APAS submission to Health Canada on plant breeding innovation (Novel Food Regulations)

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Agricultural Producers Association of Saskatchewan (APAS)
3401A Pasqua Street
Regina, Saskatchewan S4S 7K9
1.306.789.7774
policy@apas.ca
www.apas.ca

About APAS

The Agricultural Producers Association of Saskatchewan (APAS) is our province's democratically elected, non-partisan farm policy and advocacy organization. Formed in 2000, APAS represents the voice of Saskatchewan's farmers and ranchers across 136 rural municipalities. APAS works on behalf of our members to address important issues facing Saskatchewan's agricultural sector – such as rail transportation, carbon taxation, business risk management, water policy, and seed royalties, plus many others. APAS is also a member of the Canadian Federation of Agriculture (CFA) and advocates on behalf of Saskatchewan's agricultural producers to all levels of government.

Why plant breeding innovation matters to APAS

Canada's grain sector is proud of its hard-earned reputation as one of the world's largest suppliers of safe, sustainable, and high-quality grains. That reputation is due in no small part to the science and risk-based regulatory environment we have in Canada and preserving that reputation is key to the sector's future success. We believe that the Government of Canada's efforts in this area will not only help grow our agricultural exports and speed the post-COVID economic recovery, but also help to address some of Canada's domestic food, health, and environmental challenges.

The 2017 Advisory Council on Economic Growth (in a document known as the Barton Report) identified Canada's agri-food sector as having great potential to drive economic growth for the country. The Agri-Food Economic Strategy Table later called for decisive action from policy makers to realize this potential and set an ambitious target of $85 billion in annual exports by 2025. The Table recognized that structural and cultural changes would be needed to reach this target, including agile and streamlined regulatory approaches. This included modernizing Canada's regulatory approach to plant breeding by improving guidance and clarity for product developers on the interpretation of Canada's novelty-based regulatory triggers. We appreciate Health Canada's efforts to bring this recommendation to fruition and believe that efforts in this area will help grow our agricultural exports and speed the post-COVID economic recovery.

APAS recognizes the many benefits that plant breeding provides to both producers and consumers, as well as the potential to mitigate climate change and environmental impacts. Implementing appropriate regulatory approaches to ensure plant breeding innovation in Canada can advance is important for Canadian agricultural products to get fair market access. To represent the interests of agricultural producers in Saskatchewan, APAS stresses the important role that adaptive varieties resulting from plant breeding can play in agricultural production. Crop varieties that are more adaptive to environmental stresses such as climate, pests, and disease are important to the quality and quantity of foods that can be produced in Saskatchewan. Drought and heat tolerance, as well as disease and pesticide resistance are desirable traits that can be enhanced through plant breeding and would be beneficial to quality food production throughout the province.

Gene editing technology also has potential for environmental benefits, such as increases in yields without the need for additional resources, resulting in higher production with a smaller footprint. The precision and low cost through which modern gene editing technology such as CRISPR can produce desired results provides a unique opportunity for producers and consumers to benefit from new varieties in the market. Wheat varieties with lower gluten content to meet dietary restrictions and consumer preferences, or vegetables with a longer shelf life could aid in preventing food scarcity issues and food waste.

Balancing the needs of producers with those of the market is an important consideration in developing new crop varieties. For example, the growing interest in biofuel production in Saskatchewan is a positive market signal for crop producers. Producing feedstocks for biofuels in Saskatchewan is a viable option for producers, but the reliance on canola production could pose challenges in dry years. The development of canola varieties which are drought tolerant or contain a higher oil content would present opportunities for increased production in Saskatchewan and further investment in our province. Plant breeding provides an opportunity to introduce adaptive crop varieties that could provide alternatives to meet the future demand for biofuel feedstocks created by the Clean Fuel Standard.

Trade, economic growth, and jobs

Canadian exports of cereals, oilseeds, and pulses add over $25 billion to the Canadian economy every year, but the sector is facing intense and increasing competition in global markets. We have also seen more examples of Canadian research investments in plant breeding innovation falling behind those of other countries. This results in less innovation for Canadian farmers, placing them at a competitive disadvantage against their global counterparts. Canada needs leadership in innovation as well as an efficient and science-based regulatory system to secure our position as a leading supplier of safe and high-quality products. Seed innovation also leads to greater innovation throughout the value chain, generating new research, expanding the range of new products available to farmers and consumers alike, creating jobs, and helping to drive Canada's long-term competitiveness.

Sustainability and climate change

Climate change impacts our health, economy, and environment, all of which are linked to farming and sustainable land management. As the global population grows, higher yields will be required while using fewer inputs. Canada's 63,500 grains and oilseed farms can help to meet this challenge, but they need access to improved varieties that can better withstand drought, flooding, more extreme weather, and expanding pest and disease pressures. Seed innovation can also enable new cropping practices that reduce fossil fuel use, use inputs more effectively, and capture more carbon from the environment, furthering the sector's contribution to Canada's climate change and sustainability goals.

Health of Canadians and food security

Higher yielding, more nutritious crop varieties developed using cutting-edge gene editing methods have already been made available to consumers in the United States, Japan, Argentina, and Brazil, while Canadians have not had access to the same options. These include a soybean variety that produces oil with less saturated fat, tomatoes that are high in a naturally occurring compound that lowers blood pressure, and soon, wheat that is higher in fiber. Beyond the development of specialty products like these, gene editing tools are also being used to reduce post-harvest food waste, for example, by developing plants that have reduced losses during harvest or a longer shelf life. Plant breeding innovations have the potential to improve consumer access to nutritious and affordable food and increase food security in Canada and globally.

Support for the proposed approach

To enable Canadian plant scientists and innovators to realize the potential described above, Canada needs agile regulations and policies, built on a solid foundation of the best available science. We are pleased that Health Canada has put forward a proposal that will help the sector achieve these goals while maintaining Canada's high standards of safety.

The proposed approach offers numerous beneficial outcomes:

1) Canadian plant breeders using conventional plant breeding methods will now be on a more level playing field with their international counterparts.

The rare instances when conventional plant breeding may result in a novel food are now more clearly defined. Reducing uncertainty about the scope of products that may require pre-market assessment brings Canada closer to the approach followed by other countries, where conventional plant breeding is safely managed without involvement of regulatory processes that apply to products of biotechnology.

2) Canadian research projects will benefit from greater certainty.

Plant breeders will better understand whether their research objectives (e.g., a variety with resistance to a certain disease) will require a pre-market safety assessment as a novel food. Applications for research funding and grants can now include more certainty about regulatory costs and timelines, thereby removing an obstacle that has limited research in the past. This predictability will enable accurate project planning and use of limited research dollars.

3) Canada will be more aligned with like-minded countries, which will encourage additional trade.

Differences in the scope of products that trigger pre-market safety assessments among trading partners can lead to market access issues and disruptions in food supply chains. In this proposal, Health Canada has taken steps to better align Canada with the rest of

the world (e.g., characterizing products with foreign DNA as novel foods). In the longer term this will support Canadian leadership in international forums and better facilitate the development and use of international standards that underpin global trade.

4) Farmers will have more seed varieties to choose from.

Gene editing is a cost-effective and efficient tool, allowing plant breeders to do more with less. Public sector breeders, small companies, and researchers working on specialty crops will be able to participate in the most cutting-edge innovations to a greater degree under Health Canada's clarified guidance.

5) Canada will maintain its reputation as a trusted, science-based, and product-based regulator.

Trust in the safety of the Canadian food supply depends in part on the effectiveness of Health Canada's regulatory programs, risk communication, and transparency measures. Health Canada proposes a notification mechanism for gene-edited products that will help provide information and build trust in the safety of plant breeding innovation. This is beneficial, recognizing that foreign governments, consumers, and other end-users of grain (e.g., processors, manufacturers) may seek information about gene-edited products grown in Canada, even if they are not determined to be novel foods. We encourage Health Canada to continue firmly defending the scientific basis on which these new areas of guidance have been developed. These efforts help to support Canada's reputation as a supplier of safe and high-quality grain.

Conclusion

APAS encourages implementation of the proposed approach as soon as possible. In the longer term, we hope that Health Canada will continue its efforts to share regulatory approaches internationally and work with like-minded countries to preserve science-based global standards and rules of trade.

Thank you for inviting APAS to provide feedback into this consultation process and please contact us if you have any questions or comments on this submission.

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