

Agricultural Institute of Canada 2018 Pre-Budget Consultation

Submission to the House of Commons Standing Committee on Finance

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Executive Summary

Agricultural innovation has the potential to be a key engine of economic growth and job creation, strengthening Canada's competitive position internationally.

Canada's rich and diverse agriculture and agri-food system plays a critical role in the economy, generating 6.6 % of the country's GDP. Our agricultural sector provides one in eight jobs in Canada, employing over 2.3 million people – one million more workers than those employed in the energy sector.

The agri-food sector was specifically identified by the federal government's Advisory Council on Economic Growth, led by Dominic Barton, as one of the most promising in terms of economic development, employment and innovation capacity.

With a large supply of natural resources, Canada's agriculture has continued to expand over the years, positioning itself as the fifth-largest global exporter of agri-food products generating export sales of \$55 billion.

A rapidly-growing world population, rising income in developing countries and favourable global market trends are expected to raise demand for Canadian agri-food products, with a potential to increase to at least \$75 billion by 2025.

This growth relies on agricultural innovation to drive productivity gains and provide a basis for building a more globally competitive and sustainable economy. Yet, while technological competition grows from emerging agricultural export countries and increases in land use are no longer available, investments in agricultural research continue to slow down.

Unless we capitalize on our strong innovative potential, Canada's agricultural production will be unable to meet the world market's growing demand and sustain momentum in today's changing global trade environment.

To effectively meet Canada's long-term challenges of a competitive global economy and enhance job growth, the AIC recommends the following inclusions in the 2018 federal budget:

Building Capacity for Agricultural Innovation

1. Long-term and predictable **core investments** in agricultural research and innovation.
2. Renewal and expansion of Canada's **agricultural innovation infrastructure**.
3. A comprehensive **human capital strategy** to reduce existing highly-skilled labour shortages in Canada's agricultural sector.

Strengthening Cross-Sectoral Collaboration

4. **An attractive climate for private investment** in agriculture that strengthens the innovative potential of companies willing to capitalize on our research capacity.
5. Continue to expand **public investment in agricultural research clusters**.

Setting a Strategic Innovation Agenda for Growth

6. Create a **national body** to set agricultural research priorities and provide strategic direction.
7. **Targeted tax incentives** in agriculture R&D to advance Canadian leadership in clean technologies.
8. Stronger participation in **global innovation networks** to stimulate cross-border knowledge spillovers in agriculture.
9. **A balanced investment strategy** between fundamental science and applied research.

Accelerating Market Adoption of Research Innovations

10. Policy and institutional tools to **disseminate research** being undertaken and research results.
11. **A modern regulatory environment** to help Canadian innovators achieve a competitive advantage at the international level.

Building Capacity for Agricultural Innovation

High benefit-cost ratios for agricultural research, estimated to range from 10:1 to 20:1, confirm that the productivity gains attributed to agricultural innovation are worth many times its costs. Despite this evidence, public spending on this area has gradually decreased in Canada over the last decades, hampering the potential of the agricultural sector for contributing to higher employment and economic growth.

AIC recommendations

1. Long-term and predictable core investments in agricultural research and innovation.

Stable funding over the long term, as well as co-funding from other research disciplines, is necessary to ensure the greatest success and return on investment for partners.

A combination of funding mechanisms – public, levy-based and private funding – can be tailored to suit the particular needs and characteristics of the Canadian agricultural innovation system, ensuring all types of research and commodity sectors gain access to research funding and incentives.

2. Renewal and expansion of Canada's agricultural innovation infrastructure.

Backed up by appropriate impact assessments, public investments should be geared towards changes and upgrades to existing public research facilities to elevate Canada's research capacity.

Suitable incentives should be provided directly to stakeholders to retrofit and convert, where feasible, the unused spaces into specialized centres of agricultural research excellence.

Proper on-farm infrastructure, including broadband access in rural areas and new agricultural transformative infrastructure, needs to be in place for producers to fully realize the opportunities derived from innovative agricultural R&D.

3. A comprehensive human capital strategy to reduce existing highly-skilled labour shortages in Canada's agricultural sector.

Canada's agriculture is more than ever challenged by labour shortages. This requires an integrated action plan to increase the existing supply of agricultural researchers and innovators and to efficiently deploy human capital where it is needed the most.

Increased investments in human capital for the agriculture sector through education and training, including, but not limited to, grants, scholarships, and career counselling for youth interested in pursuing a career in agriculture, have the potential to address existing and future recruitment and retention challenges.

These provisions should include the promotion of academic opportunities to attract and integrate highly-skilled international graduate students and new Canadians to innovative fields in agriculture.

Strengthening Cross-Sectoral Collaboration

With key stakeholders appearing to either under-invest or decrease their expenditures in research, economic disincentives and uncertainty can lead to a gradual reduction of Canada's capacity to innovate. The private sector, for example, has not been incentivized to invest in agricultural research and innovation to the same level as they have in other industries.

4. An attractive climate for private investment in agriculture that strengthens the innovative potential of companies willing to capitalize on our research capacity.

Although incentives for firms to invest in R&D for all industrial sectors are widely available through existing federal tax credits, special policy provisions and better targeted fiscal credits for agri-businesses, farmers and producers are needed to promote technology development, transfer and adoption in the sector.

With targeted incentives, agricultural small and medium enterprises (SMEs) producing at a scale that requires capital and support services to grow could foster innovation as a key strategy for achieving greater returns.

The process of innovation should be incentivized for R&D business ventures in agriculture that demonstrate high returns on investment and provide a business plan with clear targets and indicators for the progress achieved. These incentives, ranging from seed and patient capital funds to increased risk tolerance and risk-sharing mechanisms, will encourage greater private sector investment and participation in the sector.

Building strategic business alliances can also strengthen our competitive advantage worldwide by enabling the environment needed to maximize knowledge transfer strategies in collaborative projects.

5. Continue to expand public investment in agricultural research clusters.

Research clusters bridge the gap between scientific research and the marketplace, opening the way for breakthrough innovations that contribute to productivity improvements and increased efficiencies that benefit Canada's economy as a whole.

Existing industry research clusters should be further supported financially, and new business-led clusters should be established in emerging areas, such as value-added agriculture, to encourage the faster uptake of new technologies.

Setting a Strategic Innovation Agenda for Growth

The challenge of increasing productivity and competitiveness while reducing environmental impact is common across all sectors of the Canadian economy, particularly in agri-food production. Canada's agricultural sector has a major role to play in meeting today's global sustainability goals that call for an even more climate-smart agriculture, demanding continuous technological development in this area coupled with solid scientific foundation and stronger international networks.

6. Create a national body to set agricultural research priorities and provide strategic direction.

A national body to coordinate agricultural research and innovation, with a mandate to set medium and long-term agricultural research priorities, will help us create a roadmap to meet our future food security and environmental challenges and become a global leader in sustainable agricultural production.

7. Targeted tax incentives in agriculture R&D to advance Canadian leadership in clean technologies.

Innovative farmers and early-adopters who have been proactive on their own before the introduction of mandatory regulations should be recognized and rewarded with tax breaks, rebates or credits. Small farmers should be supported with incentives that help lower risks and encourage the uptake of new low carbon and energy efficient technologies.

Rather than an unavoidable challenge, carbon pricing could also become a key driver of agricultural innovation. This requires collaboration between key players and provincial governments to decide how tax revenue can be reinvested in clean technologies for the sector, making it more cost-effective to innovate.

8. Stronger participation in global innovation networks to stimulate cross-border knowledge spillovers in agriculture.

Building a stronger international science and technology (S&T) cooperation policy and federal programming targeting agricultural science could help create knowledge spillovers and, along with other positive externalities, lead to increased productivity and product innovation.

For instance, appropriate incentives for international investors and cross-border cost-sharing mechanisms can help mobilize Canada's research excellence to fuel technology and knowledge creation.

Further opportunities for knowledge mobility – a more active participation of researchers in international exchanges, conferences and meetings – can also leverage our scientific capacity through the creation of global innovation networks.

9. A balanced investment strategy between fundamental science and applied research.

Fundamental research is the fuel for innovation and commercial application. Concrete mechanisms to improve funding models for fundamental research should be examined by stakeholders with an aim to produce predictable, stable, and long-term funding mechanisms for basic research priorities.

Accelerating Market Adoption of Research Innovations

Government support to producers has been mostly geared towards smoothing volatility and managing risk at the farm level rather than investing in variables affecting productivity growth such as the adoption of new technologies. Canada's agricultural research and innovation system must increase its ability to weave knowledge exchange and commercialization into the research process to maximize its impacts on society, helping Canada reach its full potential in productivity growth and innovation.

10. Policy and institutional tools to disseminate research being undertaken and research results.

Flexible, evidence-based and current policy tools are necessary to support efficient dissemination pathways for agricultural innovation.

From the lab to the farm, key actors in the research value chain should be provided with training on research dissemination, knowledge transfer and translation (KTT), and public communication. Specialized support staff should also support research scientists to help them carry out comprehensive communication plans throughout the research cycle.

Modern models of agricultural extension and knowledge transfer based on information exchange, participation and co-learning, rather than a simple transfer of data, can directly benefit end-users of research and promote greater collaboration. The inclusion of funding and subsidies for public extension and knowledge transfer activities into federal programming can enable the environment needed to accelerate the adoption of innovations on the ground.

11. A modern regulatory environment to help Canadian innovators achieve a competitive advantage at the international level.

A comprehensive agricultural intellectual property strategy is needed to enable the exploitation of marketable innovations resulting from agricultural research projects in a more strategic manner.

Agricultural stakeholders should learn how to manage new knowledge and technologies with strong market potential and choose the most beneficial exploitation and dissemination strategy. Additionally, cross-sectoral research projects need to incorporate funding for knowledge management from the outset including capacity-building measures for staffing, training and retention of intellectual property experts.

Science-based regulatory processes are key to supporting the availability and adoption of agricultural innovations on the ground. Reduced, yet effective regulatory requirements to get new products into the marketplace must also be put into place to allow for the profitability of investments, reduce barriers to entry to markets and increase competition.

About the Agricultural Institute of Canada

Founded in 1920, the Agricultural Institute of Canada (AIC) is Canada's only organization whose sole focus is agricultural research and innovation with a mission to be its voice at the national level.

For over ninety-five years, the Agricultural Institute of Canada (AIC) has responded to the needs of its members in serving the agricultural community, playing a central role as a source of credible information and commentary for the Canadian agriculture and agri-food sector.

AIC's mandate is:

- Influence public policy;
- Disseminate information;
- Promote careers in agricultural research and innovation;
- Facilitate networking; and,
- Encourage international linkages.

Vision

Canadian agriculture is a global leader in stewardship of our land through science.

Mission

For the Agricultural Institute of Canada to be Canada's Voice for Agricultural Research and Innovation.

Contact

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