Agri-Tech Innovation Initiative

Program Success Stories

Haggerty Creek
Bothwell, Ontario

Sustainable Canadian Agricultural Partnership

AAC Agricultural Adaptation Council

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Laser weeding technology opens new crop opportunities for Haggerty Creek Ltd.

For Chuck Baresich, innovation has always been part of farming. Based in Bothwell, Ont., Baresich and his family operate a 1,200-acre cash crop farm, and co-founded Haggerty Creek Ltd. 25 years ago with his brother. Their agronomy business was built around helping farmers succeed by adopting new technologies and staying at the leading edge of agricultural innovation.
Now, Baresich is applying that same approach to his own farm through robotic laser weeding technology, supported by the Agri-Tech Innovation Initiative (ATII).

Baresich wanted to diversify beyond traditional crops like corn and soybeans and explore higher-value options, including horticulture. However, sandy soils, herbicide-resistant weeds and the need to protect soil health made weed control and finding suitable new crops a significant challenge.

“The weeds were really holding me back from crop diversification options,” says Baresich. “I wanted to find a way to use precision technology to control weeds and make it possible to try something different.”

Precision technology targets weeds
Through ATII, Baresich invested in a robotic laser weeding system to manage weeds in a 25-acre onion crop. By providing cost-share funding, the ATII supports Ontario agricultural producers and food processors in adopting innovative equipment and technology to improve productivity, efficiency and business growth.

After researching the available options, Baresich determined that laser technology offered a promising solution for tackling herbicide-resistant weeds while supporting his soil health goals. He purchased the robotic laser implement from PixelFarming Robotics, a company located in the Netherlands. The system uses a camera to distinguish crops from weeds and directs lasers to heat and destroy targeted weeds. Baresich customized the equipment to mount on a tractor alongside an inter-row cultivator, allowing the lasers to target weeds close to the onion plants while the cultivator managed weeds between the rows.

His experience with agricultural robotics through Haggerty AgRobotics, which he launched in 2021, helped Baresich adapt the technology to suit his farm. He has operated the system throughout the 2025 and 2026 growing seasons, making four to five passes through the field each season.

The project has demonstrated that laser weeding can work in his production system, while providing Baresich with valuable first-hand experience to help refine the technology further.

He says he will continue to explore improvements to the robotic laser, including crop and weed identification software, field layout and the potential for autonomous operation.

“New technology has a lot of variables and comes with risk,” says Baresich. “It’s unlikely I would have done this project without the ATII funding.”

Baresich learned about the funding opportunity at an Agricultural Adaptation Council (AAC) event and says AAC’s delivery program support made the application and cost-share process straightforward. The AAC delivers ATII, helping Ontario's agriculture and food businesses access funding to adopt innovative technologies that support growth and competitiveness. “The staff were very helpful throughout the entire process, and everything was very straightforward,” he says.
Growing opportunities through innovation

The laser weeding project is helping Baresich look beyond weed control for new opportunities for his farm. Growing onions, for example, could allow him to diversify from his traditional corn and soybean field crops, and, in combination with planting hybrid rye as a rotational crop, support weed management and soil health.

Vegetables such as the onion crop are also a higher-value option, offering the potential for greater revenue per acre. While the project has provided a successful learning experience, Baresich recognizes that further scaling will be needed to realize the full opportunity of this or any new crop. He believes new technology will provide tools to explore other horticultural crops that may otherwise be difficult to incorporate into his operation without significant investments in labour. As he plans for the 2027 growing season, Baresich says he will be reassessing the robotic laser’s scale and speed and consider adjustments to row and plant spacing to improve efficiency.

For Baresich, the value of innovation extends beyond the equipment itself. The project has opened up new possibilities for growing higher-value crops, reducing reliance on labour-intensive production practices and strengthening the farm’s competitiveness. It has also created opportunities to explore new applications for robotics and precision technology, including for the next generation of his family.

With ATII support, Haggerty Creek Ltd. is continuing to explore how precision technology can make crop diversification more practical, sustainable and productive.

The Agri-Tech Innovation Initiative program was funded in part through the Sustainable Canadian Agricultural Partnership, a 5-year, $3.5 billion federal-provincial-territorial initiative. This program is being delivered by the Agricultural Adaptation Council on behalf of the Ontario Ministry of Agriculture, Food and Agribusiness.