TEAM ALBERTA CROPS

June 28, 2024

Honourable RJ Sigurdson
Minister of Agriculture and Irrigation
Via email: agi.stewardship@gov.ab.ca

Re: Summary of Sustainability Efforts

Dear Minister Sigurdson,

On behalf of Team Alberta Crops, we are writing in response to your May 24th email to highlight the many Beneficial Management Practices (BMPs), initiatives and various technologies and innovations utilized by Alberta's crop and honey producers to promote sustainability and productivity. As mentioned in your email, Alberta farmers are indeed leaders in sustainability and stewardship, and we heartily share your desire to share and showcase these ongoing achievements.

Being reliant on land for their livelihoods, Alberta farmers recognize it is in their best interest to be responsible stewards and undertake practices that promote a healthy ecosystem that can sustain the productive growth of crops for generations to come. It is also in the farmers' best interest to efficiently utilize and minimize the use of expensive inputs such as fuel, electricity, pesticides, fertilizers and water used for irrigation.

Below and in no particular order, we have compiled a list of commonly utilized BMPs and initiatives that have had a significant impact on improving the sustainability of Alberta farming.

- **Minimum Tillage/Zero Tillage** - Technology advances have enabled farmers to use zero tillage and minimum tillage practices. Although minimum/zero tillage is not suitable for all situations, 2023 data states 80% have adopted reduced tillage. 2023 Environmentally Sustainable Agriculture Tracking Survey Final Report
- **Environmental Farm Plans** – Many farms are utilizing EFPs or equivalents to evaluate their farm's sustainability strengths, potential environmental risks and identify opportunities for improvement. EFPs promote education and inform on BMPs that either meet or surpass international standards.

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- **Energy Efficiency**
    - **Energy Efficiency Assessments** – Industry groups, such as the Alberta Beekeepers Commission have undertaken energy efficiency assessments to evaluate current technologies and practices and identify opportunities for improvements to increase the sustainability and reduce the carbon footprint of commercial operations in Alberta. **Link**
        - Current Technology and Energy Efficiency Opportunities for Alberta Commercial Beekeeping Industry - Link
        - Many beekeeping operations are utilizing solar power for their honey houses, using net-zero overwintering buildings for hives and using recyclable plastics for beehive foundations.
    - **Increased efficiency for grain storage and drying** – The adoption of Energy Smart Bin Cables, auto fans and increased efficiency for grain driers including the conversion of power from propane to natural gas uses, three-phase electricity and solar.
- **Adoption of technology and innovation**
    - Innovation for Crop Protection and Spraying Application - Pulse Width Modulation application (rates are exactly applied per nozzle), turn compensation, low drift nozzles, wetting agent and surfactant technology helping with drift, boom height controls and green on brown technology (WeedIt technology) greatly increase the efficiency and quantity of pesticides required.
    - Sectional Control technology avoids overlap, reduces fuel usage and emissions.
    - Soil health - Soil sampling, soil sequestration and intercropping are utilized widely to promote healthy soils that build and retain carbon and are capable of sustainable production.
    - Variable Rate technology – VRT greatly increases the efficiency and utilization of inputs, seeds and even water by using data to apply different rates in different locations depending on the need and efficacy.
    - Nitrogen including 4R – Nutrient stewardship practices optimize plant uptake and minimize field losses.
    - Design of net-zero overwintering buildings for colonies and the utilization of recyclable plastics for beehive foundations.
    - Design and utilization of chemical-free management tools for pests and diseases.
- **Farm Sustainability Readiness Tool** – Team Alberta Crop partners Alberta Canola, Alberta Grains and Alberta Pulse Growers launched the Farm Sustainability Readiness Tool. The website provides an

online assessment farmer can use to compare against three common sustainability programs; Unilever Sustainable Agriculture Code SAC (2017), International Sustainability and Carbon Certification ISCC (202 V3.0) and the Farm Sustainability Assessment (2.0).

    - The tool looks at three key areas of sustainability: economic viability, environmental sustainability and social responsibility. This helps farmers prepare to enter these programs if they choose to take that step. The Farm Sustainability Readiness Tool is not a substitute for any audit process, nor does it ensure compliance with the three programs, it is a self-assessment and action plan tool that provides a gap analysis and tips to evaluate a farm's performance and identify areas for improvement.

- **Water Use Efficiency** - Irrigated growers in Alberta are leading the way in adoption of water reduction/ efficiency technology like low flow nozzles and drag lines. Soil moisture sensors are used to limit application on a nozzle-by-nozzle basis allowing precision applications thereby allowing more food production using less water. Currently AI irrigation applications are being trialed in the potato industry as well.
- **Wetland Stewardship and Water Monitoring Project** - Alberta crop sector partners collaborated to implement a three-year wetland stewardship water monitoring project. The findings are conclusive and have proven broad acre farmers continue to use crop protection products responsibly and are stewards of important wetlands and watersheds across Alberta. The three-year project saw no exceedances of acute or chronic toxicity end points for 127 different active chemistries. The project focused on 21 wetlands across three ecoregions and four watersheds. This project reenforces and illustrates the commitment of our farmers to sustainability and wetland stewardship. Link
- **Potato Sustainability Alliance** – The Alberta Potato Industry is a proud partner in the Potato Sustainability Alliance with Alberta growers and members of industry acting in leading roles within the organization. The PSA works with growers, supply chain partners, non-profit organizations and advisors to improve the economic, environmental and social aspects of potato production. Over the last decade, the PSA has been gathering data from the industry on nutrient use efficiency, irrigation use efficiency, greenhouse gas emissions, pesticide risk, worker safety and waste/recycling. This cohesive project of measuring, benchmarking and reporting sustainability metrics across all regions in North America allows the full potato values chain, from producer to retailer, to tell our sustainability story to the communities and consumers we serve.
    - Link: https://potatosustainability.org/
    - Alberta potato farmers continue to increase their energy efficiency for storage through techniques such as remote monitoring and variable frequency drive (VFD) fans.
- **Alberta Potato Spore Trapping and Insect Monitoring Network**

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- The Alberta potato spore trapping and insect monitoring programs are designed to address industry priorities in plant health and sustainability. A network of Burkhart spore traps and insect cards are strategically located over all Alberta potato acres and are monitored for Late Blight, Fusarium, Alternaria as well as aphids and potato psyllids. This program gives growers real time data to make informed decisions of when they need to spray and more importantly when they do not. Since the beginning of this program, fungicide applications have been reduced by approximately 4 applications per season and we have made significant reductions in insecticide applications as well. The strategic and sparing applications of fungicides and insecticides has also significantly reduced the risk of such potato diseases/insects developing chemical resistance to those chemistries as well as protecting the beneficial insects that would have otherwise been eliminated from blanket insecticide applications.

- **Cover Crops –** Cover crops benefit soil biology and reduce the effects of erosion on soils.
- **Pulse Crops in Rotation** – Incorporation of pulse crops in rotation since the introduction of the crops to Alberta. Nitrogen fixation properties of the pulse crops provide benefits to fertility, causing a reduction of applied nitrogen and the residual benefits continue in the soil for the next year.
- **Alberta Field Pea** - Environmental Product Declaration (EPD) - In 2015, Alberta Pulse Growers in conjunction with the Government of Alberta researchers, worked to assemble the data required for an environmental product declaration on Alberta Field Peas. The declaration was the first EPD completed on a North American food product.
  - Link
- **Life Cycle Assessments** – Growers and industry groups are using LCAs to assess environmental impacts throughout all stages of the life cycle. LCAs are also used extensively by retailers to label, market and promote sustainably produced food.
  - Examples include: https://pulsecanada.com/sustainability
    - Canola Biodiesel and Environmental footprint of canola and canola-based products
    - Potato Sustainability Assessment Report
    - Honey Bees as an ecosystem service – Link 1 and Link 2

In summary, thank you Minister Sigurdson for your strong advocacy for Alberta's crop and honey sector and efforts to communicate the environmentally responsible and sustainable practices and initiatives utilized by Alberta's agricultural producers. Please feel free to follow up for additional information at any time.

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Respectfully yours,

Team Alberta Crops

Tara Sawyer, Chair
Alberta Grains

Curtis Miedema, Chair
Alberta Beekeepers

Roger Chevraux, Chair
Alberta Canola Producers Commission

Shane Strydhorst, Chair
Alberta Pulse Growers

Brian Ellis, Chair
Alberta & BC Seed Growers

Gary Tokariuk, Chair
Alberta Sugar Beet Growers

Alison Davie, Chair
Potato Growers of Alberta