

Company develops growth-promoting bacteria

Bioenterprise Canada funding supports barley and wheat trials ahead of go-to-market

BY LILIAN SCHAER
Bioenterprise Canada

An innovative northern Ontario start-up has launched trials to test its plant growth enhancing bacteria in barley and wheat crops. The research will help BioNorth Solutions of Thunder Bay gather the data needed to take their product to market.

The company got its start in 2014, developing remediation products using all-natural microbes from northern Ontario to clean up gas, diesel, and various hydraulic, engine and mixed oils spills in soil and gravel.

Since 2019, the company has been working on developing its PGP – plant growth promoting – line of products that contain bacteria to enhance plant growth, work supported initially by the Women’s Entrepreneurship Fund.

Initial testing results for the plant growth promoting products carried out in conjunction with Collège Boréal look



Thunder Bay start-up BioNorth Solutions is testing its plant growth enhancing bacteria in grain wheat and barley crops in hopes of bringing their innovation to market

promising, says company president and co-founder Amber Kivisto.

“We are using all-natural, non-altered microbes to make the world a better place; they clean the soil and make it healthier and enhance plant growth,” she says. “Our PGP product is finalized and now we just need more data to enable sales. As we talk to more and more people in agriculture, we are learning that they want data to back it (the claims) up.”

A connection with Bioenterprise Canada, Canada’s Food & Agri-Tech Engine, introduced BioNorth to the Ontario Agri-Food Research Initiative (OAFRI) program, where a successful application has led to funding for crop trials of BioNorth microbes on barley and wheat at the Lakehead University Agriculture Research Station (LUARS) in Thunder Bay.

The outcomes of these trials, now underway, will help BioNorth bring its product to market. According to Kivisto, it’s

the funding that’s enabling the trials, without which the research wouldn’t be possible.

“We have this terrific opportunity at LUARS to do plots and use our microbes, which we couldn’t do on our own,” Kivisto says. “Our products are sustainable and our whole goal is to keep everything as sustainable as possible, even in using as little packaging as possible.”

Last month, BioNorth was named the winner of the Northern Ontario Innovation Chal-

lenge. Second place in the challenge was awarded to Agri-Tech North of Dryden, an indoor vertical farm and social enterprise that is the first of its kind year-round wholesale-scale grower of fresh produce in Northwestern Ontario. TECC Agriculture Ltd., a precision agriculture company in New Liskeard rounded out the top three.

As the Grand Prize winner, BioNorth Solutions receives \$5,000; all top three finishers also receive an upgraded Access Plus membership to the Engine, which will provide them with one year of business mentorship and networking support.

As Canada’s Food & Agri-Tech Engine, Bioenterprise Canada brings more than 15 years of industry experience and a national and international network of research institutions, academia, mentors and experts, funders and investors, government, and industry partners to help small and medium-sized businesses in the agri-food sector nationwide connect, innovate, and grow.

The BioNorth Solutions project was funded through the Canadian Agricultural Partnership, a five-year federal-provincial-territorial initiative to encourage innovation, competitiveness and sustainability in Canada’s agriculture industry.

Caterpillar adds battery electric machines

Caterpillar is focused on delivering purpose-built solutions to help customers achieve their sustainability goals by geography, by jobsite and specific customer need. One of many solutions, the battery electric machine prototypes include the 301.9 mini excavator, 320 medium excavator, 950 GC medium wheel loader and 906 compact wheel loader. The machines are powered by Caterpillar battery prototypes and include an onboard AC charger. The company also



plans to offer an offboard DC fast charging option.

The Caterpillar-designed batteries in these machines will also be available to power other industrial applications. Built on proven Caterpillar technology, the lithium-ion battery range features a modular design that

offers flexible configurations across multiple applications. The batteries are engineered to be scalable to industry and customer performance needs and maximize sustainability throughout their lifecycle, including recycling and reuse at the end of life.

Yieldmaster and Azotic will continue partnership

YieldMaster Solutions announces its continued partnership with Azotic through a recently signed three-year agreement. The mission of YMS is focused on bringing leading-edge biological technologies and innovations to growers across North America to enhance crop per-

formance, health and increase yield potential through their strong dealer and distributor network.

With this partnership, farmers will continue to have access to the nitrogen-fixing biological Envita through YMS Distribution channels.

Envita is a nitrogen-fixing

solution that fundamentally changes the nitrogen equation in fields. Applied in-furrow or as a foliar spray, Envita enables cells throughout the plant – including foliage and roots – to fix their nitrogen (N) and fill the gap between crop available N and crop accessible N.

DeLaval launches next-generation E-series rotary milking system

DeLaval has launched its cutting-edge E-series rotary milking system for North American dairy producers. The integrated system increases milking efficiency, streamlines worker routines, automates the selecting and sorting of cows, and minimizes stress on dairy cattle.

The new generation of rotaries, offered in both E300 and E500 models, optimize cow flow by prioritizing cow comfort in the designs of DeLaval Fast-Bail and DeLaval FastExit systems, which help position and move cows efficiently. The rotary works with cows’ natural movements and physiology for a fast, gentle milking experience, and is controlled from the new DeLaval Rotary Cockpit.

The operator has access to the status of each cow being milked, automatic start and speed functions, a monitoring camera and crowd gate controls.



Each cow can be monitored at every station to ensure safety. The demands of a 24/7 operation are met with DeLaval WorkSure, a design feature of the E500 rotary that includes durable componentry and back-up drives and hardware making it possible to carry out many cleaning and service task without hitting the brakes.

Flow-Responsive Milking, DeLaval’s new, exclusive feature for DeLaval Herd Management equipped rotaries and parlors, ensures optimal milk flow for each cow through an innovative process that prioritizes a cow’s natural milk flow.

Flow-Responsive Milking uses flow-adjusted vacuum technology that monitors each cow’s milk flow and modifies the vacuum level according to her individual needs.