

Cross-Canada OZ Robot Collaboration

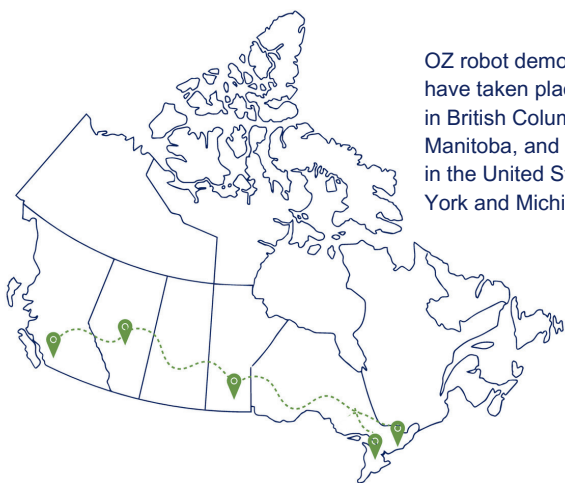
About the technology: The OZ robot by Naïo Technologies is a multi-task and multi-crop robot that can till, weed between rows, make furrows, sow, and carry loads to assist growers. This robot is fully electric, autonomous, and controlled by a mobile app. It measures 4'2" long x 1'5" wide x 2'7" tall, and can work 10 acres a week. Its battery lasts eight hours and recharges in just a few hours.

Innovation Farms' Objectives

- Evaluate application and potential of OZ robot across Canadian agriculture.
- Increase knowledge of autonomous robots and their effectiveness on Canadian crops and fields.

What this technology could unlock

Agricultural automation provides a solution to labour shortages. As the technology advances, robots such as OZ could be programmed to autonomously weed, seed, and till specialty crops, saving producers time and money.



OZ robot demonstrations have taken place in Canada in British Columbia, Alberta, Manitoba, and Ontario, and in the United States in New York and Michigan.



The OZ robot planting corn at EMILI Innovation Farms.

Our approach

- Exchanged information with 10 smart farms across Canada and the US, comparing similarities and differences in OZ robot applications in various crops and climates.
- Programmed OZ to seed sweet corn and till between rows to manage weeds in a 0.25 acre demonstration plot in Grosse Isle, Manitoba.
- Conducted demonstrations of the OZ robot seeding and tilling at EMILI's Innovation Farms Grosse Isle location with over 500 attendees during 17 tours.

Project collaborators:

EMILI | **INNOVATION FARMS**
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At Innovation Farms powered by AgExpert, EMILI provides 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.

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What we learned

- On a single programmed mission, the OZ robot could till half of the demonstration plot and seed the other half in 45 - 60 minutes.
- May eradicate the need for herbicide applications on sweet corn if the seeding rows are wide enough, creating enough space for the OZ robot to till weeds mid-season.
- Holds potential to reduce manual labour and increase sustainability on high value, labour-intensive horticultural crops.
- In a broad acre prairie crop, heavy textured soil types can intervene with the robot's performance so widespread adoption in this setting is not likely.
- More work needs to be done to demonstrate its value on a commercial farm.



OZ Robot draws crowds during Innovation Farm tours.

Innovation spotlight

Over 500 people attended demonstrations of the OZ robot in a field of sweet corn at EMILI Innovation Farms. This included leaders in agtech innovation including entrepreneurs, industry, academia, investors, producers, government representatives and others interested in agriculture automation.

Learn more about the OZ Robot

EMILI is collaborating with Innovation Farms Ontario to understand how the Naïo OZ robot works in various Canadian crops. This led to demonstrations across 10 farms across Canada and the US to better understand its application and potential.



“Testing equipment on Innovation Farms sites allows companies to let their designs operate as intended, rather than what the farmer typically does. This allows for open testing of new technology without restriction. An unbiased approach can be used to validate technology and the new practices that often come with it, against existing production systems.

**Chuck Baresich, President and Founder,
Haggerty AgRobotics**

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