Policy Brief:

Evidence Shows **Farmer-Led Research** Can Help Ontario Boost BMP Adoption

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This policy brief provides recommendations for the Ontario Ministry of Agriculture, Food and Agribusiness (OMAFA) and other stakeholders on how to implement insights from a study of farmer-led research in Ontario to promote adoption of soil health BMPs.

Introduction

The decline of publicly funded agricultural research and extension, which has been a global trend since the 1990s, significantly impacted Ontario.[1] This shift left farmers more vulnerable to market forces and with limited access to information previously provided by public extension services. While the information gap between farmers and extension agents has narrowed due to increased farmer education and internet access, the need for reliable and readily accessible knowledge remains. Farmer peer-learning programs offer a promising alternative.[2]

By fostering farmer-to-farmer knowledge exchange through social networks, these programs can address critical issues like long-term environmental sustainability, often overlooked by private sector extension. These networks, if well-designed and well-supported, can play a vital role in bridging the gap left by the dismantling of public extension services.

As a specific category of farmer peer-learning programs, farmer-led research (FLR) has been touted as one of the most effective approaches to promoting the adoption of environmental best management practices (BMPs), such as soil health BMPs, as these programs support a strong stewardship ethic and enable farmers to drive the agenda rather than being told what to do.[3]

Recommendation Summary

1. Invest in multi-year funding for farmer-led research.
2. Make funding flexible.
3. Continue to invest in farmer-to farmer knowledge-sharing and mentorship.
4. Expand farmer-led research across Ontario by supporting the creation of a network of networks.

Farmer-Led Research and Soil Health BMPs in Ontario

Findings from recent studies focusing on the Ontario context – where soil quality and quantity are in decline[4;5] – indicate that farmer-led research and farmer social networks for peer-to-peer knowledge exchange can effectively increase adoption rates of environmental BMPs.[6;7;8]

While various on-farm research initiatives exist in Ontario, including the Living Lab - Ontario project and the ONFARM program delivered by the Ontario Soil and Crop Improvement Association (OSCIA), the most notable example of FLR as a distinct approach to Ontario-based agricultural research is the Ecological Farmers Association of Ontario's Farmer-Led Research Program (FLRP).

This policy brief draws on data collected through a participatory evaluation of this program. Between 2019 and 2021, a University of Guelph research team collaborated closely with the EFAO and other stakeholders to design and carry out the study. Data was collected through an online survey (n=139), a series of in-depth interviews (n=17) and a focus group discussion with EFAO members. Full results of this research are available at https://efao.ca/wp-content/uploads/EFAO-FLRP-Report_FINAL.pdf[9].

The results of the evaluation demonstrate that EFAO membership significantly enhanced farmers' adoption of BMPs. Approximately three-quarters of survey respondents reported increased knowledge, motivation, and confidence in soil health BMP implementation. The research also found that EFAO involvement effectively introduced farmers to new BMP innovations (72%) and improved their use of existing practices (68%).

More importantly, the positive impact of EFAO membership on farmers' relationship with soil health BMPs was significantly higher amongst members who participated directly in the FLRP.

When compared to other EFAO members, farmer-researchers (FLRP participants) reported significantly stronger positive impacts from EFAO engagement across all categories, particularly in increasing motivation, confidence, and adoption of BMPs. Significantly more farmer-researchers (nearly half) strongly agreed that EFAO involvement increased their BMP adoption compared to other survey respondents (approximately one-fifth). Moreover, 83% of farmer-researchers strongly agreed that EFAO involvement increased their motivation to adopt soil health BMPs, compared to 35% of other EFAO members **(see Figure 1).**

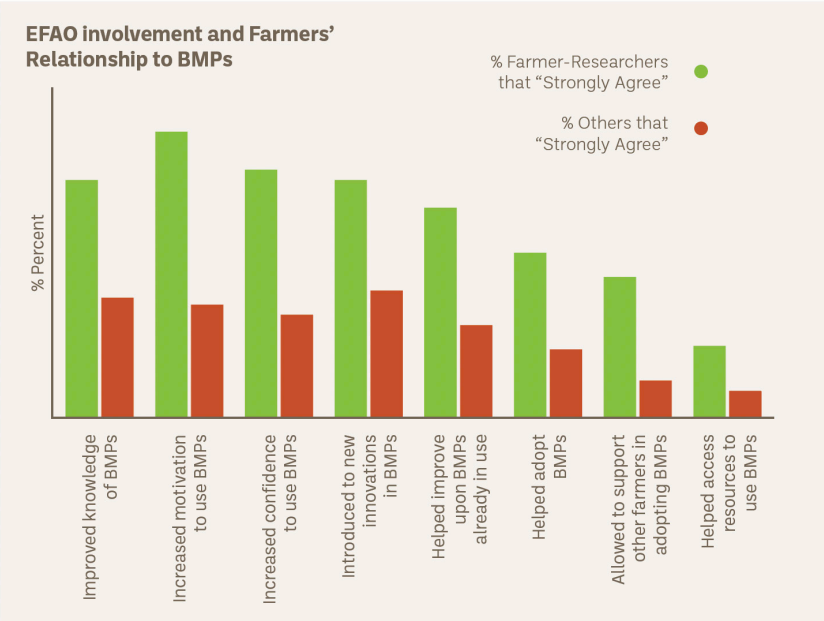


Figure 1: Comparison of EFAO's perceived impact on soil health BMPs between EFAO's FLRP participants and other EFAO members.

The strength of the Farmer-Led Research Program in promoting soil health BMP adoption is at least in part a result of its contribution to a stronger stewardship ethic. FLRP's distinct methodology places farmers at the center of the research process. Farmers determine research questions that are directly related to their farming challenges, they co-design studies with scientists, and they collect, analyze, and report data from their own farm trials. As a result, farmer-researchers not only produce contextually relevant high-quality data that they trust, but by taking a leading role in the research process they develop a greater sense of pride, responsibility, and stewardship. Highlighting this, one FLRP participant said "I feel very proud being a research farmer and having that kind of mind-frame." Emphasizing FLRP's contribution to stronger stewardship ethic, another participant noted, "I get inspiration from the fact that there's farmers who are taking their own time and applying themselves in that way for the collective betterment of our community."

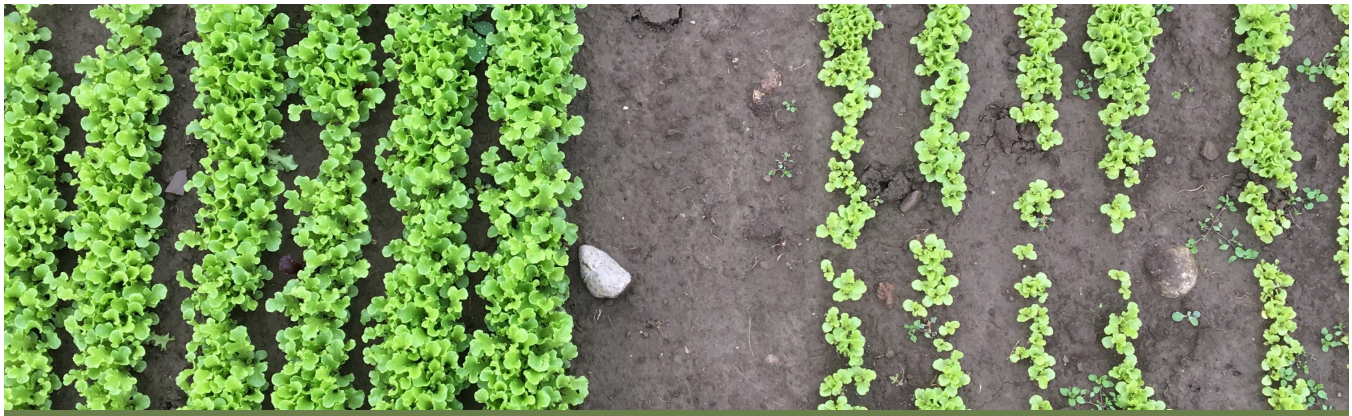
Romina Bortoluzzi observing her lettuce variety trial in 2021

Overall, farmer-researchers praised EFAO's FLRP for enhancing quality and reliability of on-farm data collection; enabling evidence-based decision-making; strengthening networks and fostering community; facilitating communication about the benefits of ecological farm practices; and instilling a sense of pride in farmer-researchers.

While FLRP's contribution to supporting environmental stewardship and BMP adoption is clear, challenges exist for the continuation and expansion of farmer-led research in Ontario. Research participants frequently cited limited resources (e.g., time, funding) as a significant barrier to successful FLRP implementation. Although FLRP is inexpensive compared to traditional agricultural research, farmers and program organizers must dedicate significant time to the research process, which limits farmer participation and the capacity of the program to accept projects. Participants suggested that if farmers were sufficiently compensated for their research time, many more farmers could justify participation, particularly in multi-year trials.

Further, as agricultural research takes time and research questions may need adjustments as trials unfold, participants stressed the importance of funding flexibility. Building on these concerns, participants argued that the FLRP could be improved through greater and more stable (multi-year, flexible) funding.

Other participants emphasized the need to broaden the scope of current research projects by increasing the number of farms participating in multi-farm trials or conducting experiments on larger land areas. This could be achieved by supporting Ontario's existing FLRP and incentivizing the creation of new programs and networks in collaboration with existing ones.



Brent Preston tested the difference in lettuce production between tarped (left) and tilled (right) ground in 2018

Recommendations

In recent decades, public funding for rural extension programs in Ontario (and globally) has declined significantly, making it unrealistic to rely solely on traditional extension services to encourage more widespread adoption of soil health BMPs. Instead, limited public funds can be strategically invested in supporting farmer social networks generally, and farmer-led research programs specifically. These programs can effectively drive the adoption of environmental BMPs, including those for soil health, across a wider range of farms.

Below we offer specific policy recommendations for supporting farmer-led research programs to promote soil health BMP adoption in Ontario:

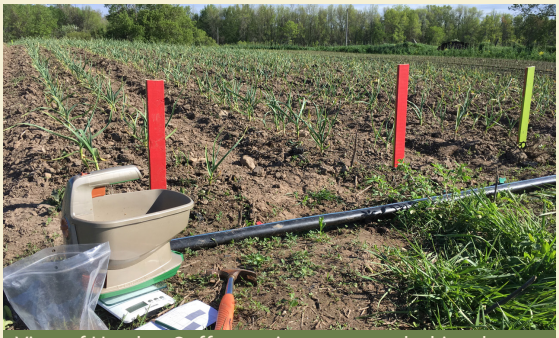
Invest in multi-year funding for farmer-led research

in Ontario to build program capacity and allow for multi-year trials that would enhance data quality.

Becky Porlier seeding sunflowers as part of her no-till sunflower trial in 2020

Make funding flexible

so that it aligns with the farmer-innovator timeline, accommodating changes to research questions and scope based on farmers' observations.



View of Heather Coffey setting up to seed white clover as green mulch in her garlic crop in 2017

Continue to invest in farmer-to-farmer knowledge-sharing and mentorship

by funding organizations (like EFAO) that host field days, workshops, webinars, and other activities that center farmers as expert knowledge-producers and decision-makers.

Heather Newman tested grower rations with different protein contents on her Chantecler chickens in 2019/2020

Expand farmer-led research across Ontario by supporting the creation of a network of networks.

As a leader in FLR, EFAO could provide training and mentorship to increase staff capacity within other organizations to support farmer-led research across the province.

Ryan Spence and Becky Porlier weeding Ryan's no-till broccoli plots in 2020

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