



## Season 3, Episode 4

# “Farmer-led research helps us realize that we're really innovators”: Improving ecological farming practices and farm-to-farm knowledge sharing with the Ecological Farmers Association of Ontario

Featuring: Dr. Erin Nelson, Dr. Sarah Larsen, Heather Newman, Brent Preston

## Glossary of Terms

### ***Agroecology***

“Agroecology is a holistic and integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of sustainable agriculture and food systems. It seeks to optimize the interactions between plants, animals, humans and the environment while also addressing the need for socially equitable food systems within which people can exercise choice over what they eat and how and where it is produced.”

<https://www.fao.org/agroecology/overview/en/>

### ***Biodiversity***

“Biological diversity — or biodiversity — is the variety of life on Earth, in all its forms, from genes and bacteria to entire ecosystems such as forests or coral reefs. The biodiversity we see today is the result of 4.5 billion years of evolution, increasingly influenced by humans. Biodiversity forms the web of life that we depend on for so many things – food, water, medicine, a stable climate, economic growth, among others.”

<https://www.un.org/en/climatechange/science/climate-issues/biodiversity>

### ***Climate Change Adaptation***

“Adaptation refers to adjustments in ecological, social or economic systems in response to actual or expected climatic stimuli and their effects. It refers to changes in processes, practices and structures to moderate potential damages or to benefit from opportunities associated with climate change. In simple terms, countries and communities need to develop adaptation solutions and implement actions to respond to current and future climate change impacts.”

<https://unfccc.int/topics/adaptation-and-resilience/the-big-picture/introduction>

### ***Ecological Agriculture***

“Regenerative, organic and other holistic practices that improve soil health, protect vital resources such as water and biodiversity, reduce synthetic inputs and prioritize renewable energy sources.



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Socially engaged practices that ensure that farming communities are diverse, vibrant, and resilient, while making healthy agricultural products accessible.

Forward-looking practices that are knowledge-intensive and regionally specific, and embrace the potential benefits that innovation and technology provide.”

<https://efao.ca/about/>

## **EFAO**

“The Ecological Farmers Association of Ontario (EFAO) supports farmers to build resilient ecological farms and grow a strong knowledge-sharing community. Established in 1979 by farmers for farmers, EFAO is a membership organization that focuses on farmer-led education, research and community building. EFAO brings farmers together so they can learn from each other and improve the health of their soils, crops, livestock and the environment, to steward resilient ecological farms.”

<https://efao.ca/>

## **Extension Services**

“An agricultural extension service offers technical advice on agriculture to farmers, and also supplies them with the necessary inputs and services to support their agricultural production. It provides information to farmers and passes to the farmers new ideas developed by agricultural research stations. Agricultural extension programmes cover a broad area including improved crop varieties, better livestock control, improved water management, and the control of weeds, pests or plant diseases. Where appropriate, agricultural extension may also help to build up local farmers' groups and organizations so that they can benefit from extension programmes. Agricultural extension, therefore, provides the indispensable elements that farmers need to improve their agricultural productivity.”

<https://www.fao.org/3/t0060e/T0060E03.htm#:~:text=An%20agricultural%20extension%20service%20offers,developed%20by%20agricultural%20research%20stations.>

## **Farmer-led research**

“Farmer-led research is a process of inquiry that uses the scientific method to address your on-farm curiosities and challenges in a way that is compatible with your farming and your equipment. It is a flexible and powerful tool that can be integral to improving operations on your farm, including the environmental and economic impacts of your innovations and comparisons.”

<https://efao.ca/farmer-led-research/>

## **Tillage**

“Tillage—turning the soil to control for weeds and pests and to prepare for seeding—has long been part of crop farming. However, intensive soil tillage can increase the likelihood of soil erosion, nutrient runoff into nearby waterways, and the release of greenhouse gases into the atmosphere. A reduction in how often or how intensively cropland is tilled enables the soil to retain more organic matter, which leaves the soil less susceptible to wind and water erosion and helps store, or “sequester,” carbon.”



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<https://www.ers.usda.gov/topics/farm-practices-management/crop-livestock-practices/soil-tillage-and-crop-rotation/>