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DRIVING THE CANADIAN ADVANTAGE
MAKING CANADA A WORLD LEADER IN AGRICULTURE INNOVATION

**2017 Pre-Budget Consultation Submission to
House of Commons Standing Committee on Finance**

From

**CropLife Canada
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Driving the Canadian Advantage –

Making Canada a World Leader in Agriculture Innovation

CropLife Canada - WHO WE ARE

CropLife Canada is the trade association representing the manufacturers, developers and distributors of plant science innovations, including pest control products and products of plant biotechnology, for use in agriculture, urban and public health settings. We are committed to protecting human health and the environment and we believe in driving innovation through continuous research.

CropLife Canada is a member of CropLife International, a global federation representing the plant science industry via a network of regional and national associations in 91 countries.

Our mission is to enable the plant science industry to bring the benefits of its technologies to farmers and the public. Those benefits manifest themselves in many different forms, including driving agricultural exports, job creation, strengthening the rural economy and increased tax revenue for governments.

VALUE TO THE CANADIAN ECONOMY AND ENVIRONMENT

The plant science industry contributes \$9.8 billion to Canada's GDP every year.¹ It has an impact on everything from research and development to agricultural production and food processing. The economic activity generated by the plant science industry generates 131,000 jobs in Canada, with research and development alone producing 4,000 science-based, globally connected jobs for Canadians.²

About \$8.3 billion, or 71% of Canada's trade balance in crops, is the direct result of innovations in crop protection products and plant breeding.³ A transparent, predictable, and science-based regulatory system coupled with a robust, open trade policy is critical to maintaining and growing this advantage for Canadians.

We are driving this growth more sustainably than ever via modern agriculture innovations that, by significantly improving weed and insect pest control, have enabled farmers to grow more crops on less

¹ This figure is calculated by measuring economic impacts along the entire value chain including production of plant science innovations, research and development, wholesale and distribution, agricultural production, and food processing. More detail is available [here](#).

² Job numbers are calculated along the entire agricultural value chain. More information is available [here](#).

³ The economic impact gains in agricultural production from plant science innovations were calculated using a customized run of the Statistics Canada Input-Output simulation model. More details are available [here](#) and [here](#).

land with fewer inputs and a reduced environmental footprint. For example, advances in plant science technologies have facilitated the adoption of conservation tillage practices, which significantly reduce diesel consumption and have resulted in Canada's agricultural soils becoming a net sink for atmospheric carbon.⁴

The productivity gains realized from agriculture innovations allows farmers to grow more food on significantly less land and, in turn, keeping wild areas out of production and preserving Canada's rich biodiversity. Without pesticides and plant breeding innovations, farmers would need to use 50% more land than they do today to produce the same amount of food.⁵ Ongoing research and development will continue to develop crop varieties that are resilient to changing climate conditions, including drought tolerance, heat tolerance, and resistance to emerging pests and diseases.

Another advantage to Canadians from the plant sciences industry is seen directly at their grocery stores and in their kitchens. As Canadians, we pay some of the lowest food prices in the world. On average, Canadians spend about 10% of household income on food, much less than people in most other parts of the world.⁶ Without the use of conventional pesticides and genetically enhanced crops, Canadians would pay about 55% more for food — roughly \$4,400 more per family and \$60 billion as a country — each year.⁷ Canadians currently enjoy better access to nutritious, affordable and abundant food supply than at any other time in our history thanks to modern agriculture. Our challenge now is to drive that Canadian advantage globally more strongly than ever.

Driving the Canadian Advantage – Making Canada an Agriculture Innovation Cluster

The plant science industry is a global, research-based industry that invests significant amounts of capital and time into the discovery, development and regulatory approval of products of plant breeding innovations and pesticides.⁸ These products are hugely beneficial to farmers, consumers and include resistance to drought, salinity, insect pests, and diseases. Crops are now available with more predictable yields, improved quality and nutrition.

⁴ According to the [latest Agriculture and Agri-Food Canada review](#), Canadian agricultural soils represented a net source of 1.2 megatonnes of CO₂ per year in 1981. In 2011, Canadian agricultural soils became a net sink for 11.9 megatonnes of CO₂ per year.

⁵ A [recent literature review](#) summarized the crop yield impacts of plant science innovations across a broad range of agricultural commodities. These data were then used to estimate the additional area of land that would be needed to obtain the same level of crop production output.

⁶ These data are tracked annually by the United States Department of Agriculture Economic Research Service and are [available for download here](#).

⁷ Statistics Canada data (found in [CANSIM Table 201-0028](#)) indicate that the average Canadian household spent \$7,980 on food in 2013. Recent reviews (for example, see summaries [here](#) and [here](#)) of the price differential between conventional and organic foods estimated the difference to be around 55%.

⁸ The latest industry figures indicate that the average time from discovery to authorization for a [new plant biotechnology-derived](#) trait is in excess of 13.1 years at a cost of more than \$136 million USD. For a [new agrochemical](#), the time frame is approximately 11.3 years at a cost of more than \$286 million USD.



Plant breeding innovation has evolved rapidly from its earliest forms to today's complex gene-based discovery science. Over the past 20 years, the technology commonly known as genetic engineering has produced enhanced seed that have been adopted by millions of farmers spanning hundreds of millions of acres across the globe.⁹ The resulting increase in productivity has played a significant role in increasing yields globally. As the world's population is expected to exceed 9.7 billion by 2050, there is a clear global consensus that the growth in plant breeding innovations will play a vital role in meeting the needs of a food hungry planet.¹⁰ Canada can, and indeed must, play a central role in these efforts.

Canada is a large country but a relatively small global market. As such, companies looking to invest in Canada need to trust our transparent, predictable, and risk-based regulatory system. In the global competition for access to capital, the timeliness and predictability of the regulatory system is one of the top factors to be considered by plant sciences companies. We are advancing a series of recommendations which would result in a timelier, more predictable and increasingly transparent safety review and approvals process. These are the policies needed to make Canada into a centre for innovation and investment in plant biotechnology.

The regulatory system holds the key to facilitating the development of capital intensive, research-based innovations. There is a relatively short window to make a commercial success of research-based investments and a need to alleviate the cash burn that start-ups find prohibitive during a lengthy period of reviews.

The plant science industry supports a strong science-based regulatory regime throughout the world. Regulations relating to products of plant biotechnology need to be examined in full knowledge of the fact that during the past two decades, there has not been one product submitted for review that has been deemed harmful to either humans, animals, or the environment. Trillions of meals safely consumed in that time attest to the very minimal regulatory risk posed by plant biotechnology, for example.

The plant science industry is a global industry; innovation and investment will flow to the jurisdictions with the most timely and efficient regulatory frameworks. While this submission focuses on Canada's regulatory system, it is noteworthy that systems in the United States, Australia, Brazil and Japan are focused on declaratively improving their abilities to review and approve submissions in a timely manner, particularly for products of plant biotechnology. The Canadian government needs to do the same.

CropLife Canada's recommendations set out below are consistent with the measures required to ensure that the Canadian regulatory process — as shared by Health Canada (HC), which includes the Pest

⁹ The [latest figures from the International Service for the Acquisition of Agri-Biotech Applications](#) estimates that biotech crops are now grown on more than 179 million hectares around the world.

¹⁰ While global population growth projections vary, the [latest numbers from the United Nations](#) estimates the world population will reach 9.7 billion by 2050.



Management Regulatory Agency (PMRA) and the Canadian Food Inspection Agency (CFIA) — is the equal to our trading competitors without compromising safety.

Products of Plant Biotechnology: Performance Standards, Transparency and Service Standards

There should be a standard set, so there is a clear expectation on both sides of the regulatory equation, about what constitutes reasonable time frames for safety reviews. **CropLife Canada is recommending the adoption of a one year maximum time frame for product safety reviews, a standard that would establish Canada as a world leader.**

Greatly assisting the industry would be the requirement that HC and the CFIA establish an overall process coordinator who can assist applicants and regulators communicate about the safety review process steps, information requirements and timing. Currently there is no overall system of standards for the review processes within or between HC and the CFIA and this is very important to address.

Plan for an Anticipated Increase in the Numbers of Submissions

Industry observers note that the recent submissions involving plant breeding innovations in potatoes and apples is an indication of the potential for the plant science industry to expand geometrically in the coming years. Given the challenges of the Canadian regulatory system to cope with the current modest numbers of submissions, it is timely to address the capacity to meet expected volumes through regulatory streamlining, modernization and standards.

Pesticides: Greater Resources for Health Canada's Pest Management Regulatory Agency (PMRA)

The PMRA is responsible for pesticide regulation in Canada. Created in 1995, this branch of Health Canada consolidates the resources for the registration of pest control products and is responsible for administering the *Pest Control Products Act* (PCPA) and regulations.

In addition to their considerable domestic mandate, the PMRA does a significant amount of vital work outside our borders. Indeed, the PMRA is recognized as a world leader in the risk-based regulation of pest control products. The Agency works closely with numerous international organizations including the United States Environmental Protection Agency; the North American Free Trade Agreement Technical Working Group on Pesticides; the Organisation for Economic Co-operation and Development; and the Codex Alimentarius Commission of the World Health Organization. A great deal of this work is related to the promotion of science- and risk-based regulation and the adoption of joint reviews for pesticides undergoing registration in two or more countries. These activities are critical to the competitiveness of Canadian growers by providing them first access to the latest technologies and for the maintenance and promotion of trade as increasingly many trade barriers faced by agriculture are non-tariff related.



As part of the pre-market registration process, PMRA is responsible for establishing the maximum amount of residue expected to remain on a crop when a pesticide is used according to the label instructions and ensuring that that level does not pose a risk to human health. This maximum amount is known as the maximum residue limit (MRL) and is a legally enforceable concentration that is regulated under the PCPA. The MRL is established for every crop-pesticide combination and is typically well below any level that could pose a health concern. The establishment of similar MRLs in our key export markets is critical to ensuring that Canadian crops can be traded without the risk of technical trade barriers related to potential residue detections.

The PMRA's focus on regulatory harmonization and its leadership at the OECD have made it a trusted regulatory authority and has helped build confidence in our scientific process among other regulators. PMRA evaluators also directly participate in the establishment of MRLs at Codex – a system deferred to by many countries around the world. It is difficult to overstate the importance of this work in terms of retaining and opening markets for Canadian agricultural products.

The resources of the PMRA are heavily strained in a number of areas. The pace of product approvals, re-evaluations, and special re-evaluations continues to increase, and their global responsibilities are increasing at the same time.

The PMRA recently proposed an increase in the fees that they charge registrants, many of whom are CropLife Canada members, as part of an updating of their cost recovery regime. CropLife Canada was supportive of the PMRA's proposed fee revisions so long as the additional resources collected through the cost recovery changes not result in a corresponding cut to PMRA's A-base funding and are, instead, directed to key priority areas within the Agency. These priority areas include international regulatory harmonization and cooperation activities; timeliness and predictability of regulatory decisions; provision of opportunities for the Agency's staff to remain current with scientific advancements; modernization of the Agency's IT infrastructure; and increased public outreach to enhance public confidence in the PMRA and the products it regulates.

We must ensure that dedicated resources be earmarked for international activities to further the progress made on regulatory harmonization, to ensure Canada's scientific approach is emulated in other jurisdictions, and to increase Canada's contribution of technical experts to the Joint Meeting of Pesticide Residues (JMPR) at Codex. These activities directly contribute to Canada's ability to freely export the crops grown by our farmers.

Conclusion

CropLife Canada believes these recommendations are entirely consistent with the Government of Canada's new Innovation Agenda, particularly the commitment to "ease of doing business." The federal government has clearly stated its desire to modernize its regulatory frameworks to adapt to and capture the potential of innovative industries. There can be no greater example of this than the plant sciences sector. Creating a culture of innovation, and making Canada an investment destination for innovators,



will require bold action. CropLife Canada urges the government of Canada to take the necessary actions, so that in cooperation with industry and farmers, we can continue driving the Canadian advantage.