

## SUMMARY

The members of the Canadian Roundtable for Sustainable Crops want the same thing as all members of the Canadian agriculture industry—to showcase our successful track record with regards to sustainability and our genuine commitment to producing healthy, high-quality food to feed the world.

**A tool (that has yet to be named) that achieves this could be used by Canadian crop farm associations and marketers to explain to customers our Canadian grain sustainability story:**

- Using key messages on how crops are farmed in Canada and what that means to sustainability
- Providing information on practices that crop farmers use to reach those sustainability results
- Demonstrating sustainability results using data from the CRSC Canadian Grains Sustainability Metrics Platform

Focus is on practices that farmers are already using: this is not intended to add costs to crop farmers nor change the way that they are doing business. Crop farmers will not have to document nor be audited nor use outside advisors: this is about crop farming as a whole rather than individual farm reporting.

*Crop farmers in this document includes farmers who grow cereals, oilseeds, pulses and special crops.*

## HOW COULD THIS INFORMATION BE PRESENTED?

### Preliminary work

Start with introduction on context of Canadian crop farming and overall key outcomes, then provide more details



**Nutrient and soil management**



**Water and biodiversity**



**Seed varieties and crop health**



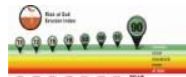
**Health and wellness**

## WHAT COULD THIS LOOK LIKE?

The following is an example of what the nutrient and soil management section **could** look like. Key messages will be reinforced using graphs and numbers where appropriate, as per example below.

### Nutrient and soil management

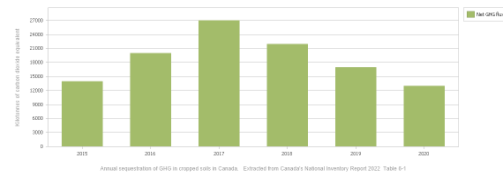
Canadian farmers take good care of their soils – and it shows. Agriculture and Agri-Food Canada’s index of soil erosion risk was 90/100 in 2016. That means 90% of the agriculture soils in Canada are at a very low risk of erosion.



Farmers are achieving these improvements in soil health by being world leaders in the adoption of no-till and other conservation tillage methods.



Canadian soils, on average, sequester carbon every year, improving the health of the soils and reducing emissions of GHG.



Canadian farmers are responsible users of added nutrients. Many follow the 4R Nutrient Management practices: right source, right time, right rate and right place.

*Add graph or diagram*

97% of Canadian grain farmers rotate their crops from year to year to reduce disease and pest pressures, and to manage their economic risks and soil and plant health.

*Add graph or diagram*

Many grain farmers have added nitrogenfixing crops to their rotations (lentils, soybeans, field peas and beans) which reduce their need for added mineral nitrogen and reduce GHG emissions.

*Add graph or diagram*

Crop farmers follow these practices to maintain and enhance soil health and manage added nutrients:

1. Adopt conservation tillage where suited to the soil, climate, crops grown and farming system.
2. Take initiative to reduce the risk of erosion from wind, water and tillage.
3. Remediate degraded soil.
4. Effectively manage the plant nutrient needs, such as following the 4R Nutrient Stewardship principles of Right Source, Right Rate, Right Time and Right Place, by, for example:
  - Regularly assessing available nutrients in their soil, for crop health and sustainable soil.
  - Establishing nutrient application rates based on the crop nutrient needs and soil nutrient availability.
  - Applying nutrients when they will be retained by the soil.
5. Comply with regulations regarding fertilizer use and timing of application.
6. Use test results or validated averages to estimate nutrient content of manure.
7. Keep mineral fertilizers in safe, protected and dry storage.

## **WHAT ARE THE KEY MESSAGES AND PRACTICES THAT WE WANT TO HIGHLIGHT?**

The key messages selected will be used to develop communications products targeted to the following audiences:

- domestic and international buyers of Canadian crops
- crop farmers and their associations
- the Canadian public and governments

The use of these key messages will be adjusted according to the audiences and separate communications products will be developed with the guidance of the CRSC Communications Committee, using additional professional communications companies where appropriate. These final communications products will be circulated prior to publication to permit final feedback. The intent is to publish an annual report on progress so that all data remains current.

### **Key Messages – Introduction**

Canada is a large country with diverse landscapes.

Field crops, such as cereals, oilseeds, pulses and a variety of special crops are grown across the country in the temperate climate zone (*map will be inserted showing area where field crops are grown*)).

Within that temperate zone there are significant variations in frost-free days, soils, annual rainfall/snowfall and topography.

Canadian crop farmers select the crops that they grow and their sustainable practices according to the conditions on their farm.

Canadian crops farmers rely on science and research to provide them options for agronomic practices, and invest heavily in research to achieve the best results for the farm, but also for the country and their customers.

Canada has a world-class regulatory system governing the use of seeds, crop varieties, pesticides and fertilizers.

Crop farmers live where they work and care about those on the farm and in their community.

## **WHAT ARE SOME POSSIBLE KEY MESSAGES AND PRACTICES ON SOIL AND NUTRIENT MANAGEMENT ?**

### **Key messages**

Canadian farmers take good care of their soils – and it shows. 90% of the agriculture soils in Canada are at a very low risk of erosion.

Canadian soils, on average, sequester carbon every year, improving the health of the soils and reducing emissions of GHG. *(add in amount of carbon sequestered)*

Canadian crop farmers are achieving these improvements in soil health by:

- being world leaders in the adoption of no-till and other conservation tillage methods
- growing fall-seeded and cover crops
- rotating the crops grown from year-to-year

Canadian farmers are responsible users of nutrients needed to grow crops whether they are using manure and/or commercial mineral fertilizers.

Canadian crop farmers have been early adopters of effective nutrient management such as following the 4R Nutrient Stewardship principles, to achieve positive on-farm economics, crop productivity and fertilizer efficiency. *(2021 survey - 58% of spring wheat growers, 54% of canola growers, and 68% of corn growers at basic 4Rs)*

Canadian farmers rotate their crops from year to year and over 25% of crops grown are nitrogen-fixing crops (lentils, soybeans, field peas, chickpeas and beans), which reduce the need for added nutrients.

### **Practices**

**Crop farmers follow these practices to maintain and enhance soil health and manage added nutrients:**

- 1. Adopt conservation tillage where suited to the soil, climate, crops grown and farming system.**
- 2. Take initiative to reduce the risk of erosion from wind, water and tillage.**
- 3. Remediate degraded soil.**
- 4. Effectively manage the plant nutrient needs, such as following the 4R Nutrient Stewardship principles of Right Source, Right Rate, Right Time and Right Place, by, for example:**

- Regularly assessing available nutrients in their soil, for crop health and sustainable soil.
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  - Applying nutrients when they will be retained by the soil.
5. Comply with regulations regarding fertilizer use and timing of application.
  6. Use test results or validated averages to estimate nutrient content of manure.
  7. Keep mineral fertilizers in safe, protected and dry storage.

## **WHAT ARE SOME POSSIBLE KEY MESSAGES AND PRACTICES ON SEED VARIETIES AND CROP HEALTH?**

### **Key messages**

Crop farmers use seed varieties that respond to the needs of farmers and society that support food security, food safety, food quality, food versatility and consumer choice.

For most crops, seed variety registration is mandatory. The national seed certification system provides transparency for farmers and consumers.

All seed in Canada must meet the food, feed and environmental safety standards as outlined in [Food and Drugs Act](#), [Feeds Act](#) and [Seeds Act](#) .

Any seed that is novel (GMOs) as per the Canadian Food Inspection Agency and Health Canada guidance documents must receive an additional pre-market environmental, feed and food safety assessment prior to commercialization.

Farmers, government, universities and companies invest heavily in collaborative research to develop crop varieties that are suited to the Canadian climate and soils and deliver on market requirements, resulting in higher yielding, better quality and disease resistant varieties. *(add in data on farmer investment)*

Crop farm groups also invest in the development of tools, such as annual seed guides to provide guidance on variety selection, Keep it Clean! to inform farmers of specific market requirements, and the **Manage Resistance Now** initiative to provide information on best practices to help manage resistance issues for crop protection products and seed traits in Canada.

Farmers use many practices to protect crops from diseases and pests and ensure pesticides are used efficiently, and only when needed.

For example, integrated pest management approaches include:

- Assessing weed, disease and insect pressures to determine crop injury levels, and where possible, economic thresholds, prior to using pest control products.
- Rotating crops to reduce disease risk. *(97% of farmers rotate the crops that they grow in a specific field)*
- Use disease resistant varieties of seeds.

Canada has a world class regulatory system governing the approval of pesticides for farming, and directs how they should be used. (<https://www.canada.ca/en/health-canada/services/consumer-product-safety/reports-publications/pesticides-pest-management/policies-guidelines/risk-management-pest-control-products.html>)

Additional regulations govern the purchase, application, training, handling, storage and disposal of pesticides.

Canadian farmers and farm input suppliers have taken leadership in safe farm chemical disposal and recycling of plastics by implementing and using the Cleanfarms programs that collects unused chemicals and plastics.

## Practices

**Crop farmers follow these practices to select their seeds and protect their crops:**

- 1. Use seed varieties approved for use in Canada for grains and oilseeds that are destined for the Canadian commercial marketing system.**
- 2. Follow contract requirements and voluntary standards of crop rotation recommendations and insect refuge requirements to preserve varietal integrity and the sustainability of herbicide and pest resistant varieties.**
- 3. Use integrated pest management techniques such as:**
  - **Assess weed, disease and insect pressures to determine crop injury levels, and where possible, economic thresholds, before using pesticides.**
  - **Rotate chemical groups and use multiple modes of action where possible to manage development of pest resistance.**
  - **Rotate crops to manage pest pressures, diseases, economic risks, and soil and plant health.**
- 4. Use pesticides approved for use in Canada, adhering to label requirements for use, storage and pre-harvest intervals and any other requirements.**
- 5. When growing crops for either domestic or export markets, are aware any market access issues.**
- 6. Safely dispose of unused chemicals and used pest control product containers by returning them to a designated collection site, such as the Cleanfarms program.**
- 7. Keep records on applications of pesticides for the current and previous years.**

## **WHAT ARE SOME POSSIBLE KEY MESSAGES AND PRACTICES ON WATER AND BIODIVERSITY ?**

### **Key messages**

Canada is a large country, and although only certain land is suitable for farming, over 62 million hectares of land was farmed in 2020.

Of that land farmed, 61% was used for crops.

Farms are unique in that they coexist with and provide homes for nature.

Land used for farming in Canada supports 547 identified species of birds, mammals, reptiles and amphibians as well as a variety of insects and pollinators. *(AAFC reference to be added)*.

Agronomic practices used by crop farmers also contribute to wildlife habitat. Many crop farms also house livestock, and/or include other non-farmed land such as woodlots, bush and wetlands, providing a variety of landscapes.

Farm groups have developed tools, such as “Field Heroes”, to assist in identification of beneficial insects and leverage them for combatting insect pests.

The impacts of agriculture on water quality vary across Canada, depending on climate, soils and level of agriculture intensity.

Canada had the second-best water-quality ranking among selected industrialized countries based on the Environmental Performance Index (EPI). This water quality indicator developed for Yale and Columbia universities' EPI is a composite of freshwater quality for lakes and rivers. It has a possible maximum score of 100. Canada's score in 2010 was 93.1 ( insert footnote: <https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/freshwater-quality-global-context.html>)

National water quality monitoring of areas with intensive agricultural practices found that 94% sites were rated as good or fair. *(insert footnoted reference to ECCC National Water Monitoring Survey)*.

Federal and provincial agencies monitor pesticides residues in waterways. And where an issue is identified, regulatory action is taken.”

Canadian crop producers are efficient users of water, relying mostly on “green water” (rain and snow melt).

Only 1% of field crop land in Canada is irrigated to add to available rainfall, and 2% of crops are produced on irrigated land.

Water used for irrigation is governed by provincial regulations and is mainly sourced from surface water. Farmers have adopted conservation practices when using irrigation to make the best use of that water.

## **Practices**

**Crop farmers follow these practices that protect water and biodiversity.**

- 1. Use land management and agronomic practices such as rotating crops, fall-seeded and flowering crops, cover crops and vegetative buffer strips, that also provide wildlife access to nesting and food.**
- 2. Undertake measures to protect non-target areas and wildlife, such as pollinators, from excess nutrients and pest control products.**
- 3. Comply with regulations regarding agricultural activity on land that has been designated as “protected” by federal, provincial or municipal regulation.**
- 4. Optimize the use of irrigation water through water conservation and stewardship practices.**
- 5. Obtain permits, licenses, or agreements to use water for irrigation and adhere to their provisions.**
- 6. Follow federal, provincial and municipal regulations regarding drainage projects.**

## **WHAT ARE SOME POSSIBLE KEY MESSAGES AND PRACTICES ON HEALTH AND WELLNESS?**

### **Key messages**

The majority of crop farms in Canada are family owned and operated. Farmers know the importance of health and safety on their farms because they live there 24 hours a day. They care about people – family members, hired workers and custom operators.

Canada is a member of the International Labour Organization and has ratified and incorporated into domestic law all relevant conventions and treaties.

Farm employees are covered by robust labour legislation, at both the federal and provincial level, which includes Occupational Health and Safety requirements, labour standards and pay requirements.

Across Canada there are laws in place to protect workers on the job. This occupational health and safety legislation gives three important rights to all workers: the right to know; the right to participate; and the right to refuse unsafe work.



All employers must adhere to the Canadian Charter of Rights and Freedoms, which provides to all residents of Canada freedom from discrimination, freedom of association, freedom of expression and peaceful assembly.

Farm associations and government partners have developed and deliver many tools to farmers and their families to enhance health and wellness on the farm:

- The Canadian Agriculture Safety Association (CASA) and its members works with partners to support initiatives that equip producers, their families and their workers with the tools and training to make farms a safe place to live, work and play. *(add information on #programs, people reached)*
- Do More Ag is a Canadian charitable foundation focused on the mental wellbeing of all Canadian producers and provides awareness and tools, such as workshops to farmers and supports to their communities . *(add information on #programs, people reached)*.
- The Canadian Agricultural Human Resources Council works with industry associations, educators, and all levels of government to examine agriculture human resource issues and build human resource management tools. *(add information on #programs, people reached)*
- Crop farm associations provide leadership training and mentoring to young farmers.

Canadian farmers and their families are strong contributors to the sustainability of their communities. Farmers support local communities in the form of economic activity, taxes paid and volunteer community work.

Farm associations provide resources to the community. For example, the Canadian Agriculture Safety Association has developed a Firefighter Grain Rescue Training Course to prepare firefighters to respond to a grain entrapment incident on-farm or at a grain handling facility.

## Practices

**Crop farmers follow these practices to facilitate the health and wellness of the people on their farms:**

- 1. Ensure that everyone working and living on the farm is aware of and understands the health and safety risks and potential for farm hazards associated with their job function or presence on the farm.**
- 2. Communicate farm procedures and expectations to family and workers, and revisit and update on a regular basis.**
- 3. Provide well-maintained personal protective equipment (PPE) to everyone working on the farm based on job function.**
- 4. Have an understood emergency plan and equipment such as first aid kits and fire extinguishers.**

- 5. Foster a culture that encourages utilizing tools, strategies, best practices in the workplace and other resources available to manage mental health.**
- 6. Comply with all regulations with respect to their employees.**