



Evaluation of the AgrilInnovation Program Stream B: Research, Development and Knowledge Transfer - Summary

PURPOSE

An Evaluation of the *AgrilInnovation Program Stream B: Research, Development and Knowledge Transfer* assessed the continued need for the program, its progress towards the achievement of intended outputs and outcomes, and its efficiency and effectiveness.

PROGRAM OVERVIEW

Stream B consists of industry-led research and development (R&D) that supports pre-commercialization research, development and knowledge transfer leading to innovative agriculture, agri-food and agri-based practices, processes and products through agri-science clusters and agri-science projects. Stream B supports AAFC-led knowledge transfer activities that facilitate the demonstration and transfer of new or improved products, processes or technologies developed by AAFC scientists. The program's budget is \$268.1 million (M) from 2013-14 to 2017-18.

EVALUATION FINDINGS

Relevance

There is a continued need for Stream B programming to develop innovations to address threats to the profitability and competitiveness of the agriculture and agri-food sector. There is a need to capitalize on new opportunities for value-added products due to increasing global demand for food with specific attributes and non-food products. Investments in agricultural R&D contribute to improved productivity and generate a substantial return on investment in the long-term. Limited funding, weak linkages between agricultural R&D performers, and capacity challenges constrain the sector's ability to meet its innovation needs. The federal government continues to play a lead role in funding and maintaining the capacity to undertake agricultural R&D and knowledge transfer to complement and leverage limited investment, foster innovation in small and emerging agricultural industries and encourage industry to invest in research with long-term public good benefits (e.g., soil, water, air quality and biodiversity).

Effectiveness

Three years into the five-year program, Stream B has made significant progress towards the achievement of its intended outputs and outcomes. As of March 31, 2016, Stream B has committed \$220.5M over the five-year period of 2013-14 to 2017-18.

Private sector investments in Stream B activities have more than doubled compared to private sector investments in similar programs under Growing Forward, due to increased AAFC investments, improved cost-shared ratios, and increased industry awareness and interest in the program. The level of R&D collaboration has increased. New research networks have been established and existing networks have been strengthened and expanded across provinces and various organizations. Examples of innovations resulting from Stream B activities were identified, some of which arose from activities initiated under previous programming and tracked over time. All technology, knowledge and information transfer targets have been exceeded. The program has made some progress towards its intended end outcome that the sector produces, adopts, and commercializes innovative products, processes, practices, services and technologies. It is too early to assess the full impact of Stream B activities since the program is not yet complete and it can take several years to further develop, adopt and commercialize products and practices resulting from Stream B supported R&D.

Program activities have resulted in significant economic impacts. Industry-led R&D expenditures of \$120.2M from April 1, 2013 to March 31, 2016 resulted in an estimated \$289.9M in spending across the Canadian economy during the same time period, i.e. \$2.4M in total facilitative economic impacts for every dollar of AAFC funding. According to interviews, approximately 80%, or \$232.0M, of the total facilitated economic impact is estimated to be directly attributable to the Industry-led R&D component of Stream B, which would not have occurred in the absence of AAFC assistance.

Efficiency and Economy

The major factors contributing to the effective delivery of Stream B activities include collaboration across R&D funders and performers, cost-shared funding mechanisms, and continuous improvement of program delivery. Industry-led R&D funding mechanisms facilitate collaboration across a variety of R&D funders and performers, which contributes to improved capacity and research excellence, as well as facilitating more coordinated and efficient R&D funding.

The main challenges include the complex application and claims reporting processes and limited ability to respond to emerging R&D needs and sectors. Program spending as a percentage of the available budget authority increased from 49% in 2013-14 to 93% in 2015-16. The primary factors contributing to under-spending in 2013-14 were a large backlog in applications and delays in processing these applications at the outset of Growing Forward 2. Stream B has achieved program outcomes more efficiently than similar programming implemented under Growing Forward in terms of higher levels of private sector investment leveraged per dollar of AAFC investment and lower AAFC costs per innovation developed.

RECOMMENDATIONS / MANAGEMENT RESPONSE AND ACTION PLAN

Recommendation 1

Continue to implement programming that supports Industry-led R&D. Facilitate a smooth transition between policy frameworks by applying lessons learned under Growing Forward 2 with respect to program delivery. Explore opportunities to enhance federal, provincial, and territorial government R&D collaboration by addressing constraints related to government funding rules and improving joint information sharing.

Management Response and Action Plan

Agreed. The Industry-Led R&D programming will be a key component of the Next Policy Framework. Lessons learned throughout Growing Forward 2 during site visits, consultations with recipients, and lean exercises conducted on internal processes will inform program design and delivery. Preparations for industry-led R&D programming are underway for the Next Policy Framework, in order to be prepared to transition smoothly from Growing Forward 2. Through the Federal, Provincial, and Territorial Innovation Working Group, federal, provincial, and territorial collaboration and information sharing has increased in 2015-16 and 2016-17 through bilateral meetings, data sharing for the innovation investment analysis and discussions on shared issues and priorities. AAFC will explore opportunities to collaborate with provinces and territories in a manner that is consistent with funding rules. The Federal, Provincial, and Territorial Innovation Working Group will continue to collaborate and share information between jurisdictions, and will determine an approach for sharing the common information being collected in a manner that enhances federal, provincial, and territorial collaboration and decision-making.

Recommendation 2

Examine options to enhance the flexibility of the program to respond to emerging needs and opportunities. These could include clearly articulating government priorities and examples of activities that may be supported and streamlining processes to facilitate more timely approval of funds for new opportunities or needs. Consider introducing a new program element that targets smaller, emerging sectors with less capacity to undertake large scale R&D activities and higher risk demonstration projects that have a higher potential for impact as a result.

Management Response and Action Plan

Agreed. Several options will be examined to enhance the flexibility of the program to address emerging needs and opportunities. Five innovation priority areas have been set for the Next Policy Framework and were shared with industry during the consultations in the fall of 2016. The Applicant Guide will clearly articulate these government priorities, and applicants will indicate how they align to them. Streamlined processes for approval of funds were implemented during this framework. A new joint peer review process is being implemented for Science Clusters to reduce review timelines and ensure sound methodology in science. The results of the investment analysis helped identify emerging areas that could be targeted for support under the Next Policy Framework. This includes small/emerging and transformative sectors with less capacity to undertake research projects, a priority area for the program under the Next Policy Framework. AAFC will consider flexibility in program parameters for these sectors, including a higher risk tolerance for funding potentially transformative demonstration projects and modified cost-share ratios when appropriate.

Recommendation 3

Review options to enhance performance measurement processes and indicators to ensure that the information collected is accurate, consistent, meaningful, and useful for AAFC and program stakeholders in reporting on program results, and that it demonstrates the long-term impacts of investments in innovation.

Management Response and Action Plan

Agreed. In 2016, the Federal, Provincial, and Territorial Innovation Working Group launched a comprehensive review process leading to the development of common federal, provincial, and territorial data elements, definitions, and performance measures for Next Policy Framework innovation programming, which will be presented to Federal, Provincial, and Territorial ADMs in

2017. In 2016-17, Industry Development Division undertook outreach to clusters recipients and collected feedback on the meaningfulness and utility of current performance measures to program stakeholders. This information is being incorporated in the program's Performance Information Profile. Innovation Programs Directorate conducted case studies on the long-term impact of investments in innovation, which were reported to Federal, Provincial, and Territorial Ministers in 2016. The Federal, Provincial, and Territorial Innovation Working Group will explore an approach to identify success stories and case studies across jurisdictions, to better assess the long-term impacts of public investment in innovation.

Recommendation 4

Continue to streamline the application review, approval, and claims processes for Industry-led R&D activities. Some potential opportunities to increase efficiencies that could be investigated include reducing duplication in the technical peer review process. Claims processes could be further streamlined by revising requirements to reflect an appropriate level of financial reporting based on risk and assisting funding recipients in developing standardized approaches.

Management Response and Action Plan

Agreed. Changes to the application review process resulting from lean exercises conducted on internal processes have improved services to clients under Growing Forward 2. Improvements include the continuous intake of applications and working with the applicant to improve the quality of their submission before it is deemed complete. As Industry Development Division continues to prepare for program launch under the Next Policy Framework, it will continue to streamline processes for the Industry-led R&D program where appropriate. Following consultations with Cluster recipients in October 2016, a joint peer review process was developed to propose for the Next Policy Framework. The joint peer review will be required before cluster applications are submitted to AAFC, which will reduce the need for a full scientific review and is expected to shorten the review time by half. Where it has been a strict requirement in the past to provide two years of financial statements, flexibility may be given to new organizations or applicants with less capacity. A review of the claims process was undertaken in 2016-17. The departmental Claims Working Group has been working on finding solutions to streamlining processes. A pilot project will be put in effect in 2017-18 to use a simplified model for claims reporting. Innovation Programs Directorate will continue to work to streamline claims processes by identifying other ways of validating claims, such as making better use of the risk framework and establishing risk tolerance levels.

EVALUATION SCOPE AND METHODOLOGY

The Evaluation of Stream B was conducted as per the AAFC 2014-15 to 2018-19 Evaluation Plan and fulfils evaluation requirements under the *Financial Administration Act*, as well as the Treasury Board *Policy on Results*.

The Evaluation used multiple lines of evidence including: a file and operational data review; document review on the state of agricultural research capacity in Canada; interviews with 17 key informants including agri-science cluster leads and AAFC Programs Branch representatives; a benchmarking analysis of similar programs in other jurisdictions; and, an economic impact assessment of program investments.

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