



Bay 6A – 3602 Taylor Street East  
Saskatoon, SK S7H 5H9

August 31, 2022

Agriculture and Agri-Food Canada (AAFC)  
Ottawa, ON

Sent via: [aafc.fertilizer-engrais.aac@agr.gc.ca](mailto:aafc.fertilizer-engrais.aac@agr.gc.ca)

**Re: Discussion Document: Reducing emissions arising from the application of nitrogen fertilizer in Canada's agriculture sector**

On behalf of the Saskatchewan Barley Development Commission (SaskBarley), we are submitting the following comments on the "*Discussion Document: Reducing emissions arising from the application of nitrogen fertilizer in Canada's agriculture sector.*"

Representing approximately 9,000 barley producers, SaskBarley was established to grow the Saskatchewan barley industry. A producer-led organization, SaskBarley provides leadership in identifying and supporting research, market development, and advocacy that contributes to profitable and sustainable barley production for Saskatchewan farmers. We support and advocate for science-based policy, backed by verifiable data, to strengthen the competitiveness of Saskatchewan barley farmers.

The AAFC discussion document states, "the defining challenge for Canadian agriculture in the 21<sup>st</sup> century will be to reduce absolute GHG emissions, and ultimately reach net-zero emissions by 2050, while finding ways to increase yields and economic growth- all while feeding a growing global population." While laudable, the goals as stated in this defining challenge, unfortunately, run contrary to each other – particularly when it comes to "reduc[ing] GHG emissions" while "increas[ing] yields and economic growth." Given the short timeframe to 2030, achieving a major increase in production and exports while simultaneously reducing fertilizer emissions by 30 per cent present significant challenges.

This is not to say that continued improvement and a sustainable balance is not achievable. Through increased investment in research and clear, positive economic incentives to improve on-farm fertilizer use efficiency, SaskBarley believes that our probability of mutual success can be realized.

Historically, the best way to deliver increased sustainability and resiliency in the agricultural sector is through uninterrupted and ever-increasing investments in research and variety development. By allocating proper funding towards plant breeding activities that develop trait technology and innovation "in seed," farmers will be equipped with higher-yielding varieties that boast improved nutrient use efficiency, a reduced requirement for pesticides, and a better ability to withstand abiotic and biotic stressors.

As repeatedly stated by the federal government, addressing climate change and more substantive environmental sustainability efforts are priorities of the *Sustainable Canadian Agriculture Partnership (SCAP)*. To achieve these goals, SCAP should prioritize key investments in plant breeding with a focus on traits that benefit economics and agronomics for farmers, and protect the environment for everyone.



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On behalf of our farmer members, there is widespread agreement that the Government of Canada continue to fund breeding activities through the network of existing public breeders and the Agri-Science Cluster Program. This investment in variety development should be, at minimum, maintained at current levels. Currently there is significant risk for a reduction in variety development funding through the Agri-Science Cluster program. For example, under the current Barley Cluster, variety development work is funded 70% by AAFC and 30% by industry partners such as SaskBarley. As industry funders, we have been told that the upcoming Cluster 2023-2028 variety development activities will be funded at 50/50 ratios. For a smaller crop like barley, this reduced ratio puts our public breeding programs at significant risk. Increased industry dollars are required to meet this funding shortfall, while also being required to meet the prescribed program ratios of research on GHG emission reduction where variety development programs are not eligible, despite a clear link between improved varieties and environmental benefits.

Variety development funding must be viewed as a key element of a fertilizer application and emissions reduction strategy that complements other sustainability focused research. Variety development funding must not be sacrificed for other work within this important area. In fact, new varieties with greater nitrogen use efficiency are potentially one of the easiest tools for farmers to adopt on their farms to meet emission reduction targets.

Another key recommendation on behalf of SaskBarley is the implementation of clear, positive incentives to improve on-farm fertilizer use efficiency and decrease emissions. There are many variables at the regional and individual farm level that will impact what solutions work for each farmer. It is crucial that any recommended or incentivized practices are economically, operationally, regionally, and environmentally feasible for farmers. If farmers receive accessible, unbiased research that clearly shows potential benefit to their operation, adoption rates of any new tool will increase.

Reduction in GHG is a public good. A safe, sustainable, and low-cost food supply is also a public good. There needs to be clear leadership and investment by the federal government in research, research capacity and tools that improve fertilizer use efficiency, that have a clear cost-benefit analysis for the adoption of such practices. Current available methodology to reduce fertilizer emissions benefit the environment but offer little or negative financial benefit on the farm.

Farmers are willing partners in this process but cannot be expected to bear the financial burden of emission reduction targets for research or adoption of innovative practices at a loss. The benefit of investment and adoption is a public good, and a loss for the farmer – the associated means to achieve the goals should reflect that.

Saskatchewan farmers have been global leaders in the adoption of technology. One significant example is the adoption of conservation tillage. Conservation tillage offers significant benefits to the environment, including but not limited to, increased moisture retention and conservation, erosion control, increased soil carbon storage, and decreased fossil fuel requirements for operations. Although farmers appreciate the environmental benefits, they could not have afforded the transition to



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conservation tillage if it was not also economically and agronomically advantageous. Similarly, once research delivers clear economic and agronomic advantage to decreasing fertilizer-based emissions, the practices and technologies will be adopted rapidly, and emissions will decrease.

Farmers are committed to ensuring a healthy, sustainable environment for themselves and future generations - their livelihoods depend on it. Finding solutions that work for both farmers and the environment is critical for adoption of fertilizer emission reduction strategies. Farmers are price-takers in a global market and must remain competitive to make investments necessary to reduce emissions and to ensure production in the face of constantly changing growing conditions. SaskBarley reiterates that for any strategy to succeed and take foothold, it must meet the unique needs of our agricultural sector and protect farmers' competitiveness at home and abroad.

If you require further information on our submission or would like to have a meeting with our organization, please contact our Executive Director, Jill McDonald at 306-370-7237 or at [jmcdonald@saskbarley.com](mailto:jmcdonald@saskbarley.com).

Best regards,

A handwritten signature in black ink, appearing to read "Keith Rueve". The signature is written in a cursive, flowing style.

Keith Rueve  
Chair, SaskBarley