EMILI

Driving Agriculture Innovation



EMILI is an industry-led non-profit that collaborates with producers, industry, investors, and other leaders to drive innovation in agriculture.



More than 50 producers, from across Manitoba and as far as Quebec, attended EMILI's 2025 Producer Day which included demonstrations on CLAAS, Case IH and John Deere combines and interactive, hands-on instruction with experts from Bushel Plus.

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"Farmers across Canada are living and working through rapid technological change and tumultuous markets. There's never been a more important time for full-scale testing and validation to evaluate the return on investment (ROI) of agriculture technologies, and showcase which ones are ready for adoption. We are going to need all sorts of technology to support productive and sustainable agriculture production for future generations."

Ray Bouchard, EMILI Board Chair, Enns Brothers President and CEO

EXECUTIVE SUMMARY

Since 2016, EMILI has shown an unwavering commitment to driving agriculture innovation. This year, as we reflected on what fuels this work, we saw a distinct pattern of innovation, partnership, and engagement. Establishing these as our strategic objectives provides a framework for how EMILI collaborates with producers, industry, investors, and innovators to grow a sustainable and economically resilient digital agriculture industry. As you flip through this booklet you will see diverse examples of how we partner across the ecosystem to:

- **advance innovation** and adoption in Canada by testing and validating the productivity of new technologies and innovative production practices.
- **cultivate partnerships** with producers, industry, investors, and innovators to grow a sustainable, economically resilient digital agriculture industry.
- **foster engagement** during field tours, an annual conference, and other events to increase understanding and education around new technologies and innovative production practices.

As an industry-led non-profit we are in a unique position to provide innovators with access to leading-edge equipment, technology, and production practices along with unbiased feedback on how their innovation works on a full-scale farm. The support we receive from industry, producers, and government represents a big investment in the future of digital agriculture in Canada. As we look ahead to 2026 and the opportunity to celebrate our first decade, there are exciting plans in the works to increase the adoption of cutting edge technologies and production practices that could grow Canada's position as a global leader in food production.

Thank you for your support,

Jacqueline Keena

"As technology evolves and reshapes the industry, we are able to do more, and in a more productive and sustainable way. This provides a huge opportunity for Canada to increase productivity and grow our position as a global leader in food production."

Jacqueline Keena, EMILI Managing Director





FCC and EMILI celebrate the announcement of expanding Innovation Farms.

ADVANCING AGTECH INNOVATION

EMILI advances innovation and adoption in Canada by testing and validating the productivity of new technologies and innovative production practices.

EMILI launched **Innovation Farms powered by AgExpert** in 2022. Since then the initiative has expanded to include 14,000 acres on two Manitoba farms in Grosse Isle and MacGregor. Thanks to a multi-year partnership with **Farm Credit Canada**, EMILI can now test technology used to grow and store potatoes in MacGregor, in addition to the wide variety of crops commonly grown in Grosse Isle

Since launching its Innovation Farms MacGregor site, EMILI has installed an **Arable** station and an **Agi3** Crop Sentry system in a potato field to monitor crop conditions, and equipped potato storage bins with various **Cellar Insights** sensors to monitor the storage environment.

EMILI is working with Cellar Insights to demonstrate the ability of its technology to monitor the storage quality of potatoes remotely. This technology uses predictive analytics and smart storage monitoring to deliver early warnings on spoilage risk to reduce losses for growers.

EMILI is collaborating with Agi3 to test and validate its Crop Sentry system. During the 2025 season, the AI-driven IoT (internet of things) platform was deployed in a potato field in MacGregor and in field pea, canola, oat, soybean, corn, and spring wheat crops at EMILI's Grosse Isle site. The data being collected by EMILI is being used to test Crop Sentry's ability to monitor crop performance, predict yields based on in-season changes, and refine machine learning algorithms.

Each season, EMILI collaborates with more than 30 agtech innovators (from both startups and established companies) to test and validate new technologies and production practices. The technology being tested aims to provide farmers with solutions that meet the unique needs of their farm operation, including different crops, weather patterns, and soil types.

Visit emilicanada.com/innovation-farms to learn more.



Cellar Insights CEO Terry Sydoryk installs sensors at EMILI's Innovation Farms in MacGregor.



There are Crop Sentry stations installed on Innovation Farms in Grosse Isle and MacGregor.

"Innovation is key to the future success of this industry, so when I heard about what EMILI was doing, testing and validating technology at Innovation Farms, I knew it was something I wanted to contribute to in the potato industry."

Sheldon Wiebe, Co-owner J.P. Wiebe Ltd.





Geco Founder Greg Stewart discusses weed management technology with Jacqueline Keena and Leanne Koroscil.



Innovation Farms Associate Sarah Wilcott examines a Bushel Plus Smart Pan System on display during a farm tour.



The largest Elmer's Manufacturing Hive Motherbin holds 8,250 bushels of grain, streamlining harvest logistics.

ADVANCING INNOVATION

ENABLING TECHNOLOGY ADOPTION

Each season, EMILI hosts field tours to share what we learn by testing, validating, and demonstrating new technologies and production practices. We publish project summaries on our website to provide more insight into our findings. The following examples have been taken from a few of these summaries:

By uploading **Geco Strategic Weed Management** custom prescription maps to a sprayer we validated the technology's ability to accurately predict where weed patches will emerge.

EMILI attached a **Bushel Plus** SmartPan System™ with magnets to a John Deere combine during 2024 soybean and corn harvests. Adjusting settings based on harvest losses measured increased farming revenue by $3.80/acre.

While testing and validating the **Elmer's Manufacturing** Hive Motherbin during the 2024 season, we found that it reduced the need for additional staff and equipment by 40%, from 5 staff to 3.

Visit emilicanada.com/innovation-farms/activities to learn more.



Student researchers are researching and building a 3U CubeSat satellite for crop residue mapping (Photo supplied).

Student researchers use satellites to track crop residue on Innovation Farms

EMILI is working with university student researchers from the University of Toronto's Aerospace Team – Space Systems Division to track crop residue cover from a low-earth orbit using a nanosatellite equipped with a hyperspectral camera. Crop residues decrease soil erosion, increase soil organic matter, and improve soil quality. The crop mapping analytics being collected can be used to monitor crop stress and plant health, improve crop residue retention practices, and reduce greenhouse gas emissions from soil.

INNOVATION SPOTLIGHT



What is needed to drive productivity in agriculture?

During a 2024 panel discussion at Agriculture Enlightened FCC Economist Craig Klemmer highlighted the importance of collaboration to mobilize agtech innovation and unlock productivity. Scan the QR code to watch a short video clip.

"Working with Innovation Farms has been incredibly important for our growth. When we started with Innovation Farms, we were on three fields in Western Canada. We're now on over 250 fields, on 150 farms in seven countries."

Devin Kirk, Senior Data Scientist, Geco Strategic Weed Management





Mitch Timmerman from Manitoba Agriculture presents at Manitoba 4R Day at EMILI's Innovation Farms in Grosse Isle.

COLLABORATING TO DRIVE INNOVATION

EMILI cultivates partnerships with producers, industry, investors, and innovators to grow a sustainable, economically resilient digital agriculture industry.

EMILI's digital agriculture expertise is based on its connection to industry, producers, farmers, and agribusiness leaders across the sector. It is a privilege to partner with innovative organizations such as Farm Credit Canada, AgExpert, Enns Brothers, Elmer's Manufacturing, John Deere, MacDon, MLT Aikins, OCP North America, and ThinkShift, alongside forward-thinking farms such as Rutherford Farms and J.P. Wiebe Ltd. to advance the development and adoption of innovative technologies and production practices.

The multi-year support we receive from these organizations, along with federal and provincial support, makes it possible for EMILI to partner on projects that increase productivity, sustainability, and profitability across the sector.

EMILI also partners with a number of organizations to host events at Innovation Farms, such as collaborating with Fertilizer Canada to host **Manitoba 4R Day**, collaborating with Bushel Plus to develop a hands-on combine clinic during **Producer Day**, and working with Keystone Agriculture Producers to bring federal, provincial, and territorial ministers to

Innovation Farms during their annual meeting which was held in Manitoba in 2025.

EMILI welcomed 40 **global reinsurers** from around the world to Innovation Farms in August 2025 during a tour hosted in partnership with the **Manitoba Agricultural Services Corporation (MASC)**. It was fantastic to welcome guests from around the world to showcase some of the ways technology is reshaping Canada's agriculture industry here in Manitoba.



Global reinsurers listen intently as Innovation Farms Manager Leanne Koroscil shares some of the ways technology is being tested on Innovation Farms.

Often, synchronicity happens when projects take place simultaneously on Innovation Farms. This happened in 2024, when **Alterra Innovations** installed its GrainTracker system on an **Elmer's Manufacturing** Haulmaster grain cart to improve its ability to capture real-time data on grain movement. Another timely collaboration took place in 2025 when **Geco Strategic Weed Management** and **Redekop Manufacturing** forged a connection over their shared vision of proactively managing weeds.



Redekop Manufacturing installed a seed control unit on a John Deere X9 combine to gather ROI metrics and test its ability to control weeds.

"Working with EMILI's Innovation Farms has allowed us to enhance the GrainTracker platform and develop solutions specifically designed to meet the needs of farmers."

Ellery Burton, Founder and Managing Director, Alterra Innovation





Innovation Farm teammates Sarah Wilcott and Kelly Waddell prepare the Naïo OZ robot for a field tour demonstration.


A team from EMILI discussed Digital Agriculture Fundamentals while touring Assiniboine College.


EMILI Managing Director Jacqueline Keena and Kevin Kimm, CEO of OCP North America, signing a collaboration agreement.

COLLABORATIVE PARTNERSHIPS

PARTNERING TO ADVANCE DIGITAL AGRICULTURE

EMILI collaborates with people and organizations across Canada and internationally to drive innovation. The following are just a few examples of initiatives EMILI partners on year-round.

Palette Skills launched the Digital Agriculture Fundamentals Program in Manitoba in 2025. This program, delivered at **Assiniboine College** with support from EMILI, helps Manitobans with diverse professional backgrounds enhance their skills for agricultural positions within the industry and economy.

In September 2025, EMILI and **OCP North America** announced a collaboration focused on advancing agricultural innovation through field-based research which will take place at EMILI's Innovation Farms powered by AgExpert.

EMILI collaborated with the **Canadian Association of Farm Advisors (CAFA)** to provide their members with foundational data literacy knowledge to help them engage with farm clients on agricultural tech and data issues.



EMILI joined ADT as its first Supporting Member in 2022.

Building a common language for agtech companies and farmers

As the use of digital agriculture technology increases, so does the importance of strengthening communications between farmers and agtech companies. Ag Data Transparent (ADT) helps producers understand and evaluate contracts associated with the collection, storage, transfer, and use of their agricultural data.

EMILI has been a Supporting Member since 2022 when ADT created this category for organizations, such as non-profits, to support data transparency . EMILI works with many ADT Certified organizations such as FCC AgExpert, Agi3, GrainFox, Metos Canada, and the Canadian Federation of Agriculture (CFA).

INNOVATION SPOTLIGHT



Why is collaboration important when scaling agtech?

During a 2024 panel discussion at Agriculture Enlightened, agtech entrepreneur Ellery Burton shared how partnerships and collaborations have been essential to the growth of his company, Alterra Innovations. Scan the QR code to watch a short video clip.

"We have collaborated with researchers around the world, but have not yet had a solid field research partner in Canada for field trials. EMILI can provide us with the research partnership to demonstrate the economic benefits of the Seed Control Unit (SCU) for Canadian farmers."

Dean Mayerle, Chief Technology Officer, Redekop Manufacturing





In September 2025, EMILI welcomed federal, provincial, and territorial (FPT) Ministers of Agriculture to Innovation Farms while they were in Manitoba to discuss ways to strengthen the resilience and competitiveness of the sector. (Photo credit: EMILI)

FOSTERING ENGAGEMENT IN AGTECH

EMILI fosters engagement during field tours, an annual conference, and other events to increase understanding and education around new technologies and innovative production practices.

EMILI hosts field tours and demonstrations on Innovation Farms in Grosse Isle throughout the year to showcase new agricultural technologies, expand innovation opportunities, and increase understanding and adoption of digital tools. Events such as Producer Day, Innovation Demo Day, and Manitoba 4R Day connect diverse people and technologies across the agriculture sector. Working collaboratively to increase skills and knowledge is an important way to expand the development and adoption of agtech tools for economic and environmental sustainability across the Prairies. Events such as the 2025 Crop Intelligence Annual Summit, which EMILI hosted at Innovation Farms in February 2025, increased our understanding of how producers and those that support them can use technology and data to make informed decisions.

EMILI also hosts and collaborates on events off the farm, the biggest being Agriculture Enlightened. The annual conference launched in 2020 to advance discussions on the role of agri-food data and technologies across the sector. From year to year, the conference themes identify key and emerging issues that celebrate Canada's

strengths in agriculture and innovation. The conference brings together agri-food and technology experts, industry leaders, producers, decision-makers, researchers and students.

The Manitoba Digital Agriculture Table launched in 2020 to increase collaboration across industry and academia. Since then, EMILI has engaged over 550 participants, fostering a diverse network to discuss issues, opportunities, and expertise to advance digital agriculture.

With over 700 people touring Innovation Farms in the 2025 season alone, EMILI saw an opportunity to better understand differences and similarities in opinions about digital agriculture. EMILI polled producers, agribusiness professionals, scientists and researchers, students, and government representatives on what they believe has the most impact on modern agriculture, how prepared they are for the AI era, and what increases producers' trust in agtech. The results will be shared at Agriculture Enlightened 2025 and published on EMILI's website.



Agriculture Enlightened attracts leaders from across the agriculture industry.



The Canadian Federation of Agriculture was one of 24 Innovation Farm tours that took place in 2025.

"We host hundreds of visitors at Innovation Farms each season to increase understanding and education of new technologies and production practices. One of the highlights is Producer Day. This year we had three different combines on site, partnering with Bushel Plus to provide producers a customized approach to understanding how they can optimize their combine settings."

Leanne Koroscil, Innovation Farms Manager, EMILI





Dan Lussier, Danielle Graff, Jacqueline Keena, Leanne Koroscil, and Rick Rutherford at Manitoba Ag Days 2025.


Jacqueline Keena, Cal Harrison, and Terry Cholka took part in a Tech Thursday panel discussion on Manitoba agtech.



Innovation Demo Day connects funders and investors with early stage organizations as they demonstrate agtech innovations.

FOSTERING ENGAGEMENT

SHARING IDEAS, STRENGTHENING CONNECTIONS

As an industry-led non-profit, EMILI sees first hand the importance of increasing understanding of new technologies and production practices. The following examples highlight EMILI's work in the community to increase public understanding of digital agriculture.

A team from EMILI took part in a panel discussion at **Manitoba Ag Days 2025**, sharing their experience increasing agriculture data literacy and testing agtech on Innovation Farms.

EMILI regularly participates in **Tech Thursday** panels such as in July 2025 when EMILI Managing Director Jacqueline Keena took part in a panel on agtech innovation in Manitoba.

EMILI hosts **Innovation Demo Day** to provide investors and funders with opportunities and learn firsthand about cutting-edge innovations. Supporting early stage organizations advances digital agriculture and strengthens our economy. This is an important way to increase the speed of innovation, accelerate technology adoption, create new jobs and foster sustainability.



EMILI Communications Manager Jennifer Cox shares an interactive presentation introducing students to digital agriculture using ozobots.

EMILI uses ozobots to introduce youth to agriculture technology.

During Canadian Agriculture Literacy Month 2025, Agriculture in the Classroom connected EMILI with more than 65 students from Grades 1 to 4. Students experienced a hands-on introduction to coding while learning about the diverse jobs and technologies on modern farms. EMILI showed students how to code the ozobot using colour patterns drawn onto a custom map designed by EMILI. Students were shown how to program the ozobots to avoid obstacles. On one map, the ozobot acts as a drone scanning a field for weeds. Students had to program the ozobot to avoid windy patches that might send the drone off-course.

INNOVATION SPOTLIGHT



How does Innovation Farms engage with and support producers?

EMILI hosts events and field tours throughout the season. For example, in June 2025, over 50 producers gathered for a customized learning experience that included hands-on demonstrations with John Deere, CLAAS, and Case IH combines. Scan the QR code to watch a short video clip.

"EMILI does a great job of bringing multiple players in the industry, in the sector, together; funders, researchers, professional advisors like ourselves, collaborators, and farm owners to test their technology at scale and learn from each other."

Nicolas Joubert, Partner, MLT Aikins





This profile is part of EMILI's **This is Agriculture** series, highlighting talented and diverse individuals across the digital agriculture sector. To read more stories, follow #ThisisAgriculture on X and LinkedIn.

THREE ENGINEERS WORKING IN AGRICULTURE, THREE DIVERSE CAREER PATHS

Don Freiling, Tanner West, and Rheal Boileau took different paths from engineering to agriculture.

Q What is your favourite part of working in agriculture?

Tanner: My favourite part about working in this industry is the passion to create new innovations and technology. Each day is different and you never know what to expect. I love that I'm always learning and gaining beneficial knowledge to put towards my future career in agriculture.

Q Why is advancing digital agriculture more important than ever?

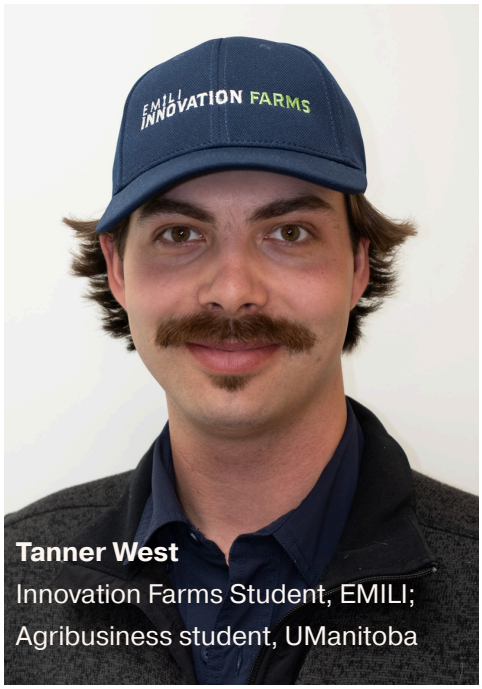
Rheal: Optimization of mechanical equipment for agriculture has been in progress for as long as humans have cultivated crops. The potential gains from optimizing in the digital space with the technologies available today are immense, and costs relating to these technologies are becoming more accessible daily.

Q Can you share advice for those considering a career in agriculture?

Don: Many people assume that agricultural technology is only applied to the farming implements needed to plant and harvest crops. I would advise anyone considering a career in digital agriculture to consider all the other aspects of agriculture that can benefit from technology.



Don Freiling
Director, Embedded Systems Engineering, AIRM Consulting



Tanner West
Innovation Farms Student, EMILI; Agribusiness student, UManitoba



Rheal Boileau
Product Development Manager, Elmer's Manufacturing

Q What brought you to your current role?

Don: My colleague, Elwood, and I worked together at another company before Elwood took a position at AIRM. It piqued my interest. After working for over 25 years applying my engineering skills in the mobile computing industry, I decided it was time for a change. When the opportunity at AIRM presented itself, I was intrigued about the possible benefits that technology could bring to the field of agriculture.

Q What was your path to working in digital agriculture?

Tanner: My first job in the industry was working at a farm in Brunkild, MB. Before starting an agribusiness degree at University of Manitoba and joining EMILI as a summer student, I studied mechanical engineering technology at Red River College. I worked at MacDon Industries as an engineering shop student for one summer, and then as a test technician the next year. I gained a lot of knowledge not only about farm equipment, but also on various farm operations, and how they can differ throughout the world.

Q How does digital agriculture play a role in your job?

Rheal: Developing solutions for growers is our focus at Elmer's, and as technology has expanded, and growers' needs have evolved, more of our products have value from digital solutions. My role is to keep solutions flowing to customers. Our software team is approximately half of our R&D staff, which is the area that has grown the most in the last decade. If you dream it and it provides value to the customer, you can make it happen.

Visit emilicanada.com/career-resources/this-is-agriculture to read more stories in this series.

FAST FACTS

EMILI is an industry-led non-profit that works collaboratively with producers, industry, investors, and innovators to grow a sustainable and economically resilient digital agriculture industry.

EMILI launched Innovation Farms powered by AgExpert in on a 5,500-acre seed farm in Grosse Isle, Manitoba in 2022 to provide innovators across industry and academia with access to leading-edge equipment, technology, and production practices to increase productivity, sustainability, and profitability across the agriculture and agri-food sector.

In July 2025, EMILI launched a second Innovation Farms site on a 8,500-acre farm with approximately 3,000 acres dedicated to potatoes in MacGregor, Manitoba.



14,000+

acres of farmland on two sites to test and validate agriculture technology. (2025)



700+

people toured Innovation Farms to learn about agtech innovation. (2025)



1,250+

people attended EMILI's annual Agriculture Enlightened Conference. (2020-2024)



65

students at three schools learned about agtech while coding ozobots. (2025)



550+

people attended 22 Digital Agriculture Tables. (2021-2025)



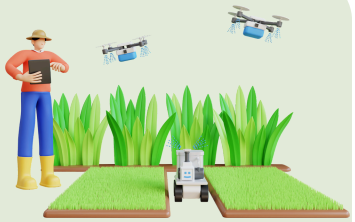
500+

participants took part in online and in-person data literacy training. (2024-2025)



124

expert speakers share diverse perspectives at Agriculture Enlightened. (2020-2024)



100+

students provided with on-farm learning opportunities. (2025)



41

small and medium enterprises given on-farm engagement opportunities. (2025)



28

drone flights over two farms to capture imagery, and collect data. (2025)



59+

sensors installed in fields, grain bins, potato storage, and farm equipment. (2025)



35

organizations have run 39 unique projects on Innovation Farms. (2023-2025)

- EMILI was founded in 2016 by community leaders with a common goal of growing the economy with a specific focus on advancing agtech in the Prairies.
- EMILI is an industry-led non-profit committed to growing a sustainable and economically resilient digital agriculture industry.
- EMILI is based in Manitoba, with projects and partnerships that span the country.
- EMILI supports projects and people working to develop and increase the adoption of innovative technologies.

EMILI is an industry-led non-profit that works collaboratively with producers, industry, investors, and innovators to grow a sustainable and economically resilient digital agriculture industry.

Working together we can advance innovation adoption across Canada, drive innovation through collaborative partnerships, and increase understanding of new technologies and innovative production practices.

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EMILI

Driving Agriculture Innovation

Visit our website at www.emilicanada.com to learn more about EMILI's work to increase productivity, sustainability, and profitability across the agriculture and agri-food sector.