Ecological Farming in Ontario

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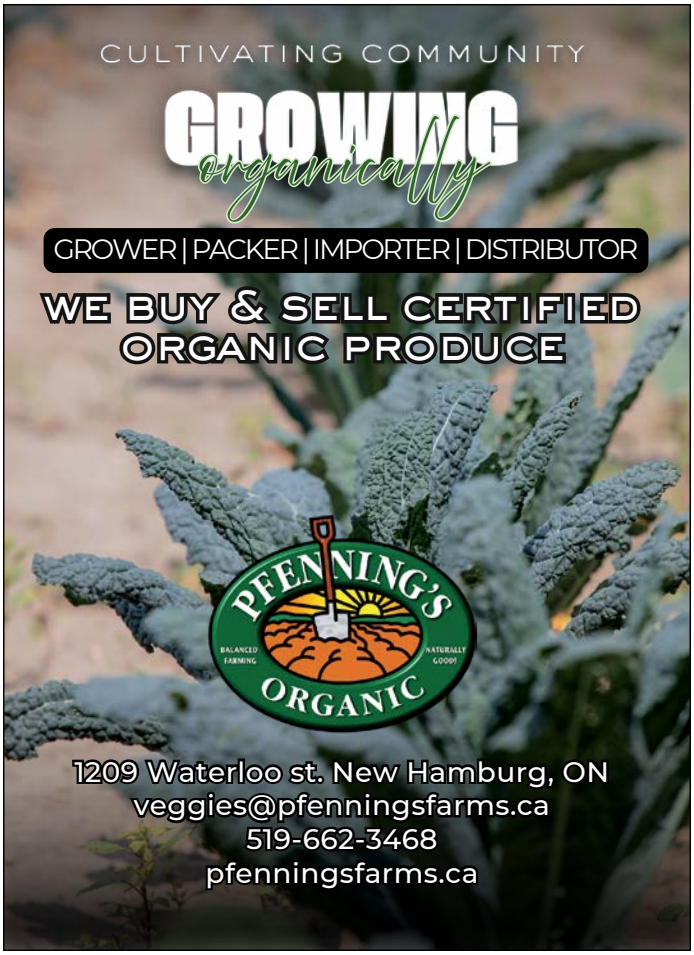
EFAO
ECOLOGICAL FARMERS ASSOCIATION OF ONTARIO

Measuring Carbon Sequestration

Cycling On-Farm Nitrogen

Leading Cloud Gardens



EFAO MEMBER DISCOUNTS

EFAO ECOLOGICAL FARMERS ASSOCIATION OF ONTARIO

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Talun Eco-Products | 20% discount + 5% donation to EFAO!
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Click on "Member Business Discounts" in your online member account for details on how to redeem your discounts!

Join an EFAO Member Network!

Stay connected to the ecological farming community in Ontario.

EFAO's Member Networks are e-mailing lists where you can ask questions, share ideas, announce events and opportunities, and learn from your peers. No account is required to join, and you can control the frequency of emails. If you'd like to join but aren't sure how, please reach out to admin@efao.ca!

Sign up any time via your EFAO member account or when you renew at efao.ca/membership

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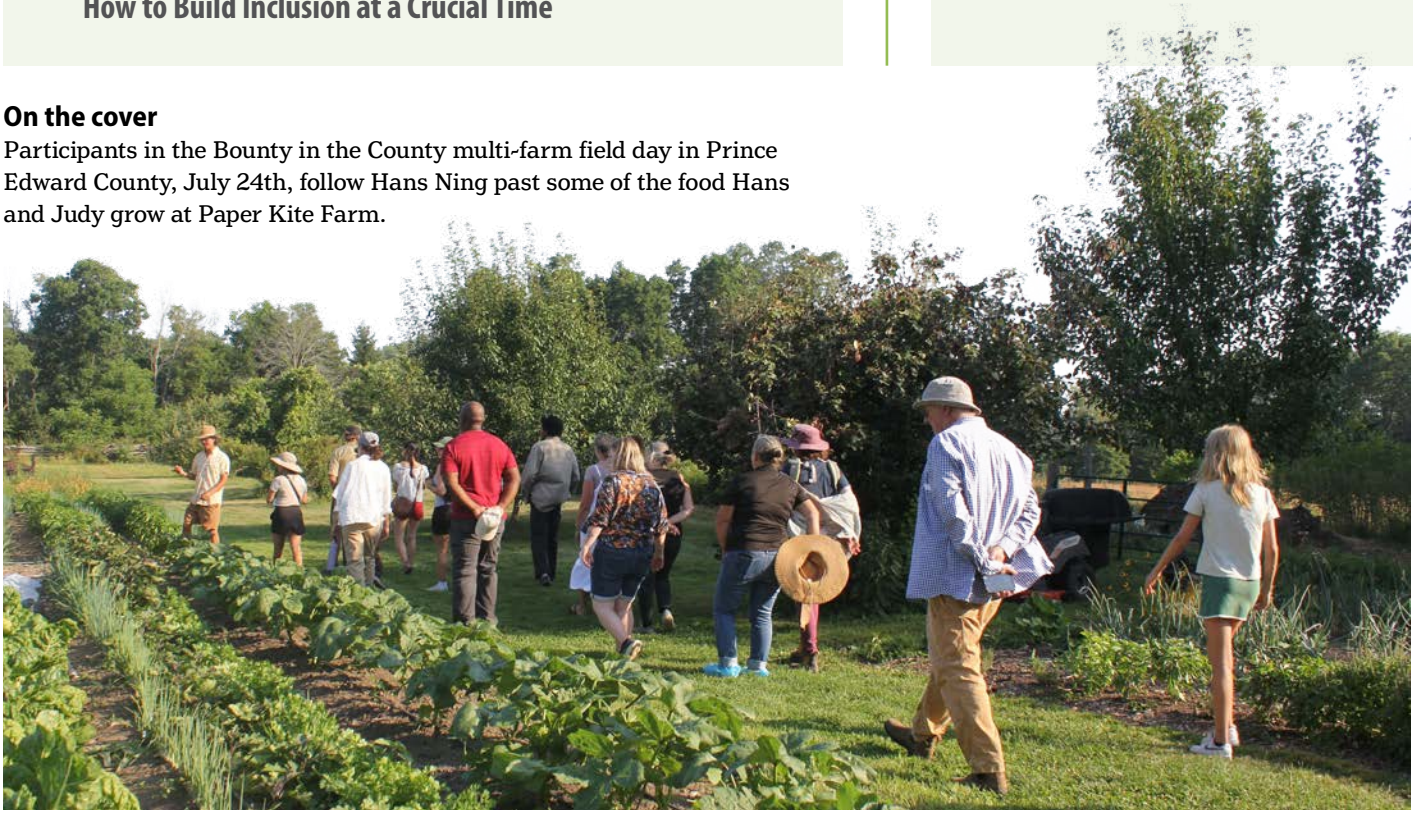

EFAO
ECOLOGICAL FARMERS ASSOCIATION OF ONTARIO

What We Do

Established in 1979 by farmers for farmers, the Ecological Farmers Association of Ontario (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, while running profitable farm businesses.

Vision

We envision an Ontario where thriving ecological farms are the foundation of our food system, and where agriculture protects our resources, increases biodiversity, mitigates climate change, and cultivates resilient, diverse, equitable communities.

Mission

EFAO supports farmers to build resilient ecological farms and grow a strong knowledge sharing community.

Ecological Farming In Ontario

Ecological Farming in Ontario is published quarterly by EFAO as a benefit of membership to help keep farmers and supporters informed and in touch with one another through articles on relevant farming topics, current farmer-led research, upcoming events, and other news of interest.

Ecological Farming in Ontario is printed on Rolland Enviro-100 paper, which contains FSC certified 100% post-consumer recycled fibres. Back issues can be found on EFAO's website (efao.ca) or are available upon request. Unless otherwise noted, articles may be reprinted or adapted if credit is given.

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Deadline for Winter 2025 Issue: October 15th

Help make *Ecological Farming in Ontario* a farmer's journal! Submit articles, photos, opinions and news to the editor, Laura Northey, at editor@efao.ca. We reserve the right to edit submissions for space and/or clarity.

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A Message from EFAO's Executive Director

Dear members and friends,

About 10 years ago I learned about Practical Farmers of Iowa's (PFI) Cooperators' Program: a unique and vibrant network of farmers supported in conducting and sharing their own research to answer practical on-farm questions and challenges. A seed was planted... how amazing it would be to have something similar in Ontario for EFAO members and the broader farming community!

The stars were aligned because it wasn't long after that I received a call from now EFAO Research Director, Sarah Larsen. It was the summer of 2015 and she and her family had recently moved back to Ontario from Iowa to start a farm. Sarah had completed her PhD in soil microbial ecology at Iowa State University and her husband had worked for PFI. Sarah was calling to see if there might be interest at EFAO in starting something similar to PFI's Cooperators Program. Within minutes of meeting we had made plans to work on a grant application to launch a farmer-led research program in Ontario.

With continued and growing support for the program, this year we celebrate the 10th anniversary of EFAO's Farmer-Led Research Program. Over the past 10 years the program has flourished. A culture of curiosity and research has been ignited at EFAO. Since 2016, more than 150 different farmers have received funding and support to conduct over 220 trials for their farms, and shared results freely with others in accessible reports and at field days, workshops, research roundtables and symposia.

EFAO's Farmer-Led Research program has garnered the attention and respect of the agriculture sector and been a force for bridge-building and collaboration. In 2019 the program was awarded OMAFA's inaugural Excellence in Agriculture Award. That same year an article was published in the *Journal of Agriculture, Food Systems and Community Development* in collaboration with Dr. Erin Nelson at the University of Guelph, that highlights how the program enables farmers to feel more knowledgeable, confident, motivated, and inspired to adopt and/or improve ecological practices on their farms. Since 2020, EFAO has been a partner on the Living Lab – Ontario initiative, collaborating with farm organizations across Ontario and sharing our experience and expertise in farmer-led research.

The team at EFAO that supports the Farmer-Led Research program is small but mighty; talented researchers with a passion for ecological agriculture and for supporting the farming community. In 2019 Sarah was joined by Rebecca Ivanoff, EFAO's Seed Program Manager, who supports the many trials that relate to seed saving, selection and breeding. More recently, Dillon Mulldoon joined the team for two years to work with farmers and crunch data. Last year, Heather Newman came on board to lead EFAO's new Vegetable Growers Viability Study. This season, we welcome Jessica Gale to the new position of Knowledge Mobilization Manager. A big thank you to this incredible team for all their work so far, and to Sarah for her visionary leadership in developing this program and her tireless dedication to working with farmers to turn their questions and curiosities into practical and rigorous research trials.

On page 16 you can read the story of a 2024 research trial that demonstrates the impact that grazing chickens on cover crops has on plant-available nitrogen over time. Reports from all research trials are shared on EFAO's Research Library at efao.ca/research-library. And if you're scratching your head about which varieties are performing better in this heat, or curious to dig into different approaches for building soil health, the program's annual Call for Curiosity and application intake takes place from October to January each year.

We will be celebrating 10 years of farmer-led research on December 3rd and 4th as part of EFAO's annual conference taking place in London. I hope you can join us as we share some of the learning and stories that have come out of this program, recognize the hard work and inspiring accomplishments of farmer-researchers, and thank all those who have made this work possible.

In randomized and replicated celebration,

Save the date for the 2025 EFAO Conference: Pathways to Prosperity, Dec. 2nd to 5th in London

The 12th Annual EFAO Conference will once again be held at the Four Points by Sheraton Hotel in London, Ontario.

This year's theme is inspired by the unique historical moment that we are all inhabiting: a time in which ecological farming is in some ways more mainstream than ever, but in which economic circumstances, world events, and numerous other factors have combined to make many of us question the viability of food production as an occupation. This theme is also intended to reflect the truth that although the act of growing food in a way that acknowledges the entirety of ecology may be a very real challenge in this era, there is still hope if we face these challenges collaboratively, and that prosperity can come in many forms, via many pathways.

Become a sponsor or exhibitor at the 2025 EFAO Conference!

There are lots of ways to get involved and get connected to the EFAO community. To find out more about how you can raise your profile amongst ecological farmers, visit efao.ca/conference or reach out to Katie at katie@efao.ca for more information.

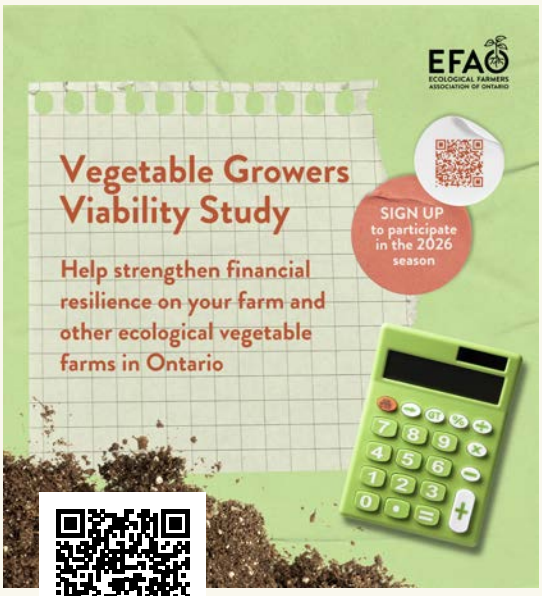
Join the Vegetable Growers Viability Study!

Do you grow and direct market vegetables in Ontario and want to get a handle on your profitability and financial viability?

Join EFAO's new **Vegetable Growers Viability Study** for direct market, ecological, vegetable producers in Ontario—the first of its kind!

This multi-year program is a special opportunity to increase your understanding of your own farm financial situation, learn from other farms and contribute to the collective knowledge for ecological farms in Ontario.

Sign up is now open for participation that will begin January 2026. Contact Heather (heather@efao.ca) for more information.



Small Grains Fall Intake

The July intake of EFAO's Small Grains Program was a huge success, with the largest pool of applicants yet. EFAO is excited to support farmers diversifying their field crop rotations on thousands of acres across Ontario. The next intake will be in December for farmers planting spring small grains in 2026!

Join the Small Grains Network or visit efao.ca/small-grains to stay up to date on this program!

Early Summer Field Days

1

1. Intro to Soil Health and Rotational Grazing at Kirkview Farms
May 28, 2025, Dalkeith (Eastern Ontario)

At this first of three soil-themed field days in Eastern Ontario, participants heard about how soil health takes priority and contributes to the overall wellbeing of animals, soil, and ecosystems at Kirkview Farms — including the cattle that are the heart of the farm, Poppy the donkey, and chicks raised in a school bus!

2

2. Field Day at Black River Country Gardens
June 20, 2025, Val Gagné (Northeastern Ontario)

Participants in this field day got a firsthand look at the greenhouse, market garden, organic strawberry fields, large-scale windrow compost turner, pastured egg production and passive in-ground cold cellar. Some participants even took home organic potato seed!

3. Multi-Species Regenerative Grazing with Up-North Lamb Co.

July 3, 2025, Earlton (Northeastern Ontario)

At this field day at Up North Lamb Co., participants explored a variety of regenerative grazing strategies, seasonal lambing, and integrated multi-species livestock management, including six species of livestock, guardian dogs, solar electric fencing, and portable watering systems. They took a tour through grazing paddocks on a hay wagon and saw the striking differences between management practices—an eye-opening look at how thoughtful grazing decisions can dramatically impact soil health and pasture quality.

4. Cycles that Feed the Farm and Farmers: Soil, Seed, and System Thinking

July 3, 2025, Orton (Southwestern Ontario)

Attendees at this field day had the chance to spend the day with renowned plant breeder and farmer-researcher Duane Falk, learning about his innovative 5-year organic rotation, which includes breeding and saving seed from key cover crops like red clover, rye, winter peas, and multispecies mixes.

5. Bounty in the County

July 24, various locations in Prince Edward County

Three fabulous EFAO member farms opened their gates for a tour in late July. First, Fiddlehead Farm showed off some of their inexpensive DIY farm buildings and shared about the curiosity and determination to learn from mistakes that has kept them going for over 14 years. Then, Return to Earth Farm offered a behind-the-scenes tour of their rotational grazing systems for farm-raised lamb, pork, poultry and rabbit, as well as their maple syrup and homemade soap production systems. Finally, participants toured Paper Kite farm and enjoyed a delicious meal while learning about their diverse multi-faceted farm and engaging in conversation about their value-added products, making biochar, on-farm summer camp, land access and how collaboration strengthens local food systems.

Felix Pozojevic: Field Manager at Fertile Ground Farm

EFAO: What inspired you to get serious about growing food, and how did you come to ecological farming? Did you read something inspiring, or meet someone who introduced you to it?

FELIX (FP): My ecological agricultural journey began seven years ago after I became disheartened with the greenhouse industry I was currently in.

I have a strong desire for my employment to align with my morals, values, and in some way, contribute to society (hopefully positively). Originally from Niagara, a place so fertile but yet so monocropped, I felt quite trapped wondering where I fit into agriculture. One summer the clouds opened and a farm assistant gig found me—after that summer I was hooked. I fell in love with the uncertainty, coexisting with the variables, the physicality, the clear rewards and harsh consequences [of growing food]. I loved seeing everything around me in connection and how this industry really rewards forethought and careful planning.

I could never go back growing anything but food—I was completely enchanted, challenged, and fulfilled providing food for my community!

I'm fortunate enough to have been inspired and encouraged by incredibly ecological growers such as Ashely Burnie and Angie Koch during my career which really fuels the flame.

EFAO: How did you know when it was serious—that ecological farming was a life path you wanted to take, rather than just a summer job?

FP: Farming didn't seem like a real career for me for a long time. With low low wages, I felt panicked wondering how I could live in this industry without having to run my own business.

It wasn't until I had a few seasons under my belt and finished my greenhouse technician program at Niagara College that I finally felt I was able to negotiate for closer to living wages. Once I was able to actually live off of farming wages, I knew this could be a forever career.

The last piece of my ecological farming career puzzle was finding a farm to call home. I spent one season just outside of Guelph running my own farm—something I found exceeded my skill set (I am no marketer!). My land owners at the time pulled the plug on that project as they sold the land. Luckily, this coincided with Angie looking for a new field manager. Home farm acquired!

EFAO: How did you meet Angie and become familiar with Fertile Ground Farm? How long have you worked there, and how/when did you decide to take on the role of Farm Manager?

FP: Well, I have always known about Angie! Incredibly hard working female farmer running a LARGE organic CSA? How could I not know Angie? Interestingly enough, earlier on in my career I did interview with Angie for a labourer position, but it

wasn't my time to work with her, and I took a management role elsewhere. Two years later I was interviewing to be her field manager.

This is my third season with Angie and the role of Field Manager is quite perfect for me and really highlights my skill and interests. I find I have enough autonomy to have my hands in all the pots but it's not as lonely as running your own business—Angie is very collaborative.

After coming off of a hard season running my own business I gained a ton of empathy for those who run their own businesses and make it work. I completely admire Angie and appreciate her struggles in a way I couldn't understand until I was in her shoes (on a much smaller scale).

For me, being a good field manager is a balance between well-honed job specific skills and experience but also being able to manage interpersonal and emotional relations. Farming is such a demanding job physically and mentally that ignoring emotional integrity comes at a great cost. I really enjoy working as a field manager, and I think Angie and I make a great team as we are the same flavour of crazy.

EFAO: Fertile Ground recently moved from rented land west of Kitchener to a new location in Neustadt. What was your role in that transition? What has it been like to consider all of the logistical aspects of such a move? Were there parts of the process that were totally unexpected to you, that other farmers should consider if doing something similar?

FP: Moving to Neustadt has definitely been a journey of a lifetime. I feel very lucky to be a part of the process. Originally I was quite nervous about moving rurally as a lesbian and wondered if I was going to pass away from loneliness. Luckily, Grey County has exceeded my expectations and is rich in community! I really enjoy it here.

My job during this move has included being a sounding board for Angie, "Bob the builder," problem solver, and on-boarder for an entirely new crew. All these new hats on top of my pre-existing repertoire of duties as we kept quite close to last year's production levels.

This move has been nothing but overwhelming. There have been so many surprise growing pains. I feel as if I've learned a great lesson in resiliency this season. As if farming could get any harder!

What occupies my mind most over this move is the loss to the Kitchener-Waterloo community that our move has created—all because of the price of land! Our farm moved an hour and 20 mins away from our original community to another new vibrant community but, really, to where the price of land is affordable. The old location was a mere 15 minutes outside of Waterloo and was quite the community hub that bridged the gap between food and land for many. Hurts my heart!

EFAO: What are your thoughts/ feelings on land ownership?

FP: I have a complicated relationship with land ownership. I have never owned land and am not sure if that's a possibility in my future. After losing my farm when the owners moved I feel quite scared to ever trust land owners in the same way. Building a farm takes so much and is such a long game. I feel quite at home here at Fertile Ground as Angie allows me to have quite a large plot to satisfy all my silly growing whims so I feel quite outside of landowner/ renter relations.

This season especially, I've been navigating complicated feelings over land ownership as Fertile Ground moves from rented land to owned. I love this new property but I do grieve the loss of the old Waterloo location that was much more accessible. I wish those land owners understood the importance of having our farm on their property and were passionate about a long term rental agreement.

EFAO: Do you have any advice for someone who is interested in getting into ecological farming as a career path but who doesn't own land?

FP: Well! Figure out what about ecological farming interests you—what do you enjoy growing? How do you want to grow it? Who and where is your market? How hard do you want to work?

Find a farm that does something similar to your dream and try to work there. See if that reality still aligns with your goals. Over the last five years I have seen many flavours of land rental agreements pop up. There are always options! Especially if you're able to stay flexible.

EFAO: Do you have any farming passion projects?

FP: Currently I've been enjoying my deep dive into seed production—specifically beautiful dried beans. I also grow flowers for drying and grasses for floral arrangements. I feel quite passionate about grasses this season.

I'm hoping to continue to deepen my obsession with grasses, dried beans, and flowers as I continue to field manage here at Fertile Ground. ■

Measuring Carbon Sequestration On The Farm

By Cassie Wever

Farmer Mike Bayne knows intuitively that his ecological growing practices have environmental benefits. "Ecological farmers have lots of anecdotal evidence about their farms. They pass the eye test: I can see that the grass is growing better, the forest is doing better, the water is cleaner and the animals are healthy and happy." He has seen these benefits on Broma Farm, where he and his partner Crista Thor grow vegetables using no-till practices, and raise beef, lamb, broilers and laying hens using regenerative methods such as rotational grazing, tree intercropping, and silvopasture. But he finds it difficult to communicate these observations in ways that consumers and the general public understand and believe.

"In this day and age," Bayne says, "We seem to rely on third parties to certify farming practices or present peer-reviewed evidence." It's often not possible to find relevant and applicable peer-reviewed evidence for the kinds of ecological practices Bayne employs, particularly evidence that is regionally specific to where he farms. He has also run into difficulty with some consumers holding black and white beliefs about the kinds of farming and eating practices that support climate change mitigation. In his experience talking to customers, many of these beliefs are fueled by polarized narratives and quick-fix solutions to the climate crisis. For example, popular literature and well-known journalists often tout the evils of eating meat in regard to the climate; however, these beliefs generally do not include evidence relevant to his farming practices. Data on the carbon impacts of raising beef is generally from large Concentrated Animal Feeding Operations (CAFOs) in the United States, rather than cattle raised in Ontario through regenerative practices such as rotational grazing. And when it comes to accurate carbon accounting, context matters a great deal.

Bayne and Thor wanted to better understand and measure the carbon impacts of their farming practices, and also have data from a third party they can share and discuss with customers. With these questions, they reached out to Nathan Manion, founder of Greenscale, a company that provides consulting and research services in the fields of sustainability, life cycle assessment (LCA), and environmental impacts across a range of sectors. They wanted to know: how can a farmer measure the carbon impact of their farming practices, in their particular context and with their particular practices? One option Manion presented is conducting a "screening study," which is a precursor to a full Life Cycle Assessment, as a concrete tool for assessing carbon footprint. It provides practical information for assessment and learning, and is a way to help fill the dearth of regionally specific data on carbon sequestration and ecological farming practices.

These sorts of studies are more common in other industries, such as forestry and construction. Manion explains that "a full Life Cycle Assessment (LCA) is an international standard, mandated through the International Standards Organization (ISO). There are a bunch of different offshoots with different certifications, but basically they all look at the whole life cycle of a product from cradle to grave, trying to understand the true environmental impacts."

A full LCA allows you to make Environmental Product Declarations, essentially like a nutritional label for environmental impact. For operations like farms, a full-blown life cycle assessment is costly and time

consuming. In these situations, Manion explains, a screening study is often most appropriate and useful. Screening studies are like doing a high level LCA to see where gaps in information are, and if improvements are needed before doing a full LCA.

Manion says much of the data about farming and carbon looks at average emissions and practices, and from this data, it's easy to conclude that agriculture as a whole, and raising livestock in particular, is problematic in terms of carbon emissions. What Manion finds interesting are the practices and data that are not included in the averages. He says there is benefit in looking at what smaller scale farmers are doing specifically, and gathering data from those practices.

Measuring Carbon Sequestration on Broma Farm

Completing a screening study of Broma Farm took about a year. The farm had completed soil testing 12-13 years prior and again about five years ago, and Manion completed another round for this project to understand how carbon was accumulating or being lost over time. To complete the study, Greenscale followed existing carbon accounting protocols, which use emission factors and estimates to calculate carbon flows. Manion uses emission factors specific to Ontario and Canada, as geography and specific contexts such as the source of energy for the electrical grid greatly influence the numbers. They take a

systems dynamics approach where they look at each area or space on the farm and what's happening in it. They sit down with landowners to figure out major inputs and outputs on the farm, and then turn to technical research literature to assign numerical values to carbon being sequestered and emitted.

"Rather than just using literature averages for 'farming' in general, we take into account what's happening on this specific farm," says Manion. "For example, with Mike and Crista's farm, we didn't just look at how many livestock they have, but where are they going, which fields are they grazing in, how long do they stay, what are the relationships between the biomass in the forest and the biochar they're using in the garden, all of these specifics. We really try to understand what the relationship is between various components on the land."

Using this approach, Greenscale pulled together every bit of carbon flow data they could capture—emissions from vehicles, enteric emissions from livestock, organic matter in the pasture and forest soil, etc.

Findings/Learnings

Both Bayne and Manion expressed surprise at the results of their study, but not about the overall takeaway: Broma Farm is sequestering far more carbon than it emits, approximately 4.6 tonnes of CO2 equivalent per hectare per year, meaning it is a carbon sink and an important climate mitigation tool.

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"What was surprising to me," says Manion, "Was how well Mike and Crista were doing it. They've been able to create this really beautiful space that simultaneously sequesters carbon and creates habitat for animals. It's amazing to see the physical evidence of this kind of work, which I know is possible, but there's not a lot of documented information about these practices in our region."

What struck Bayne most was learning that his pastures are sequestering two to three times as much carbon as his forests—more carbon than is emitted by the livestock that graze on them. "This is really applicable for people who have livestock and do rotational grazing," he says. He says this reinforces that pasture can be an incredible tool for building topsoil and locking in carbon.

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Broma Farm has not engaged in a lot of active forest management, and the results of the study indicate that this is an area where they could trigger even more carbon sequestration. Greenscale recommends that they actively thin the forest, clearing out dead trees and invasive species and planting diversified native species, as a way to support forest health and sequester more carbon. This runs counter to the hard line that Bayne feels many people seem to hold, with best intentions, that "we should not have any domestic animals and we should never ever cut down trees."

In another example, the results of the study demonstrated that after years of no-till gardening and regular manure applications, the rate of soil carbon accumulation in the vegetable garden appears to be plateauing. This garden still showed the highest per-hectare soil carbon levels on the farm, but further increases are likely to be slower under current practices. Manion recommends additional analyses to assess whether carbon is being stored primarily near the surface or deeper in the soil profile, and to refine amendment schedules based on current nutrient levels, which may now be sufficient to support plant growth without continued intensive inputs. Life Cycle Assessment methods also allow the team to examine other impacts—such as nutrient loading or energy use—to ensure future management supports both productivity and long-term soil health. With this knowledge, the farmers may be able to reduce amendment frequency to every two to four years in the garden, and instead focus more attention on improving pasture soils—resulting in less labour overall, and potentially greater carbon sequestration at the farm scale.

As shared in the report, the results of this study demonstrate "that a diversified farm system integrating livestock, vegetables, and tree-based systems can achieve a net-negative GHG balance when supported by rotational grazing, perennial groundcover, and organic amendments." Manion says these results align with similar studies that look at regenerative farming systems. A sensitivity analysis looking at the potential lower and upper bounds of carbon sequestration using conservative and optimistic numbers demonstrates that even with conservative estimates, Broma Farm remains a carbon sink. The report notes that "Broma Farm's carbon-negative balance is not dependent on a single land type but distributed across diverse systems, increasing resilience to environmental and management variability."

A diversified farm system integrating livestock, vegetables, and tree-based systems can achieve a net-negative GHG balance when supported by rotational grazing, perennial groundcover, and organic amendments.

Is a screening study right for your farm?

A screening study costs about $5000 to conduct, and Manion says they try to not go beyond this price tag so that it can be accessible to farms. One of the greatest benefits it offers is farmer learning. “These types of assessments are more like a primary school report card,” says Manion, “trying to tell you how to improve things. They’ll give you information, not a grade, and they’re a tool and a guide for how to do things better.” He explains that in doing the screening study, they create a systems model of the farm they are studying. If Bayne and Thor want to implement changes on their farm and are curious about their impact in terms of carbon emissions, they can use the same model to assess carbon flow. In other words, a screening study produces not only a report with recommendations, but a tool that a farmer can use on an ongoing basis.

Beyond validating his farming practices and giving him concrete tools to improve his carbon sequestration, Bayne says the study has given him more information he can share with people about the environmental benefits of pastured livestock. “When people hear about [the results of] this study,” he says, “They’re really interested in it. And maybe they don’t automatically change their opinion, but when they hear it over and over again, it helps.” For consumers, studies like these can help answer questions about if and when meat can be a part of a climate-conscious diet. Bayne would like to see more farms completing screening studies. He says there is an opportunity for ecological farmers to build the body of validated, cross referenced, regionally specific data regarding carbon sequestration and ecological farming practices, particularly raising grass fed meat and using rotational grazing. “It’s a hopeful message. We can build a whole narrative around this, and build a campaign to share this information together.”

For Bayne, the study reinforces that as ecological farmers, ecosystem and land restoration can be the primary goal, and the byproducts of this overarching goal are healthy, delicious foods that are good for people and the planet. ■

Cassie Wever *is EFAO’s Education Coordinator. She supports the educational components of EFAO’s programs, and coordinates events and resources in line with the learning and training needs of EFAO’s members. When she is not immersed in the world of farmer education, you’ll find Cassie, her wife, and their kiddo growing food and going on adventures on or near their homestead in the Madawaska Valley.*

If you’re interested in conducting a screening study, Manion is happy to support or direct people to local organizations that can help them. He can be reached at nathan@green-scale.ca. He also encourages farmers to check out the Ontario Woodlot Association as a great resource for forest management, which is an area of many farms where carbon sequestration could be improved.

Living Lab Meets Indigenous Innovation at Leading Cloud Gardens

Where ancestral knowledge and future-focused agriculture grow side by side.

By Kara Tremblay

At Apitipi Anicinapek Nation, the land is more than just a place—it's our teacher, our medicine, and our future. Everything we do at **Leading Cloud Gardens** grows from that understanding. This community-led initiative, named in memory of my late kokum and traditional knowledge keeper Elizabeth Babin, is helping to restore our relationship with the land, rebuild our food systems, and reawaken traditional teachings that were always meant to guide us.

In June 2024, something powerful happened—we entered into a four-year partnership with the Ecological Farmers Association of Ontario (EFAO) and the Ontario Soil and Crop Improvement Association (OSCIA) through the Living Lab – Ontario initiative. Supported by Agriculture and Agri-Food Canada, this project brings together farmers, Indigenous communities, and researchers to test ecological farming practices that are practical, sustainable, and grounded in place-based knowledge. For us, it means working with the land in a way that respects our traditions, heals the soil, and nourishes future generations.

Since joining the Living Lab – Ontario network, we've rolled up our sleeves and gotten to work. We've built new greenhouse garden beds and prepared outdoor growing areas for seasonal planting. Our composting strategy is well underway, designed to rebuild soil health naturally while reducing waste. Just as importantly, we've brought youth into the heart of the garden—teaching hands-on skills in planting, harvesting, seed saving, and food preservation, while passing on knowledge from our Elders and ancestors.

One of the most meaningful moments for me was welcoming traditional seed varieties into our garden, like **Algonquin pumpkin** and **speckled beans,** gifted to us by generous seed keepers committed to cultural preservation. These seeds aren't just food—they carry stories, identity, ceremony, and resilience. When we planted them, we weren't just gardening. We were reclaiming something sacred.

Looking ahead, our work continues to grow. This partnership will support long-term **soil health research**, the expansion of **native and heritage plantings,** and the development of a **food forest** filled with fruit trees, medicinal plants, berries, and perennials. Our goal is to make healthy, local food more accessible while creating space for healing, learning, and leadership. We want our children and grandchildren to grow up knowing how to care for the land and be fed by it—not only physically, but spiritually and culturally.

Leading Cloud Gardens is about more than just vegetables. It's about reclaiming food sovereignty, restoring cultural identity, and creating a sustainable future that our community can be proud of. It's about celebrating what we've always known—that when we take care of the land, the land takes care of us.

I'm filled with gratitude for everyone who's supported this journey—our partners at EFAO and OSCIA, our leadership, our youth, our Elders, and every hand that's helped plant, water, harvest, or simply shared encouragement along the way. This work is hard, but it's good work. And we're just getting started.

If you'd like to learn more or find out how you can be involved, please reach out. There's always room at the table—and in the garden—for you.

Kitchi miigwech to everyone walking beside us as we grow this together.

Kara Tremblay *is the Food Coordinator for Apitipi Anicinapek Nation, Leading Cloud Gardens, a community-rooted initiative dedicated to Indigenous food sovereignty through land-based learning, traditional food systems, and local food production. Her work centers on restoring cultural relationships to the land by growing traditional medicines, vegetables, and wild foods while mentoring youth and creating spaces for knowledge sharing and self-determination.* ■

You can learn more about the Living Lab-Ontario project at www.ontariosoilcrop.org/livinglab/, or connect with Kara at foodcoordinator@apitipi.ca or 705-471-6508.

Cycling Nutrients On-Farm with Integrated Chickens and Cover Crops

Lessons From a Season of Farmer-led Research

By Sarah Larsen

Shiying Lu is passionate about incorporating livestock into her vegetable rotation at Brilliant Meadows, a 48-acre farm within the rolling hills of the Niagara Escarpment. Since 2022, she's grown on this land with her partner, Jason, and her family to produce pasture-raised meats and organically grown Chinese diaspora vegetables.

From the start, Shiying had a three year garden rotation—two years of vegetables with one year cover crops—and soon wanted to incorporate livestock. In her second season, she worked in cooperation with the County of Wellington's Experimental Acres program to explore the effects of grazing meat chickens on the cover crop.

"Through that experience I was able to observe that the chickens did better on cover crop than pasture. They seemed to consume more forage and better finishing weights with the same amount of feed consumed," reflects Shiying. "I felt that this was a practice that I would continue with in my garden rotation, but I was also curious to learn more about the effects of the chickens on the soil in the garden."

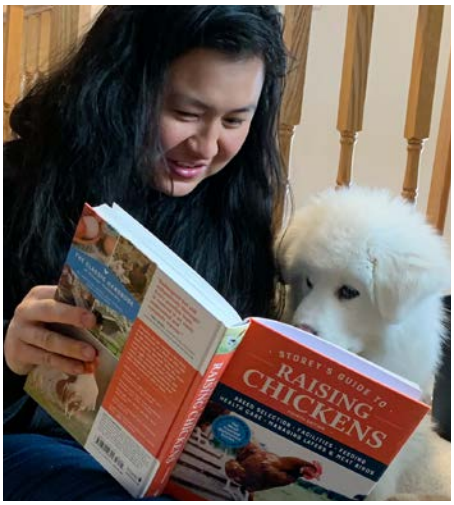
"I decided to apply to EFAO's research program," she continues, "and I remember asking questions in my proposal like, 'How much fertility are the chickens adding? Is it staying in the soil/being taken up by the cover crops? Should I be worried about leaching out of the soil?'" While there are many academic papers on nutrient cycling that provide information and insight into these questions, Shiying wanted to demonstrate the concepts and find the answers for her farm and her system.

To dig a little deeper on feedbacks between cover crops, grazing meat chickens and soil, Shiying and I designed a farmer-led research trial. As a framework to explore these feedbacks, we developed a sampling scheme based on Jesse Way and Meghan Brandenburg's farmer-research projects on plant available nitrogen from cover crops.

"In the garden space that had been dedicated to a rotation year of cover crops in 2024," explains Shiying, "I seeded cover crops on May 12th with a mix of 50% of a blend that was mostly oats and peas and 50% of a blend from Speare Seeds of oats, forage peas, crimson clover, fragiblaster radish, sorghum sudangrass, sunflowers and phacelia."

"I then divided the area into four lanes. Each lane had enough room for seven moves of 150 meat chickens in our one 13' x 16' Cackellac," she says. "I also fit in one extra day at the beginning and end of their time on pasture, for a total of 30 daily moves on the cover cropped field—just enough time for our grow-out period."

Because she is curious about the effect of chicken manure on nutrient cycles in the soil, Shiying decided to standardize manure deposition by moving chickens based on feed consumption. "This meant I moved chickens more frequently as



they got bigger and ate more," says Shiying. This suggestion from Shiying for standardization is a great example of the type of research improvement that puts the 'farmer-led' in research and keeps it focused on practical results.

Throughout the grow-out period, Shiying took cover crop biomass samples before the chickens entered a lane (akin to taking a biomass sample at cover crop "termination") and soil nitrate measurements before and after chickens entered each lane. Above ground, she observed that the carbon-to-nitrogen ratio (C:N) and percent nitrogen (%N) in cover crop biomass changed noticeably over the season. As the cover crop aged, its C:N ratio increased while tissue nitrogen content declined.

While this trend is what we expected, it is important because it indicates a reduced availability of plant-accessible nitrogen as the crop matures. The same concept applies to cover crop termination and nitrogen benefits for subsequent cash crops.

For Shiying, these results remind her that "timing cover crop grazing is important when it comes to forage quality for the chickens."

A main motivation of Shiying's was to measure the nitrogen impact of the chickens, so she could have a better sense of how they might affect nutrient cycling. "We want their manure in the system," she explains, "but don't want to overload the system with nitrogen to the point that it leaches."

Below ground, soil nitrate levels were consistent across the site before the chickens entered a grazing lane. After chickens exited a lane, however, soil nitrates nearly doubled in grazed areas compared to non-grazed zones. This confirms that chicken manure contributed an increase in nitrogen to the system. Interestingly, we saw that nitrate levels remained below 10 ppm, which suggests a relatively low leaching risk, at least at the time of sampling.

Because leaching could still be a risk as the manure decomposes, Shiying reseeded with cover crops on September 9th, and resampled for soil nitrate ten weeks later in early November before freeze-up. Before re-seeding, soil nitrate levels ranged from 1-19 ppm, depending on the time since the chickens exited the lane. After re-seeding, soil nitrate was back down to 4 ppm across all lanes.

Reflecting on the trial, Shiying was pleased to see that "soil nitrate levels right after the chickens left were around the same, which means that moving the chickens based on their feed consumption worked well to distribute fertility more evenly across the garden!'

"This trial also drove home the importance of post-grazing reseeding to capture any extra nitrogen added by the chickens and keep it on in the soil," she concludes. "Looking in a detailed way at soil nitrate also makes me think that overwintering cover crops may be a better fit to provide early forage for chickens while protecting soil over the winter."

When I asked Shiying about the garden areas she grazed in 2023, she was happy to report that these areas performed exceptionally well. "Crops such as Asian greens, corn, squash, cucumbers, bitter melon, tomatoes, sweet potatoes, peppers, eggplants and potatoes thrived," observed Shiying. "I also saw strong fertility, reduced weed pressure, and notably low pest levels, including minimal Colorado potato beetle activity. Whether these benefits were direct results of the integrated system or coincidental, we are pleased with this system so far."

To read more about this study, including a full analysis of the data, look for Shiying's research reports this fall! ■

Sarah Larsen is EFAO's Research and Small Grains Program Director. She holds a PhD in Soil Ecology. Through her work with EFAO, she supports farmer-researchers across Ontario to design and implement farmer-led research projects that not only satisfy their curiosities about how on-farm practices impact both the soil and the bottom line, but that help to provide evidence-based results on which to make decisions. Sarah lives on a farm near Aylmer, Ontario with her husband and daughter, where they tend 50 acres of diversified perennials and a menagerie of grazers, and build ponds and wetlands.

Steam Engines & Stone Mills

A Q&A with George and Mary of Poschaven Farms

By Rachel Lachance

Tucked away in the farming community of Kenabeek, Ontario, Poschaven Farms stands out for its commitment to ecological grain production and on-farm processing using traditional tools and time-tested methods. Run by longtime organic grower George Posch and his partner Mary, the farm produces a range of heritage grains—like spelt, rye, and wheat—and mills them on demand using a handcrafted Austrian stone mill and a century-old roller mill. A restored 1923 George White steam traction engine, co-owned with George's son Adam, also makes appearances at community events.

In this Q&A, George and Mary share how their farming practices, grain processing, and deep roots in the land have shaped a resilient, regionally focused food system in Northern Ontario.

EFAO: What's unique about how you grow your wheat—from seed to harvest?

GEORGE: I underseed with double-cut red clover, which helps build soil fertility. I take the first cut as hay for our Black Angus beef cattle, then work the second cut—and the straw from the previous year's grain crop—back into the soil. That adds vital nutrients for the next year's crop without relying on chemical inputs. I mostly plant using my own saved, non-GMO seed and never use chemical fertilizers or sprays. I've tried sweet clover in the past, but it tends to outcompete the grain before harvest and can taint the crop, making it unsuitable for milling. Harvesting depends heavily on the weather. We use a swather and combine, and in some wet years, the grain hasn't made food-grade and had to go to livestock feed instead.

EFAO: What inspired you to start milling your own grain, and how has that shaped your farming approach?

GEORGE: I started noticing how many farmers were spraying their crops pre-harvest. I didn't want to keep eating food grown that way, so I looked for an alternative. One day in Earlton, I saw an ad for a flour mill. I bought it, intending to just use it for my own family. That didn't last long—within 10 minutes of getting home, I got a call from the Royal Winter Fair asking me to attend and represent Northern Ontario.

I had to scramble to prepare grain, packaging, and labels in just three months. In the early days, we milled flour in a converted school bus. Later, we added a second bus dedicated to gluten-free buckwheat flour. In 2014, I started building our current milling facility. I received a $5,000 Premier's Award for Agri-Food Innovation in 2015, but aside from that, we've built everything without government funding.

EFAO: How do your growing and processing practices set you apart from others in your region?

MARY: George plants smaller fields and processes everything himself. To avoid cross-contamination, he uses a different combine for each crop. Most of our equipment is 50 years old or more, but it still works well. Weeds are a constant challenge since we don't spray, so George runs the grain through the cleaner multiple times to meet food-grade standards.

GEORGE: My yields are lower than average, but our Hard Red Spring Wheat recently tested at 14.4% protein and 12.5% moisture, which shows the quality is there. The same wheat had a falling number of 335, which is well within the typical range required by elevators.

(Editor's note: a falling number test estimates the amount of preharvest sprout that has occurred in the grain while still in the field, and is an indicator of the protein [gluten] content of the wheat. Wheat that is high in protein is better for breads, and lower-protein wheat is best used for cakes and pastries. If the protein content is too low, elevators will not accept the grain for human use).

EFAO: Tell us about your steam traction engine. How did it come into your life, and how do you use it today?

MARY: George grew up on a farm near Brantford, Ontario, where a main railway line ran along the edge of the property. From a young age, he was fascinated by steam locomotives. In his late teens, a neighbour invited him to

watch a threshing machine powered by a steam traction engine. The engine, built by George White & Sons, was owned by a man named Jack Calder, who also happened to have three daughters.

George was invited back for lunch the following spring, where he met Sharon, Jack's oldest daughter—his future wife. He often jokes with his kids that if it hadn't been for the George White engine, they wouldn't be here today!

That same engine came full circle in George's life when he and his son Adam bought it back in August 2022. Originally built in 1923 and rebuilt in 1936, it once worked in a sawmill before spending time in Detroit and eventually returning to Canada in 1972. While it's no longer used for day-to-day farming, the engine still gets fired up for school tours, community events, and family gatherings. On Adam's 40th birthday, it pulled a six-furrow plow to mark its 100th year.

We've also used it to steam corn for our Mennonite neighbours and to demonstrate the threshing machine at New Liskeard's Biker's Reunion.

EFAO: How do you store your grain, and what kind of infrastructure is involved?

MARY: We use five bins that each hold 15 tonnes of grain. After cleaning, the grain comes in at 12-13% moisture and is stored in a separate room with low humidity and temperature. Each bin has a perforated 4-inch center tube connected to a fan. The walls are made of metal screen with 1/64 inch holes.

If the grain needs drying, we run four dehumidifiers in the room and turn on the fan. It's a passive drying method without heat, and it preserves the grain beautifully.

EFAO: You've been farming organically for over 40 years. What are some of the biggest changes you've seen in agriculture?

GEORGE: The biggest changes are in the technology and the size—and price—of new equipment. I like to say I haven't changed much. I don't carry a cell phone or have a 911 number at the road. (Mary handles the email and has the phone.)

Our farm is based on old-school common sense, not modern tech. What gives me hope is the next generation—within a mile of our farm, there are 20 kids under 17 who spend more time outside than on screens. That's a good sign for the future.

EFAO: Who's buying your flour these days, and why?

MARY: More and more people with health issues are reaching out. They're finding they can't tolerate conventionally produced flour, and they're looking for something better. Most of our sales are wholesale, but we also sell directly from the farm.

Our flour is sold across Northeastern Ontario and as far west as Manitoulin Island. We have regular customers who buy gluten-free buckwheat flour, including celiac clients and people grinding their own flour at home. Some have come from all over North America and even abroad.

Q: Looking ahead, what's next for Poschaven Farms? Any dreams or succession plans in the works?

MARY: There's always another piece of mill equipment George would love to have—it never ends! There aren't formal succession plans for the mill yet, but the steam engine is co-owned by George and Adam and will stay in the family. Adam has two boys—Henry and Isaac—so there's potential for it to be passed down.

In the fall of 2024, we hired Marie, a part-time employee who works two days a week. She's been a great addition, and her help meant George could finally take a two-week trip to Nicaragua last winter—a much-needed break! ■

The Land Access Coalition: Rooted in Collaboration for a Resilient Farming Future

By Angel Beyde

"A community is only as strong as its willingness to stand together and advocate for the land that sustains us. We must come together to protect the Earth and fight for the future of generations to come. Coalition-building is about recognizing that we have a shared responsibility to one another and to the land."
— Winona LaDuke, Founder of *Honor the Earth*

Land access has long been a barrier for new and equity-deserving farmers in Ontario, but in recent years, this challenge has grown dramatically. Soaring land prices, restrictive policies, and limited financial support are making farming increasingly out of reach for young farmers, BIPOC communities, and marginalized groups. This crisis is rapidly changing the face of agriculture in Ontario and across Canada.

Over the past three decades, farmland prices in Ontario have increased by over 850%. This inflation has created an unworkable situation for most new farmers: the average farm value in Ontario now exceeds $5,000 per acre and even upwards of $30,000 per acre for a smaller parcel that includes housing and outbuildings. The profits from most forms of agriculture are not sufficient to allow for the average aspiring farmer to purchase land and pay the mortgage with proceeds from farming. Furthermore, most aspiring farmers struggle to access capital or secure long-term leases that allow for farm infrastructure development.

The average age of a farmer in Ontario is now 56, and with 40% of farmers expected to retire by 2033, the window to transition to the next generation of farmers is rapidly closing. For new farmers under 35, and especially those from equity-seeking groups (including Indigenous, Black, and 2SLGBTQ+ communities) the barriers to land access are even steeper. Discriminatory lending practices and a lack of established wealth or assets to leverage for loans mean many are simply locked out of the agricultural economy.

At EFAO, we've been supporting farmers through these challenges by hosting events and sharing resources on topics such as alternative land access models, accessing grants and loans, the concept of land ownership, responsible land stewardship, and the true cost of ecological services. There are no simple solutions for this complex issue, which is shaped by our economic system and the cultural values that underpin it—and no single individual or organization can address it in isolation.

A Coalition for Change

Recognizing the urgent need for collective action, EFAO founded the Land Access Coalition in 2021 and in 2023 the NFU-O became co-stewards to help convene a broad, inclusive coalition of nearly 20 organizations across sectors like food justice, social finance, agricultural education, Indigenous land trusts, farmland conservation, and urban agriculture. The coalition's focus is clear: helping organizations collaborate, seek input from the sector, develop cross-sector policy recommendations and undertake advocacy to help create equitable, long-term land access solutions for new and equity-deserving farmers.

Through regular meetings, resource-sharing, and policy advocacy, the coalition is working on a wide range of interconnected issues, from farmland protection and land zoning to access to capital, farm income and lease equity. The coalition members are focused on building the foundation for lasting, systemic change in the face of a complex and deeply entrenched challenge. The scale of the land access crisis requires us to work across sectors and break down silos, fostering connections and building relationships that amplify our collective impact.

Measurable Outcomes

The work of the coalition has already led to tangible outcomes that continue to drive progress:

1. **RESOURCE DEVELOPMENT:** Coalition members have developed resources to support new farmers, including Fields of Opportunity, a guide for alternative farmland access,

and Rooting for Tomorrow, a policy framework aimed at fostering equitable land access across Ontario. These resources are now being utilized by farmers, policy makers, and support organizations alike.

2. **POLICY ADVANCEMENTS:** Through coalition efforts, we have contributed to ongoing policy discussions around land use planning, farmland protection, and increased access to capital for new entrants. One of our key advocacy priorities has been to call for long-term land access policies that support not only the next generation of farmers, but also the broader agricultural ecosystem.

3. **INCREASED COLLABORATION:** New members continue to join the coalition, further strengthening our ability to make an impact. These new partnerships are critical to scaling the work we do and expanding our network of support.

4. **MAPPING THE ECOSYSTEM:** We've made significant strides in mapping the broader land access ecosystem and are developing a tool to help identify available resources, key contacts, and successful projects that can be replicated across Ontario. This collaborative effort will make it easier for farmers to find land opportunities and connect with critical support networks.

5. **ADVOCACY FOR A NATIONAL NEW FARMER FRAMEWORK:** As part of a broader national movement, coalition members are advocating for a National New Farmer Framework that will address the systemic barriers new farmers face in accessing land, capital, and support. This framework will include specific policy recommendations for governments, such as creating more inclusive definitions of "new farmers", developing land matching services, and expanding access to mentorship and funding.

Bridging the Disconnect

While many of us in the agricultural and food justice sectors are acutely aware of the land access crisis facing new farmers, a stark disconnect remains. The public and key decision-makers—government officials, policy makers, bankers, real estate developers, and institutional funders—often remain unaware of the urgent reality we face. Without a new generation of farmers, the future of our food system is at risk. This lack of recognition is part of the reason the Land Access Coalition was formed: to raise awareness of the land access crisis and amplify the voices of those who are most affected by it. By doing so, we increase our chances of securing the policy changes and resources needed to address these systemic barriers.

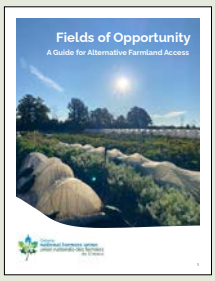
Looking Ahead

The road ahead is long and complex, but the Land Access Coalition remains committed to breaking down the barriers that prevent new and equity-deserving farmers from accessing and stewarding land. We know that land access is not an isolated issue but part of a larger web of interconnected challenges: access to capital, farm income, zoning regulations, macroeconomic conditions, and much more.

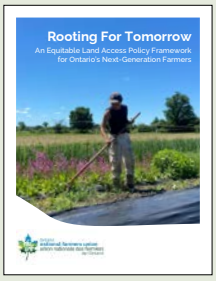
As we continue this important work, we are reminded that true change doesn't happen quickly—it grows slowly, steadily, and through collaboration. Just as the roots of trees, the hum of bees, the flow of the carbon cycle, and the web of mycelium networks working together to nourish the land, the strength of our farming and farm advocacy communities lies in our ability to collaborate to build a resilient ecosystem. ■

Angel Beyde *is EFAO's Strategic Partnerships and Eastern Outreach Director and also supports components of EFAO's education programs. She holds an MA from Concordia University, is certified as an Organic Master Gardener and grows veggies, native flowers, trees and heritage laying hens on a small farm in Eastern Ontario.*

Resources



Fields of Opportunity: A Guide for Alternative Farmland Access (NFU-O)



Rooting for Tomorrow: An Equitable Land Access Policy Framework for Ontario's Next-Generation Farmers (NFU-O)

Making Good Farmland Agreements: A Practical Guide to Leasing, Sharing and Buying Farmland in Ontario (Farms at Work)

YA Policy Page (Young Agrarians)

Accessible Agriculture Project: How to Build Inclusion at a Crucial Time

By Chris Lytle

My family is filled with individuals across generations who lived by the simple principle of enjoying life at every opportunity even though life is tough. In reality, the high level of discipline, grit and income required to simply maintain a suitable standard of living now seems unsustainable for a lot of us. After years of learning from past generations—those that lived, loved, taught, wrote, flew missions, fought enemies and farmed—I was able to see through my own experiences, even with endless barriers, that the sinew that connects us all is directly under our feet. It is in the simple act of interacting with soil. That's how I exited the urban armchair phase of my life and came back to the farm, a place where work has to get done and a "can-do" attitude is the order of the day. I respect the farm because it's a rare place where humility, trial, error and diligence are inter-twined. Farmland is naturally indifferent to my disability: it has its essential requirements, and it expects every person on it to rise above.

In the context of what is occurring globally at this moment, we are presented with an opportunity to re-focus and build programs and systems that prioritize communities and showcase our resilience by working to expand on the idea of accessibility and its reasonable application in agriculture across Ontario and the rest of the country.

Accessibility has been a topic of discussion, action and consternation, in unequal parts, for decades. Rooted in providing the potential of equal access to the social, cultural and economic realities of our world, accessibility as a practice has become well-articulated in a lot of areas. But it hasn't progressed very far beyond building inclusive environments in well-heeled, affluent institutions that are more often than not located in urban centres. Accessibility is a crucial building block for workplaces, markets, networks, employers and prospective candidates that have qualifications and are ready to work.

Heartwood Farm, summer 2025

The societal concept of disability is still a complicated nut to crack. Although we have made major progress in dispelling myths, stigma still exists whereby disabilities are presumed to be either physical or visible, and are generally seen as a personal failing: a lack of strength and/or personal fortitude. We now understand that the disability dynamic includes those who were born with a disability, those who have acquired them later in life, and those whose disabilities are either visible or invisible (i.e. physical vs intellectual or cognitive). It also encompasses people that have been injured on the job, and even Canadian veterans with service-related injuries. Disabilities can be temporary, permanent or episodic.

After working for 20+ years helping organizations, rights groups, and institutions both large and small to onboard accessibility, and then moving to a rural area, I realized that the lens of accessibility hasn't been tested in the agricultural sector. This means that while accessibility requirements have been set, the development of, at minimum, a template or a best practice

for what accessible agriculture might entail has not yet been undertaken.

In Ontario, there have been ventures towards including people with disabilities in small agricultural programs but there is a tendency to provide accessible agricultural work experiences as a form of therapy or an inclusive experience rather than a building block for future employment. Also, where training is involved, examples exist of people with disabilities and their families paying a fee for the experience of working at or on a farm, rather than establishing an in-road to real employment where compensation is provided.

People with disabilities have historically experienced a march of half-measures towards full societal participation and employment that are mired in ill-conceived notions of who people with disabilities are instead of having the right to reasonably choose where they work. People with disabilities represent an untapped workforce that would be of great benefit to Ontario and Canada, especially when our country is currently on the path to building a resilient and inclusive economy.

There are a few cases of inclusive agricultural projects internationally, such as in Australia, Britain and (Canada's neighbour of questionable intent) the U.S. These are projects that have received federal funding to research the application of physical accessibility in their various geographic environments, as diverse as they may be. All of these are agricultural projects that have been nurtured out of an idea are to be applauded. Having said that, there is more on the horizon with regards to building a distinctly Canadian foundation of inclusive best practices, field operations and training. It is with this understanding that the *Accessible Agriculture Project*, or *AAP,* has taken form.

The intention of AAP is to learn about how to make farming more inclusive and accessible as a means of livelihood for people with disabilities. Our aim is to compile evidence and information that will be of use to agricultural NGOs, farms, farmers, and varying levels of government. To do so, we hope to run accessibility workshops with EFAO members, and we have partnered with Heartwood Farm in Erin, Ontario to explore innovative ways that accessibility can be reasonably implemented in a "pilot" project on-site. The intended outcome of this research is to build strategies for the development of accessible training, best practices, resources and practical work opportunities for people with disabilities.

Everdale Farm, winter 2024

As a partner in this project, The EFAO has been considering how farming communities can transform and be transformed by our evolving understanding of disability. The Centre for Community Based Research is also providing support as we develop the project and seek resources. As the project unfolds, we hope to include in the project other agricultural and educational organizations, technology firms, and groups that represent people with disabilities.

Data generated by this approach can have an impact on accessibility standards that already exist in Ontario. Once compiled, data becomes a useful tool in providing a basis for potentially expanding employment, procurement, communications, technological and built environment standards that can be catered to agricultural initiatives. Current standards could be broadened to include accessibility while planning, conducting and maintaining farming operations.

We want to uncover ways that we can build on the existing resilience and self-reliance of Canadians to join career paths that are not directly linked to traditional ideas of accessible work. We want to help people with disabilities develop their sense of pride and personhood, by creating opportunities for work in areas they may have not previously thought possible. We want to see our province and country thrive in a way that best supports everyone's right to dignity, while illustrating that we can all undertake hard work.

This fall, EFAO will host a webinar about on-farm accessibility. The goal of this webinar will be to discuss what accessibility looks like on-farm, and to learn from one another how members' experience this issue. Visit the EFAO events page or email katie@efao.ca to register. ■

Christopher Lytle *is a person with a disability who lives in Guelph with his family including three kids. He is an accessibility professional with extensive experience in global human rights development and monitoring, implementation, policy development, and launching cross cutting rights-based accessibility programs. He is now working with the Accessible Agriculture Project to establish accessible field operations along with colleagues from various sectors.*

What If We Get it Right?

Ayana Johnson Envisions Realistic Climate Futures

By Thorsten Arnold

As someone who began my academic journey in Marine Environmental Studies after witnessing the vibrant beauty of coral reefs, I resonated deeply with Ayana Elizabeth Johnson's work. Initially, like many, I believed that focusing on greenhouse gas (GHG) reductions would be the most effective way to tackle climate change. However, as I delved into earth systems, tipping points, and land-use issues, I came to understand that local communities can have a far more intentional and immediate impact on regional climate through land and watershed management. In 2004, this insight led me to refocus on agroecology and integrated assessments of local environments, culminating in running our own farm (Persephone Market Garden) grounded in ecological principles.

Ayana Elizabeth Johnson's What If We Get It Right? (Sept 2024) mirrors this journey of expanding beyond GHGs and technological solutions, providing a multi-faceted vision that encompasses not just marine biology, but also agriculture, city planning, and systemic policy changes. Her unique perspective as a coral reef scientist brings an even deeper layer to this understanding—one where she can discuss the demise of coral reefs with joy. This may seem paradoxical, but it speaks to her broader approach: facing ecological loss with possibility and imagining new futures through collective action and love.

A Multi-Faceted Vision: Agriculture, Cities, and Systems Change

Ayana Johnson's vision is striking in its breadth. She writes by framing topics and then bringing in the voices of experts through edited interviews, rather than simply speaking from her own perspective. That makes the book accessible and gives a sense of joy and even goofiness, making tough subject matter digestible. Ayana's approach allows her to curate a multi-disciplinary conversation around climate solutions. Among others, featured experts include environmentalist Bill McKibben; Leah Penniman, co-founder of Soul Fire Farm; and Kate Orff, an architect and urban designer focused on integrating ecosystems into city planning. By weaving together their insights, poems and visual art (including from Wendell Berry and Marge Pierce), Johnson creates a joyful and surprisingly light reading that offers a rich, collaborative narrative that highlights the complexity of climate solutions across disciplines.

She starts off with rural regions. She brings together land-based and marine agriculture, forestry, and rural communities. She speaks passionately about the potential of regenerative, local food systems to heal ecosystems, restore biodiversity, and provide communities with resilience against climate shocks. Her perspective echoes my own shift toward agroecology, where I have seen firsthand how intentional land management can mitigate climate impacts and even reverse biodiversity loss—if part of a larger cultural transformation of our society.

In addition to rural land, Johnson addresses city design, imagining urban environments that not only reduce emissions but actively support biodiversity and foster human well-being. She paints a picture of cities with green infrastructure, urban farms, and policies that prioritize equity, ensuring that all people, especially marginalized communities, can benefit from climate solutions.

Crucially, her critique of the financial system is sharp and necessary. She calls for deep changes in how we think about money and profit, advocating for an economic model that values ecological health and community well-being. This transformative vision requires policies that are justice-centered, pushing back against the status quo that prioritizes short-term profits over long-term sustainability.

Johnson's focus on shifting power is central to her climate strategy. She places community-led solutions and social justice at the core of her approach, arguing that real change comes from decentralized power and leadership

from Black, Indigenous, people of colour and marginalized communities. This vision of community-first solutions is in line with my own understanding of the climate crisis: true resilience comes from empowering those who have long been excluded from decision-making.

Realistic Optimism: A Grounded Vision of Hope

What sets Ayana Elizabeth Johnson apart from many other climate writers is her ability to hold space for both the dramatic state of the Earth and a profound sense of joy and realistic optimism. She acknowledges the tipping points we've already passed—whether it's coral reefs bleaching beyond repair or the thawing of permafrost—but rather than falling into despair, she focuses on what can still be done. Her chapter on hope is particularly powerful in this regard.

In contrast to white climate thinkers like Jem Bendell or Joe Brewer, who often frame collapse as an inevitable endpoint that requires preparation and adaptation to societal breakdown, Johnson offers a counter-narrative. She doesn't deny the possibility of collapse, but she reframes it through the lens of resilience, emotional growth, and community action. As a Black woman, Johnson draws on the history of BIPOC communities, who have already endured and survived multiple collapses—colonization, slavery, and systemic oppression—and emerged with new forms of resilience and cultural evolution.

Johnson's "Fuck Hope" stance resonates deeply with me. She critiques the way "hope" is predominantly used in climate literature as a reactive term—a longing to preserve the status quo, which often includes the preservation of privilege and lifestyle. Many writers, like Bill McKibben, focus on preventing the loss of material wealth and stability, but Johnson rejects this notion of preservational hope. Like many other terms that are so misused that they are no longer useful, Ayana places the term where it belongs—into the garbage bin of maladapted terms—where it can simmer alongside others that we should no longer. Instead, she embraces the idea that some will get through the tunnel alive: not all of us, but enough of us to rebuild a more just and loving world. For her, this sense of possibility—combined with a deep love for life—is what sustains her vision.

Possibility and Love: A Counter-Narrative to Preservational Hope

For Johnson, love and possibility are the true drivers of change, not a desperate clinging to what we once had. This is a radical departure from traditional environmental narratives, which often focus on technological fixes and systemic reforms aimed at preventing collapse. These approaches can feel alien to communities who have already experienced so much loss and transformation. For Johnson, collapse is not the end, but rather a moment of profound opportunity for personal and societal transformation. She emphasizes emotional growth, cultural shifts, and the rebuilding of systems from a foundation of love, care, and justice.

Ayana's book is an essential counterpoint to the fear-driven climate discourse. She provides a vision of possibility that centers community, equity, and collective responsibility, offering a way forward that feels grounded in reality, yet profoundly empowering. As someone who has spent years navigating the complexities of environmental change, I applaud her message. In a world that often feels stuck between the brink of collapse and collective denial (either of the collapse itself, or of the futility of our current efforts), Ayana Elizabeth Johnson reminds us that survival is possible, and not just survival, but the possibility of thriving if we commit to the hard work of building a just and sustainable future. This book offers a powerful invitation: to re-imagine our world not out of fear of loss, but out of love for life and a belief in what we can still create. ■

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