaluation concluded that the MUPP had increased the availability of minor use pesticides for the agricultural sector, but that Canadian producers continued to feel they were at a competitive disadvantage relative to their US counterparts in this respect.

Similarly, during AAFC consultations with industry prior to the development of Growing Forward, stakeholders gave positive feedback on the activities of the MUPP, but felt there was a continued need for the program to support greater access to pest control products. As a result, AAFC renewed its commitment to the MUPP under Growing Forward.

The objective of the MUPP is to provide benefits to Canadian producers, the environment, and consumers by:

- Making minor use pesticide products, with emphasis on reduced-risk products, more readily available; and
- Providing Canadian producers with access to new pest-management technologies to improve their competitiveness domestically and internationally.

As part of AAFC's Program Activity Architecture, the MUPP comprises the Sub-Activity of Pest Management (2.4.1) under the Program Activity of Regulatory Efficiency Facilitation (2.4). The MUPP supports AAFC's strategic outcome of "a competitive agriculture, agri-food and agri-based products sector that proactively manages risk."

2.2 DESIGN AND DELIVERY

The MUPP is comprised of several major activities delivered by AAFC's PMC and Health Canada's PMRA.

Identification and Prioritization of Minor Use Pesticide Needs (AAFC)

PMC facilitates an industry-driven process by which priorities for minor use pesticide projects are identified and prioritized.

Producers and producer groups in each province meet annually with their provincial minor use coordinator to identify and prioritize the major pest problems in their regions. These problems are then matched with potential pesticide solutions, to produce provincial priority lists. PMC then combines these lists into a national list, which is used at a national AAFC Minor Use Pesticide Priority-Setting Workshop to develop national priorities. PMC organizes this annual workshop each spring. The workshop includes representatives from a broad range of stakeholder groups including producers, the pesticide industry, crop specialists, as well as representatives from PMRA, IR-4 and provincial and federal governments. The workshop, which is typically three days in duration, selects priorities by consensus according to specific categories.¹

National priorities selected through the workshop are compared with those of the IR-4, which undertakes its own annual prioritization process. Where there are common priorities, PMC and IR-4 identify opportunities for collaboration and work-sharing.

Conducting Data Collection and Analysis and Preparing Submissions to PMRA (AAFC)

Once national priorities are established, PMC, in consultation with industry and government partners, undertakes to:

- Obtain formal manufacturer support for the proposed minor uses;
- Prepare documentation to determine data requirements for new registration submissions;
- Conduct field trials on residue and efficacy, through private contractors and AAFC research sites;
- Conduct laboratory analysis of field trial results through private labs and PMC's own laboratory in Vineland, Ontario; and
- Provide quality assurance for data generation and, where applicable, integrate data with those of the IR-4 program.

¹ At present, approximately 47 new projects are selected each year, which include 10 projects for each pest category (pathology, insects and weeds), plus five projects for localized micro-uses, two for the organic industry, and six product screening trials (i.e., projects for cases where there is no known pesticide solution to a pest problem).
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Based on field trial data and laboratory analysis, PMC prepares submissions to PMRA to support the registration of new pesticide minor uses. Data collection, analysis and the preparation of the submission typically takes four years to complete, depending on the duration of field trials.

Review of Submissions (Health Canada)

PMRA is responsible for administering the *Pest Control Products Act*, which regulates pesticides in Canada. Under the MUPP, AAFC transfers funds to PMRA to support the review of minor use pesticide submissions and a decision on whether or not to accept the minor use in Canada. PMRA bases its decision on whether the product demonstrates merit and value, and whether the risks to human health and the environment can be appropriately managed. Under the MUPP, PMRA waives the fees it normally charges industry for reviewing pest control product applications, for the right or privilege to manufacture or sell a pest control product in Canada, and for establishing a maximum residue limit in relation to a product.

Annex B includes an illustration outlining the steps of the minor use pesticide registration process.

In addition to the MUPP, PMC and PMRA also jointly deliver the Pesticide Risk Reduction Program, which is designed to improve grower access to low-risk, environmentally and economically sustainable pest control tools and practices for both minor and major crops.² This program is funded and managed separately from the MUPP.

2.3 GOVERNANCE

An MOU between AAFC and Health Canada of April 2009 outlines the governance structure for the MUPP, including roles and responsibilities, reporting structure, and a performance measurement strategy.

The MUPP is managed by an Interdepartmental Working Group comprised of members of PMC and PMRA. The Working Group reports semi-annually to the Director General-level Joint Management Committee (JMC) which, in turn, reports semi-annually to Assistant Deputy Ministers (ADMs) at both AAFC and Health Canada. The ADMs report each February to their respective Deputy Ministers to allow time for the transfer of resources from AAFC to Health Canada for the following fiscal year.

PMC was situated within Farm Financial Programs Branch during Growing Forward until 2012, at which point it was transferred to AAFC's new Science and Technology Branch as part of a wider departmental reorganization.

AAFC's Food Regulatory Issues Division of the Market and Industry Services Branch oversaw the coordination of the three other initiatives of the Agricultural Regulatory Action

² The Risk Reduction Program is funded separately from the MUPP with A-base funding from the Building Public Confidence in Pesticide Regulation and Improving Access to Pest Management Products Horizontal Initiative AAFC/AAC-#3883340-V5-2012-13_OAE-EV_-_Report_-_EVALUATION_OF_THE_MINOR_USE_PESTICIDES_PROGRAM_(English)_191749.DOCX

Plan within AAFC and prepared the annual reports for the Deputy Minister on all initiatives, including the MUPP.

2.4 RESOURCES

For the period from 2008-2009 to 2011-2012, PMC expenditures for the MUPP totaled \$25.1 million. Since the signing of the MOU between AAFC and Health Canada in April 2009, \$4.0 million in annual funding for PMRA has been transferred from AAFC to Health Canada in the Supplementary Estimates process for the MUPP. In total, for the period from 2008-2009 to 2011-2012, \$37.1 million has been expended for the MUPP through Growing Forward, as shown in Table 2. All funding was for salary and operations (Vote 1).

Table 2: Expenditures for MUPP* – 2008-2009 to 2011-2012 (\$ millions)					
	2008-2009**	2009-2010	2010-2011	2011-2012	Total
Pest Management Centre – AAFC	6.3	6.8	6.1	5.9	25.1
Pest Management Regulatory Agency – Health Canada	--***	4.0	4.0	4.0	12.0
Total	6.3	10.8	10.1	9.9	37.1

Source: AAFC

* Does not include the costs associated with AAFC staff support for the MUPP in Research Centres, which is covered by A-base departmental funding

** 2008-2009 funding was provided through the Continuity Year prior to the finalization of Growing Forward

*** Prior to 2009-2010, PMRA's MUPP funding was a component of Health Canada's funding allocation under the BPC Initiative.

Table 3 presents the number of Full Time Equivalents (FTEs) at PMC that deliver the MUPP, by year. As shown, the number of staff grew from 21.0 in 2008-2009 to 34.4 in 2012-2013. These FTEs do not include AAFC staff at Research Centres who supported the MUPP through conducting field studies, who were not funded under Growing Forward but through A-base funding.

Table 3: Number of PMC Full Time Equivalents (FTEs) for the MUPP – 2008-2009 to 2012-2013	
Year	FTEs
2008-2009	21.0
2009-2010	27.4
2010-2011	33.1
2011-2012	33.9

2012-2013	34.4
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Source: AAFC

In addition, according to Health Canada, MUPP funding has been used to employ 25 FTEs involved in the review of minor use pesticide regulatory submissions at PMRA and associated activities for the MUPP.

3.0 EVALUATION FINDINGS

3.1 RELEVANCE

The evaluation examined the relevance of the MUPP by assessing the continued need for the program; the appropriateness of the federal role in the program; and the alignment of the program with federal priorities and AAFC strategic outcomes.

3.1.1 Minor use pesticides are important to supporting the competitiveness and environmental sustainability of the Canadian agricultural sector. The MUPP fills an ongoing need for grower access to minor uses of pest control products.

Importance of Minor Uses of Pesticides

Minor uses of pesticides help to support the competitiveness of minor crops, a significant part of the agricultural sector in Canada. Minor crops include fruits, vegetables, herbs and spices, and ornamental trees and plants, as well as minor grains, oilseeds and pulses. In 2011, minor crops accounted for \$9.3 billion in farm cash receipts, representing 37% of all Canadian crop sales in that calendar year.³ Farm cash receipts for minor crops increased by 38% between 2002 and 2011, demonstrating the robustness of this part of the sector. Moreover, the agricultural industries of some regions, including the Maritimes and British Columbia, are heavily dependent on minor crops.

Grower access to a variety of pesticides is critical to the sector. Producers face an ongoing need to protect their minor crops against both recurrent pest problems and new invasive species of pests resulting from climate change and other ecological changes. Access to a variety of pesticides supports innovation in the sector by supporting crop diversity and the introduction of new crops in Canada. Interviews indicated that increasing the number of registered minor uses of pesticides may also have the effect of reducing illegal (or “off-label”) pesticide use, whereby producers apply pesticides for unregistered uses in the absence of legal options.

³ Statistics Canada. Farm cash receipts are based on the year that the agricultural products were sold, regardless of when they were produced.
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Increasing access to new minor uses also has environmental benefits. Having multiple pest control solutions for a pest helps growers to manage the risk of crops developing pesticide resistance, as growers can rotate and vary the pesticides they apply to their crops. Pesticides have also evolved over the years to become more environmentally friendly; replacing older, less environmentally friendly pesticides with new pesticides supports the environmental sustainability of agriculture. Finally, supporting minor crops helps to promote increased local food production, which has environmental benefits associated with reduced transportation.

Need for Government Support for Minor Use Pesticides

While pesticides are critical for minor use crops, there is often no economic incentive for pesticide companies to generate the scientific data and develop a submission to register a minor use. This can be true for pesticide uses for minor crops, or, less frequently, minor uses for major crops (i.e., to eliminate major crop pests that are comparatively rare or uncommon, or which are found in localized geographic areas). Before a pesticide can be used on a crop, it must be registered for that use by Health Canada. PMRA requires sufficient scientific evidence to assess the merit and value of the use. High costs are associated with pursuing the registration of a new use. If a pesticide manufacturer is not likely to see a return on its investment of time and resources in registering a new minor use, it will not proceed in developing a submission. The relative size of the Canadian market is also a factor: for multinational pest control product manufacturers, Canada accounts for less than 3% of world pesticide sales, of which sales of minor uses comprise a very small proportion.

Without government support for registering minor uses of pesticides, the Canadian agricultural sector would be at a competitive disadvantage internationally, especially with the US. The MUPP was implemented in 2003, whereas the US has had its equivalent program, the IR-4 of the US Department of Agriculture, since the 1960s. According to stakeholders interviewed for the evaluation, notwithstanding the activities of the MUPP, there are still numerous minor uses registered in the US that are not registered in Canada. One provincial government stakeholder calculated that, in 2010, Canadian growers had access to just two-thirds of the relevant reduced risk pesticides that were available in the United States. The MUPP helps to reduce the technology gap between the agricultural sectors of the two countries.

The need for new registered minor uses is further exacerbated by the re-evaluation process routinely undertaken by PMRA of older pesticides. PMRA undertakes an assessment of pest control products that have been registered for 15 years, reassessing 10 uses per year. This has resulted in many older uses being de-registered or entire products being removed from the market. In some cases, there are no alternative uses available for growers. As a result, there is an ongoing need for new minor use registrations to replace solutions being eliminated through re-evaluation.

The evaluation found a virtual consensus among interviewed and surveyed stakeholders that Canadian growers continue to need access to new minor uses of pest control

products. Ninety-eight percent (98%) of surveyed stakeholders (with an opinion) felt that it was “very important” for Canadian growers to have access to new minor uses of pest control products. Similarly, 96% of surveyed stakeholders disagreed that growers had access to all the minor uses of pest control products that they need.

Case studies undertaken for this evaluation demonstrated the importance of minor use pesticides on specific crops. For example, the losses from white mold on carrots in Prince Edward Island were estimated to have been \$500,000 in 2006 and \$350,000 in 2007, or approximately 10 to 15 percent of the total value of carrots in that province. Similarly, a few Multi-coloured Asian Lady Beetles can cause a load of grapes to be rejected by a wine producer, costing a farmer tens of thousands of dollars.

In conclusion, supporting grower access to a variety of minor use pesticides is important to the competitiveness and environmental sustainability of the Canadian sector. Continued government support for registering minor uses of pesticides is needed.

3.1.2 The federal role in the Minor Use Pesticides Program is appropriate, and fills a gap not filled by the provinces or industry. The program is aligned with federal priorities and the departmental strategic outcome of competitiveness.

Appropriateness of Federal Role in MUPP

Similar to the support provided to American growers by the US government through the IR-4 program, the Canadian federal government is well-positioned to facilitate grower access to minor use pesticides through the MUPP. The federal role in the MUPP is appropriate given the limited capacity of other stakeholders to support the development of minor use registration submissions that industry would not undertake on its own. To meet PMRA requirements, the residue data provided in minor use registration submissions must be collected through Good Laboratory Practices (GLP). Developed by the Organisation for Economic Co-operation and Development (OECD), GLP is a set of quality control principles to “ensure the generation of high quality and reliable test data related to the safety of industrial chemical substances and preparations”.⁴

Prior to the requirement for GLP-compliant residue studies, submissions to PMRA for minor use registrations were primarily developed by grower associations like the Canadian Horticultural Council, and provincial governments. Federal funding had been available through other programs like the Canadian Adaptation and Rural Development program, but this was sporadic and limited. In line with other OECD partners, PMRA harmonised requirements for GLP compliant studies in 1998 to facilitate the mutual acceptance of data. Provinces and grower associations did not have the capacity and resources, including GLP-certified project managers and the ability to undertake GLP-mandated

⁴ See the OECD website at: <http://www.oecd.org/chemicalsafety/testingofchemicals/goodlaboratorypracticeglp.htm>
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Quality Assurance audits, to develop submissions that involved collecting and analysing new residue data.

The lack of capacity among stakeholders to develop minor use registration submissions based on GLP compliant studies widened the existing gap in minor use pesticide registrations with the US. To fill this gap, the federal government launched the MUPP in 2003 under the Agricultural Policy Framework. While provincial governments continue to also develop submissions to PMRA, these submissions are those that do not require the collection and analysis of residue data.

AAFC has also been uniquely positioned to make use of the department's Research Centres, which have facilitated the collection of efficacy and residue data from different regional zones across Canada, a Health Canada requirement for regulatory submissions. For example, in 2012, field trial studies were undertaken on blueberries in Bouctouche, New Brunswick, on clover in Scott, Saskatchewan, and on cucumbers in Agassiz, British Columbia.

The role of the federal government in the MUPP is also appropriate given that it is able to participate in international activities to support regulatory harmonization and cooperation. These activities include the Regulatory Cooperation Council (RCC), which was established in 2011 between Canada and the US to better align the two countries' regulatory approaches in specific areas, including agriculture and food.⁵ Increasing the number of minor use pest control products is one of the RCC Action Items under its Crop Protection Products initiative. This work is being led by PMRA and the US Environmental Protection Agency (EPA), and has a number of key activities, including: encouraging joint submissions, joint guidelines for residue trials, and streamlining processes for joint minor use registration. PMC and IR-4 are also working through the RCC to align data collection processes and procedures for residue trials.

PMRA leads Global Joint Reviews through the OECD Pesticides Forum and the North American Free Trade Agreement (NAFTA) Technical Working Group on Pesticides. Global Joint Reviews involve international work-sharing and collaboration in pesticide registration reviews, which are increasingly being undertaken between OECD-member countries. PMC supports this initiative through collaboration with IR-4 and registrants to generate field trial data.

Alignment with Federal Priorities and Departmental Strategic Outcomes

The MUPP supports the federal priorities of innovation and economic growth outlined in Canada's Budget 2012.⁶ The program also supports the federal priority of regulatory streamlining, as evidenced by its selection as one of the areas participating in the RCC.

⁵ See Regulatory Cooperation Council website at: <http://actionplan.gc.ca/page/rcc-ccr/about-regulatory-cooperation-council>

⁶ Government of Canada. The Next Phase of Canada's Economic Action Plan – A Low Tax Plan for Jobs and Growth. <http://www.budget.gc.ca/march-mars-2011/plan/Budget2011-eng.pdf>
AAFC AAC-#3883340-V5-2012-13_OAE-EV_-_Report_-_EVALUATION_OF_THE_MINOR_USE_PESTICIDES_PROGRAM_(English)_191749.DOCX

The alignment of the program with federal priorities dates back to its initiation as a program designed to address gaps and stakeholder concerns outlined in the Report to the House of Commons Standing Committee on Agriculture and Agri-Food, Registration of Pesticides and the Competitiveness of Canadian Farmers (2002), and the Report to the Standing Committee on the Environment and Sustainable Development, Pesticides: Making the Right Choice for the Protection of Health and the Environment (2001). These concerns included the availability and access to minor use and reduced-risk pest management tools. Furthermore, the program is aligned with the 2012 Cabinet Directive on Regulatory Management and its predecessor, the 2007 Cabinet Directive on Streamlining Regulation, both of which were designed to promote a competitive market economy through an effective regulatory environment.

The MUPP is also aligned with AAFC's strategic outcome of "a competitive agriculture, agri-food and agri-based products sector that proactively manages risk." The key program rationale for the MUPP is the need for Canadian growers to remain internationally competitive, and the program was designed to help address the "technology gap" between Canadian growers and their American counterparts. In addition, the transfer of funding for the MUPP to Health Canada via the MOU ensured that PMRA had the capacity to undertake activities in support of AAFC and Growing Forward outcomes, and shared information on its work planning, and results achieved, on a regular basis.

In conclusion, the federal role in pursuing minor use registrations is appropriate in supporting the competitiveness of the agricultural sector. The MUPP is aligned with both federal priorities and departmental strategic outcomes.

3.2 PERFORMANCE - EFFECTIVENESS

The following section presents the evaluation findings related to the effectiveness of the MUPP.

3.2.1 The MUPP has increased the availability of new minor uses of pesticides to growers, which has contributed to increased competitiveness, improved crop protection practices, and better management of pesticide resistance.

Increase in Minor Uses Available to Canadian Growers

The MUPP has increased the number of new minor uses of pesticides available to growers. PMC exceeded its target number of minor use registration submissions to PMRA throughout Growing Forward. As shown in Table 4, the target numbers for PMC were 96 pre-submissions and 160 submissions for the first four years of Growing Forward. From 2008-2009 to 2011-2012, PMC submitted 129 pre-submissions and 229 submissions to PMRA. Health Canada has phased out the requirement for PMC to complete pre-submissions for many submissions due to PMC's proven understanding and compliance with PMRA's requirements.

PMRA also exceeded its target number of new minor use registration submissions reviewed. The target numbers for PMRA were 240 pre-submissions and 300 submissions reviewed for the first four years of Growing Forward. For the period from 2008-2009 to 2011-2012, PMRA reviewed 442 pre-submissions and 469 submissions.

Overall, the target of 680 new minor use registrations was surpassed by the MUPP, as 1,439 new minor uses were approved from 2008-09 to 2011-12.

Table 4: Performance Targets and Results 2008-09 to 2011-12			
PMC		PMRA	
Pre-submissions developed - target	96	Pre-submissions reviewed – target	240
Pre-submissions developed - actual	129	Pre-submissions reviewed – actual	442
Submissions developed – target	160	Submissions reviewed – target	300
Submissions developed – actual	229	Submissions reviewed - actual	469
PMC and PMRA			
Registered new minor uses – target		680	
Registered new minor uses - actual		1,439	

Source: AAFC and Health Canada

Interviewees noted that registration has become increasingly efficient through use of “crop grouping”, which allows the registration of minor uses for multiple crops through a submission for a broad category of crops (such as, for example, leafy greens, which covers celery, lettuce, spinach and other related vegetables). According to PMC, the use of crop groups has grown over the past four years and has helped to increase the speed and the number of new minor use registrations.

Further, harmonization efforts with the US have resulted in 87 new uses being registered through joint PMC-IR-4 projects (jointly reviewed by PMRA-EPA) since the program began. PMRA and the US EPA also completed 28 joint reviews of minor use submissions during the period from 2008-2009 to 2011-2012, exceeding the target of 12.

According to industry and government stakeholders, harmonization efforts are resulting in new minor uses being registered for Canada and the US at the same time, and new pest control products are often including minor uses on their labels from the outset as a result of NAFTA and Global Joint Reviews. Further, joint work to harmonize Maximum Residue Limits between the two countries is helping to reduce potential trade barriers.

Cooperation between PMC and IR-4 has been a key priority under Growing Forward, and the program has indicated that this work will continue in the future, as confirmed by an MOU signed between the two organizations. Interviews and case studies pointed to the successful working relationship between PMC and IR-4, which was strengthened during Growing Forward.

Reduction in the Technology Gap

The availability of new minor uses in Canada has reduced the “technology gap” with the US. All interviewed stakeholders indicated that the gap in the number of relevant minor uses available to Canadian growers compared to that available to their American counterparts had been significantly reduced. A vast majority (88%) of surveyed stakeholders (with an opinion) similarly indicated that the MUPP had contributed to improved competitive parity of the Canadian agricultural sector with regards to pest management (i.e., with the US sector).

Analysis undertaken by one provincial government official demonstrated that the gap for reduced-risk pesticide minor uses (for which data were available) was halved between 2002 and 2010. PMC also indicated that only a small proportion of priorities selected at Canada’s priority-setting workshops in recent years are already registered in the US, whereas nearly all were in the early years of the MUPP. In other words, PMC has recently become more focused on generating data to support new active ingredients, rather than solely on label expansions for existing active ingredients.

The extent of the remaining gap in available minor uses is not known. The evaluation of the Building Public Confidence in Pesticide Regulation Initiative recommended that PMC and PMRA assess the current size and structure of the technology gap and report on the extent to which the gap is being addressed. Some preliminary steps in this direction were taken, including work on a US-Canada Grower Priority Database.⁷ Interviews for the present evaluation emphasised the complexity of monitoring the technology gap, given the differences in crops, pests, regulatory requirements and regulatory decisions in the two countries. However the interviews and stakeholder survey showed that the grower-led priority setting process has ensured that MUPP projects are targeting the needs of the Canadian sector for new minor uses. Interviews also suggested that, as a result of the MUPP, growers are increasingly confident that their priorities are being listened to and will be addressed.

Improved Crop Protection Practices and Pesticide Resistance Management

Survey and interview responses indicate that the program is achieving its expected outcomes of improved crop protection practices and pesticide resistance management. A vast majority of surveyed stakeholders indicated that the program had had either a small positive impact (34%) or substantial positive impact (54%) on improving crop protection practices. A majority also indicated the program had improved management of pesticide resistance, with 36% indicating it had had a small positive impact in that area and 46% indicating a substantial positive impact.

A comparison of the survey data collected for this evaluation with those of a similar survey conducted for the evaluation of the BPC Initiative in 2009 suggests that the program has

⁷ At the time of the evaluation, the US-Canada Grower Priority Database was not available. The Canadian Grower Priority Database was hosted on the Canadian Federation of Agriculture website at: <http://www.cfa-fca.ca/programs-projects/canadian-grower-priority-database>
AAFC AAC-#3883340-V5-2012-13_OAE-EV_-_Report_-_EVALUATION_OF_THE_MINOR_USE_PESTICIDES_PROGRAM_(English)_191749.DOCX

made significant progress in achieving its outcomes during Growing Forward. As shown in Table 5, stakeholders were significantly more likely in 2012 than in 2009 to indicate the MUPP had contributed to increased access and adoption of minor use pesticides, improved management of pesticide resistance, improved crop protection practices, and improved competitive parity with the US.

Table 5: Stakeholder Perceptions of the MUPP’s Achievement of Outcomes, 2009 and 2012	
Proportion of Surveyed Stakeholders Indicating the MUPP Had a Substantial or Small Positive Impact or Contribution	
2009 Survey	2012 Survey
Improved access and adoption of minor use pesticides	
75%	97%
Improved management of pesticide resistance	
60%	83%
Improved crop protection practices	
68%	88%
Improved competitive parity with US	
56%	88%

Source: Stakeholder Surveys for the 2009 Evaluation of the BPC Initiative and for the 2012 Evaluation of the Agricultural Regulatory Action Plan under Growing Forward

Specific improvements to crop protection practices noted by the stakeholders across all lines of evidence included:

- Increased diversity of available pesticides, which allows growers to rotate or vary their pest control products to reduce the risk of pesticide resistance;
- Availability of pesticides for crops that were new to Canada or previously had no pest control products registered in this country (including, for example, hops, wasabi, camelina and others); and
- Increased access to biological pesticides based on more environmentally-friendly natural ingredients.

In conclusion, the program has achieved its expected outcomes, in part through harmonization activities with the US. Stakeholder views of the program appear to be growing increasingly favourable.

3.2.2 While stakeholders indicated financial benefits from the new minor uses, the overall economic impact of the program on the Canadian economy has not been calculated.

Surveys and interviews suggest the MUPP has had financial benefits for growers in Canada. The majority of survey respondents who responded to questions related to financial impacts of the program indicated that the MUPP had resulted in increased production for their farm operations or, in the case of producer associations, for their members' farm operations. Respondent estimates of the associated increased value of production, annually, from new minor uses available from the MUPP, ranged from \$5,000 to more than \$1 million. Interviews of grower representatives confirmed that producers see financial benefits from having access to new minor uses.

The evaluation did not undertake a more comprehensive analysis of the economic impact of the program on the Canadian economy. At present, the overall economic value of the program is unknown. PMC did undertake a preliminary study to try to calculate the overall impact of the program, however further work is needed to complete an estimate of economic impacts. Analysis of the economic impact of the program is important given that a key rationale for the MUPP is that it supports sector competitiveness and financial sustainability.

In conclusion, the economic impact of the program on the Canadian economy has not been calculated, although interviews and a stakeholder survey suggest positive economic impacts from the program.

Recommendation #1:

PMC should work with the Research and Analysis Directorate to:

- Quantify the economic impact of the MUPP on the Canadian economy by Year Two of Growing Forward 2.

3.2.3 The MUPP has seen significant improvements in its operations and capacity during Growing Forward. There remains a backlog of incomplete projects from the early years of the program, however.

The MUPP has benefited from increased operational maturity and capacity during Growing Forward. This has included strengthened relationships between all parties, which have been conducive to more effective communication, project coordination, and collaboration. Some pesticide manufacturers have begun discussing new compounds they are working on with PMC during the pre-commercialization stage. This demonstrates the quality of the relationship that PMC now has with industry, and also indicates potential for improved cost-effectiveness through collaboration.

Interviews also emphasized the increased capacity within PMC. This included an increase from 2008-2009 to 2012-2013 of 13 FTEs. The gradual increase of PMC staff has contributed to improved project management and the timeliness of submissions, according to PMC. Process improvements have included the reorganization of MUPP based on disciplines to harness staff expertise, the development with PMRA of a template for final reports to standardize the format of submissions, improvements to project databases to allow more effective and efficient project management, and program process mapping.

As well, PMC recently began operating its own laboratory to undertake residue analysis. The new laboratory is expected to mitigate some of the issues that arose in the past from the program's reliance on private laboratories alone, including project delays and quality issues. For 2012-2013, PMC's laboratory is undertaking approximately one-third of the program's lab analysis, and this proportion is expected to increase as laboratory capacity increases in the future.

Despite noted improvements to PMC processes and capacity, the evaluation found timeliness issues related to the completion of older projects. While the development of registration submissions typically takes four years, at the time of the evaluation PMC had not completed the development of submissions for 67 projects that had been identified as priorities prior to 2009. This constituted 14% of the 501 priorities from the years 2003 to 2008. Case studies demonstrated that some priorities are not registered for many years: including the time required to develop the submission and review the submission, it took seven years to register Allegro on carrots and eight years for Ripcord on grapes. In the case of Allegro, by the time the product was registered for white mold on carrots, more effective solutions had been identified. Likely as a result of these types of delays, a significant proportion of surveyed stakeholders suggested that the MUPP could be improved through a speedier data development and review process.

The evaluation found numerous reasons for these types of delays, including competing project priorities, limited program staff to manage the field studies in the earlier years of the program, slow turnaround on residue analyses contracted out to private laboratories, as well as significant delays to efficacy trials due to variable results from contractors, uncooperative weather and growing seasons during which pests were not present.

These project delays could also, in part, be traced back to the start of the program in 2003, when PMC took over more than 100 priorities that had been previously identified by the provinces. This created a huge initial pool of projects, which overwhelmed the fledgling program that was in the process of staffing up and developing its processes. While this backlog has been slowly reduced over time, it has presented a considerable challenge to timeliness and project management.

The development of service standards for PMC would help to strengthen project management processes and may help to reduce the time required for completing submissions through ongoing monitoring of project timelines and priorities. Furthermore, an assessment of older priorities for which submissions have not been completed would

identify cases where the minor uses are no longer industry priorities given, for example, changing pest conditions or the emergence of new pesticides.

In conclusion, the program has seen significant improvements to its operations and capacity during Growing Forward. These achievements have not sufficiently mitigated the rolling project delays experienced by the program from its start, however, as there still incomplete projects that are older than five years.

Recommendation #2:

PMC should:

- Develop and implement service standards for the development of minor use pesticide submissions.

Recommendation #3:

PMC should:

- Develop and implement a process for addressing projects that are older than five years by either completing the submissions or deciding not to proceed with a submission.

3.2.4 PMC has a leadership role in facilitating the selection of projects for minor use pesticide submissions. The selection process is viewed as transparent and effective, overall, although some concerns were noted related to the distribution of selected projects across crops.

March 2012 marked the tenth annual AAFC Minor Use Pesticide Priority-Setting Workshop, and stakeholders appear, overall, to be satisfied with the process and PMC's facilitation of the process. During the period from 2008-2009 to 2011-2012, there were 165 national priorities selected in total, and 88 joint projects were selected as priorities with IR-4. The evaluation found that the project selection process is generally viewed as transparent and effective. Over three-quarters (79%) of surveyed stakeholders who answered questions on the priority-selection process were satisfied with the prioritization process. Interviewed stakeholders similarly viewed the process as generally effective, with many indicating that the process has improved as the workshop has become more efficient.

While stakeholders were generally satisfied, many did note a concern with the distribution of selected projects across crops. Some stakeholders indicated that certain commodity groups were more organized, vocal and strongly represented at the workshop than others and, as a result, were more likely to have their priorities selected. This was felt to have

disadvantaged producers of micro crops in particular. There were 30 related comments from survey respondents, and the issue was also raised in several interviews.

Given increasing efforts at harmonization and collaboration through the RCC and other joint US-Canada activities, some stakeholders also identified the potential for integrating IR-4 into the priority selection process in the future. The issue of increased collaboration with IR-4 in priority-setting was raised in both the survey and interviews. Such collaboration would be designed to increase efficiency and timeliness of minor use pesticide registrations. However, some interviews highlighted challenges with harmonized priority-setting given differences in the two countries' sectors, and some growers have indicated a preference for separate priority-setting processes.

In conclusion, the program demonstrates leadership through its facilitation of the annual project selection process, which is generally viewed by stakeholders as transparent and effective. However, some concerns were raised that producers of some crops may not receive a fair share of selected priorities. In addition, increased harmonization activities with the US may favour more integration of IR-4 in future priority-setting.

Recommendation #4:

PMC should work with stakeholders to:

- Examine the project selection process to ensure that it is designed to respond to the current and future needs of PMC and its stakeholders, and report back to senior management in Science and Technology Branch on its assessment.

3.3 PERFORMANCE – EFFICIENCY AND ECONOMY

The efficiency/economy of the MUPP was assessed through examination of the extent to which project funds were spent as planned, and through a qualitative assessment of cost-effectiveness.

3.3.1 PMC has lapsed funds during Growing Forward due to unforeseen delays in field trial expenditures and other issues.

PMC lapsed funds for all four years of Growing Forward. Lapsed funds for the period from 2008-2009 to 2011-2012 totalled \$6.6 million, which comprised 21% of AAFC's budget for PMC and 19% of the original amount earmarked by Treasury Board for the program for the four-year period. The variance of budget to actual expenditures, by fiscal year, is presented in Table 6.

Table 6: MUPP Budget and Actual Expenditures, with Variance, 2008-2009 to 2011-2012				
Fiscal Year	TB Budget	PMC Budget	Actuals	Variance (% of PMC Budget)
	\$ millions			
2008-2009	8.6	8.6	6.3	2.3 (26%)
2009-2010	8.5	8.0	6.8	1.2 (15%)
2010-2011	8.4	8.3	6.1	2.2 (27%)
2011-2012	8.4	6.8	5.9	0.9 (13%)
Total	33.9	31.7	25.1	6.6 (21%)

Source: AAFC

PMC indicated that challenges with field trials were a major reason behind funds being lapsed. Unavoidable delays in field trials as a result of weather or pest conditions can reduce actual project expenditures. PMC estimated that approximately 10% or more of planned field trials are not undertaken in any given year due to these factors. PMC also indicated that, at times, contractors took on field trial projects but were unable to carry out all the work as scheduled due to a lack of capacity. Similarly, a lack of capacity in private laboratories for residue studies also delayed planned spending.

Finally, PMC indicated that it had taken time to hire PMC staff necessary to be fully operational. As previously noted, the number of PMC staff dedicated to the MUPP increased by 13 FTEs over the course of Growing Forward.

Given the proportion of funds lapsed in the past, increased attention to budget management is required for the future. According to PMC, the program has recently put additional management processes in place to improve financial management. These include receiving more timely and regular spending updates from contracted laboratories to ensure that, in cases where laboratories cannot spend their project budgets as planned, program funding is re-allocated into the next fiscal year. In addition, changes to project databases have been implemented to improve monitoring of project budgets by project managers.

In conclusion, the MUPP has lapsed funding due to the unpredictability of conducting field trials, contractors not spending their project budgets for field trials and residue studies as planned, and due to the time required for PMC to become fully staffed and to develop its project management capacity.

3.3.2 Operational, capacity and regulatory improvements are likely to improve cost-effectiveness going forward.

The evaluation noted examples of issues related to program cost-effectiveness that have resulted from project delays. The long timelines associated with developing some submissions has meant that some minor uses are no longer as relevant to the sector by the time they are registered.

Some noted cases of sub-standard data collection and analysis have also negatively affected the cost-effectiveness of the program. Issues were identified with both private laboratories and private contractors undertaking field trials. Some cases resulted in work being redone, with associated costs and additional time required. PMC indicated that contracting processes, which heavily weighted the assessment of contractor bids in favour of the lowest cost bidders, had sometimes exacerbated these issues. PMC indicated that the assessment criteria for contracts have recently been adjusted to give greater emphasis to bidder qualifications and experience.

The capacity and operational improvements over the course of Growing Forward are likely to result in increased cost-effectiveness in the future. For example, the program was successful in developing and leveraging positive, mutually beneficial relationships with IR-4 and the EPA. The ongoing collaborations between PMC and the IR-4 on submission development, and between PMRA and the EPA on submission reviews, reduce the overall cost to the program of securing new minor use registrations. For example, joint submission development by PMC-IR-4 typically reduces the costs of data collection by one-half, as the field trials and analysis are shared between the two countries. According to PMC, sharing residue trials with IR-4 can reduce the cost of a single submission to Canada by approximately \$30,000.

These partnerships also reduce delays attributable to slow and substandard service from private labs, as the IR-4 has multiple laboratories at its disposal to conduct the residue analyses required to advance projects. In addition, the new PMC laboratory is expected to increase cost-effectiveness of laboratory analysis for the same reasons. PMC is aiming to reduce the average time for laboratory analysis from 28 months to 18 to 20 months as a result of its new laboratory capacity.

Other changes to the regulatory process at Health Canada during Growing Forward are also expected to increase overall cost-effectiveness of the submission and registration process. PMRA has adopted new guidelines that offer more flexibility in efficacy trial requirements; in some cases, pesticide use history and benefit information can be provided in submissions in lieu of efficacy data from field trials. In addition, Health Canada's regulations now provide ten years of exclusive use protection for data used to support the Canadian registration of new pesticides that contain new active ingredients, and the exclusive use period can be extended by up to five years for minor uses added to the original registration. This minor use provision is designed to encourage pesticide manufacturers to register minor uses for new products.

In conclusion, while project delays and issues with data collection and analysis have negatively affected the cost-effectiveness of the program, the increased capacity of the program, and operational and regulatory improvements, will likely improve cost-effectiveness going forward.

3.4 GOVERNANCE AND PERFORMANCE MEASUREMENT

The evaluation assessed the effectiveness of the governance structure and performance measurement for the MUPP.

3.4.1 The governance structure, including the Joint Management Committee and MOU, was effective in ensuring accountability and achievement of results. Performance measurement and reporting would have benefited from a stronger focus on outcomes.

The governance structure, including the JMC and MOU, effectively ensured accountability and achievement of results. Under the Agricultural Regulatory Action Plan, Treasury Board provided AAFC with funding for the MUPP and AAFC transferred funds to Health Canada to support PMRA's work via an MOU. The AAFC-Health Canada MOU under Growing Forward laid out clear roles, responsibilities and reporting requirements for both departments. The transfer of AAFC funds to Health Canada, as outlined in the terms of the MOU, ensured funding was dedicated to Growing Forward priorities.

Representatives of both departments described the working relationships between PMC and PMRA as constructive and positive throughout Growing Forward, and no issues were identified with respect to the operations or structure of the JMC.

A performance measurement strategy for the MUPP was included in the MOU. Program reporting to the JMC was based on program outputs and activities, rather than on the expected outcomes set out in the strategy, however. The evaluation found gaps in performance reporting related to outcomes, including a lack of available data on improved crop protection and pesticide resistance management. As previously noted, future reporting on program outcomes would benefit from the inclusion of the economic impact of the program.

In conclusion, the MOU and governance structure for the MUPP successfully guided inter-departmental relations and helped to ensure accountability and results. Program performance reporting would have benefited from a stronger focus on outcomes.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

Minor use pesticides are important to supporting the competitiveness and environmental sustainability of the Canadian agricultural sector. The MUPP fills an ongoing need for grower access to minor uses of pest control products. Minor crops are a significant part of the agricultural sector in Canada, and minor uses are necessary for the viability, competitiveness and environmental sustainability of the sector. Given the lack of economic incentive for pesticide manufacturers to pursue registration of minor uses, government support is needed to support development of submissions. Furthermore, the MUPP allows Canadian growers of minor crops to remain competitive with their US counterparts, who have been assisted by the US Department of Agriculture's IR-4 since the 1960s.

The federal role in the MUPP is appropriate, and fills a gap not filled by the provinces or industry. The MUPP is aligned with federal priorities and the departmental strategic outcome of competitiveness. The federal government has the capacity to undertake residue analysis according to Health Canada requirements, and is well-placed to undertake the international harmonization and collaboration activities that will continue to increase the efficiency and cost-effectiveness of the regulatory process. The MUPP aligns with federal priorities related to innovation and regulatory cooperation and effectiveness, and with the departmental strategic outcome of a competitive sector.

The MUPP has increased the availability of new minor uses of pesticides, which has contributed to increased competitiveness, and improved crop protection practices and pesticide resistance management. The MUPP exceeded its target number of submissions and registrations of new minor uses, thereby reducing the "technology gap" with the US sector, and stakeholders perceived the program to have had positive impacts in reducing the risk of pesticide resistance and in improving crop protection practices.

While stakeholders indicated financial benefits from the new minor uses, the overall economic impact of the program on the Canadian economy has not been calculated. Surveys and interviews suggest that growers have seen financial benefits from the program through increased production, but the overall impact of the program to the economy has not yet been calculated.

The MUPP has seen significant improvements in its operations and capacity during Growing Forward. There remains a backlog of incomplete projects from the early days of the program, however. While the program has improved its operations and capacity through, for example, significant increases in staff and a new laboratory in Vineland, there remains a significant backlog of projects that were first identified as priorities prior to 2009.

PMC has a leadership role in facilitating the selection of projects for minor use pesticide submissions. The selection process is viewed as transparent and

effective, although some concerns were noted over the distribution of selected projects across commodities. While the industry-driven process appears to have largely satisfied the diverse stakeholders involved, some stakeholders felt that some parts of the sector, especially stakeholders representing smaller crops, were not always receiving a fair share of selected priorities. In addition, increasing collaborative efforts with the US may benefit from further integration of IR-4 into the priority setting process in the future.

PMC has lapsed funds during Growing Forward due to unforeseen delays in field trial expenditures and other issues. The unpredictability involved in conducting field trials, and other factors, led to lapsed funds in the past.

Operational, capacity and regulatory improvements are likely to improve cost-effectiveness going forward. Long timelines associated with some registrations, and variable quality of data collection and analysis from private contractors, have negatively affected cost-effectiveness in the past. Recent improvements to the program and its capacity, Health Canada changes to the regulatory framework, and a reduced reliance on contractors are likely to improve future program cost-effectiveness.

The governance structure, including the JMC and MOU, was effective in ensuring accountability and achievement of results. Performance measurement and reporting would have benefited from a stronger focus on outcomes. The MOU and reporting structure have helped to structure a positive working relationship between AAFC and Health Canada, while the transfer of funds to Health Canada via the MOU ensured funding was dedicated to Growing Forward priorities. Program performance measurement was largely activity- and output-based, and did not comprehensively report or collect information on the outcomes of the program.

4.2 RECOMMENDATIONS

The evaluation identifies the following four recommendations:

Recommendation #1:

PMC should work with the Research and Analysis Directorate to:

- Quantify the economic impact of the MUPP on the Canadian economy by Year Two of Growing Forward 2.

Recommendation #2:

PMC should:

- Develop and implement service standards for the development of minor use pesticide submissions.

Recommendation #3:

PMC should:

- Develop and implement a process for addressing projects that are older than five years by either completing the submissions or deciding not to proceed with a submission.

Recommendation #4:

PMC should work with stakeholders to:

- Examine the project selection process to ensure that it is designed to respond to the current and future needs of PMC and its stakeholders, and report back to senior management in Science and Technology Branch on its assessment.

ANNEX A: MANAGEMENT RESPONSE AND ACTION PLAN

RECOMMENDATION	MANAGEMENT RESPONSE AND ACTION PLAN (MRAP)	TARGET DATE	RESPONSIBLE POSITION(S)
<p>1. Pest Management Centre (PMC) should work with the Research and Analysis (R&A) Directorate to quantify the economic impact of the Minor Use Pesticides Program by Year Two of Growing Forward 2.</p>	<p>Agreed. PMC is working with the Strategic Policy Branch's R&A Directorate to quantify the economic impact of the Minor Use Pesticides Program. The R&A Directorate will be providing a preliminary report to PMC in February 2013, with a final report to be completed by March 31, 2014.</p>	<p>March 31, 2014</p>	<p>Director, PMC</p>
<p>2. Pest Management Centre should develop and implement service standards for the development of minor use pesticide submissions.</p>	<p>Agreed. PMC will develop and implement service standards for the development of minor use pesticide submissions through a three-step process: 1) First, analysis will be conducted to identify project milestones, deliverables and timelines; 2) Draft service standards will be implemented internally; and 3) Service standards will be communicated to PMC stakeholders.</p>	<p>December 31, 2013</p>	<p>Director, PMC</p>

RECOMMENDATION	MANAGEMENT RESPONSE AND ACTION PLAN (MRAP)	TARGET DATE	RESPONSIBLE POSITION(S)
<p>3. Pest Management Centre should develop and implement a process for addressing projects that are older than five years by either completing the submissions or deciding not to proceed with a submission.</p>	<p>Agreed. PMC is developing a benchmarking framework to determine a process to be used when making decisions regarding the continuation of older projects. As part of the development, PMC will seek guidance from the Minor Use Technical Working group, made up of Provincial Minor Use Coordinators, manufacturers and growers. The framework will be finalized and implemented by the end of 2013.</p>	<p>December 31, 2013</p>	<p>Director, PMC</p>
<p>4. Pest Management Centre should work with stakeholders to examine the project selection process to ensure that it is designed to respond to the current and future needs of Pest Management Centre and its stakeholders, and report back to senior management in Science and Technology Branch on its assessment.</p>	<p>Agreed. The project selection process is being reviewed under the Canada-US Regulatory Cooperation Council's Crop Protection Working Group, with the goal of facilitating increased cooperation through joint projects. Stakeholders are being consulted throughout this process. Results will be reported back to Science and Technology Branch's senior management by the end of 2013.</p>	<p>December 31, 2013</p>	<p>Director, PMC</p>

ANNEX B: MINOR USE PESTICIDES PROGRAM PROCESS

