



Farm of the  
**FUTURE**  
Canada.

**YEAR TWO  
IN REVIEW.**

# Summary.

When McCain Foods embarked on a journey to become a more sustainable company, from the farm to the plate, a keystone commitment was to ensure that every potato harvested for a McCain french fry, hashbrown, Tasti Tater or other specialty product was grown on a farm that uses regenerative agricultural practices.

With that commitment came a promise to our farmer partners that we would support them every step of the way. We promised to develop three Farms of the Future in different growing regions around the world, where we could test different practices and approaches to regenerative agriculture to find what works best.

We have now completed two growing seasons and harvests at Farm of the Future Canada, our flagship Farm of the Future near our hometown of Florenceville, NB. Our confidence in regenerative agriculture as a pathway to mitigate the climate impact of growing potatoes continues to strengthen.

**At Farm of the Future Canada, we are fulfilling our promise to re-imagine the way we grow a potato.**

**About Farm of the Future Canada:** The flagship of McCain Foods' Farms of the Future project is situated on 500 acres near the company's hometown of Florenceville, NB. The Farm includes 355 acres of cultivated land owned by McCain, and an additional 145 acres rented on a long-term agreement. The property also includes a 140-acre forested lot.



**“The way our climate is rapidly changing, we have to do something. It’s going to be an ongoing battle; climate change isn’t going away. We need to be prepared for future generations and make sure that we can still produce a good crop and not spend too much money on damage control. Floods, heavy winds and hot days; we need to be prepared to combat these things.”**

**Andrew Stephenson**

Fourth-generation farmer from a family that has been working with McCain since the company was founded 66 years ago.

# Year 2 Highlights.

The second season at Farm of the Future Canada featured three varieties of potatoes on 150 acres, 193 acres of grains, 168 acres of cover crops and 41 acres of pastureland for grazing.

To better benchmark the performance of regenerative agricultural practices at Farm of the Future Canada against more conventional farming methods, a non-scientific comparison was established with Valley Farms. On two fields at Farm of the Future Canada, we used the same seed source and coordinated planting and harvest with a fumigated field at Valley Farms. It was interesting to note that despite using a lesser amount of fertilizer and pesticides at Farm of the Future Canada, there was not a significant difference in yield or quality.

This is just one example of the considerable advancements we are making at Farm of the Future Canada towards more sustainable agriculture.





## Ensure Farm Resilience

The yield and quality of the potato crops at Farm of the Future Canada were strong in 2022; colour, specific gravity and size were in line with local averages.

However, this is still a learning process. While the regenerative agricultural practices we employed didn't hinder quality or yield, there are takeaways that will require re-assessing on-site practices to ensure consistency.



## Reduce Agro-Chemical Inputs

We have reduced applications of fertilizers and pesticides across Farm of the Future Canada — most notably a 13 per cent reduction in the use of nitrogen — enabled by GPS systems on all farm machinery and implemented soil scanning technology to allow for variable application.



## Armour Soil with Plants

Multi-species cover crops were planted over 142 acres at Farm of the Future Canada, with minimal application of fertilizer or pesticides. Out of 11 months (an estimated 290 days), Farm of the Future Canada soil surface was covered with green vegetation for 181 days, which is ideal.



## Minimize Soil Disturbance

Fall bedding has proven to be particularly effective at Farm of the Future Canada, improving planting logistics, removing the need for spring tillage and the demands on labour and equipment during the critical spring season.

Controlled Traffic Farming was also expanded, with GPS systems now equipped on all tractors used at Farm of the Future Canada.



## Enhance Crop and Ecosystem Biodiversity

We are quantifying the biodiversity on Farm of the Future Canada with DNA barcoding — which objectively maps soil species, provides deeper insights into soil biodiversity health to support management decisions, promotes understanding of species-related risks and opportunities, and uncovers how the soil ecosystem is changing with different management practices and time. We also have introduced pollinator strips, micro ecosystems that attract and encourage pollinating insects.



## Optimize Water Use

An irrigation pond was dug and a drip irrigation system was purchased for Farm of the Future Canada in 2022. It will be deployed and operational in 2023 to better manage water use.

# Regenerative Agriculture Framework.

The McCain Foods Regenerative Agriculture Framework is the roadmap to a more sustainable farm. The Framework defines McCain's core principles of regenerative agriculture and maps out how it is measuring progress against seven indicators, while providing flexibility for farmers to decide what will work best on their farms.

After two seasons in operation, Farm of the Future Canada has reached the **Expert level** in three of the seven indicators on the scorecard.

## 1 Armoured Soils, Preferably with Living Plants

Farm of the Future Canada was covered with living plants or residue for 290 days in 2022, above the Expert threshold of 270 days.

## 2 Enhanced Farm and Ecosystem Biodiversity

More than a quarter of the Farm of the Future Canada land (28 per cent) is dedicated to natural habitat, well above the Framework standard of 8 per cent for the Expert level.

## 3 Enhanced Crop Biodiversity

The number of cover crops grown at Farm of the Future Canada, depending on the season, ranged from six to 12, well above the Expert threshold of eight crop species.

In the remaining four indicators, Farm of the Future Canada is at the **Beginner level**. In its second year of operation, a strong foundation has been laid to continue moving Farm of the Future Canada up the Framework.

## 4 Reduced Toxicity of Pesticides

Farm of the Future Canada has achieved a 516 Environmental Impact Quotient (EIQ), which is only 16 points away from reaching the Master level.

## 5 Minimize Soil Disturbance

Tillage was reduced by one event on a potato crop and conservation tillage was adopted in rotational crops. The intensity of tillage was reduced by switching to a chisel plow, and no tillage was used for non-potato crops.

## 6 Reduce Agro-Chemical Impact and Optimize Water Use

All inputs in 2022 were applied based on DSS or expert advice from a recognized crop advisor. GPS is now being used on all farm tractors.

## 7 Increase Soil Organic Matter

Soil health assessments have been completed and will be re-assessed annually, including soil biodiversity assessments. It may take a few years for changes implemented in the first two years of Farm of the Future Canada to register an increase in measurement.

# MOVING FORWARD

We are pleased with our progress so far against the Regenerative Agriculture Framework but are cognizant that this is a multi-year process and there remain areas to improve.

We are confident that our **EIQ values will continue to fall**. Further reduction of the use of Mancozeb in 2023 should lower our EIQ score into the Master level for the Agro-Chemical Inputs indicator.

**Increased use of precision agriculture technology**, such as variable rate fertilizer application and See-and-Spray, will further reduce the impact of agro-chemical inputs on Farm of the Future Canada.

In the coming year, **further reduction of synthetic fertilizers** in favour of organic sources and increased use of cover crops and green manures, will increase the organic matter on the Farm and further reduce the carbon footprint of the operation.



See the McCain Foods' Regenerative Agriculture Framework [here](#).

