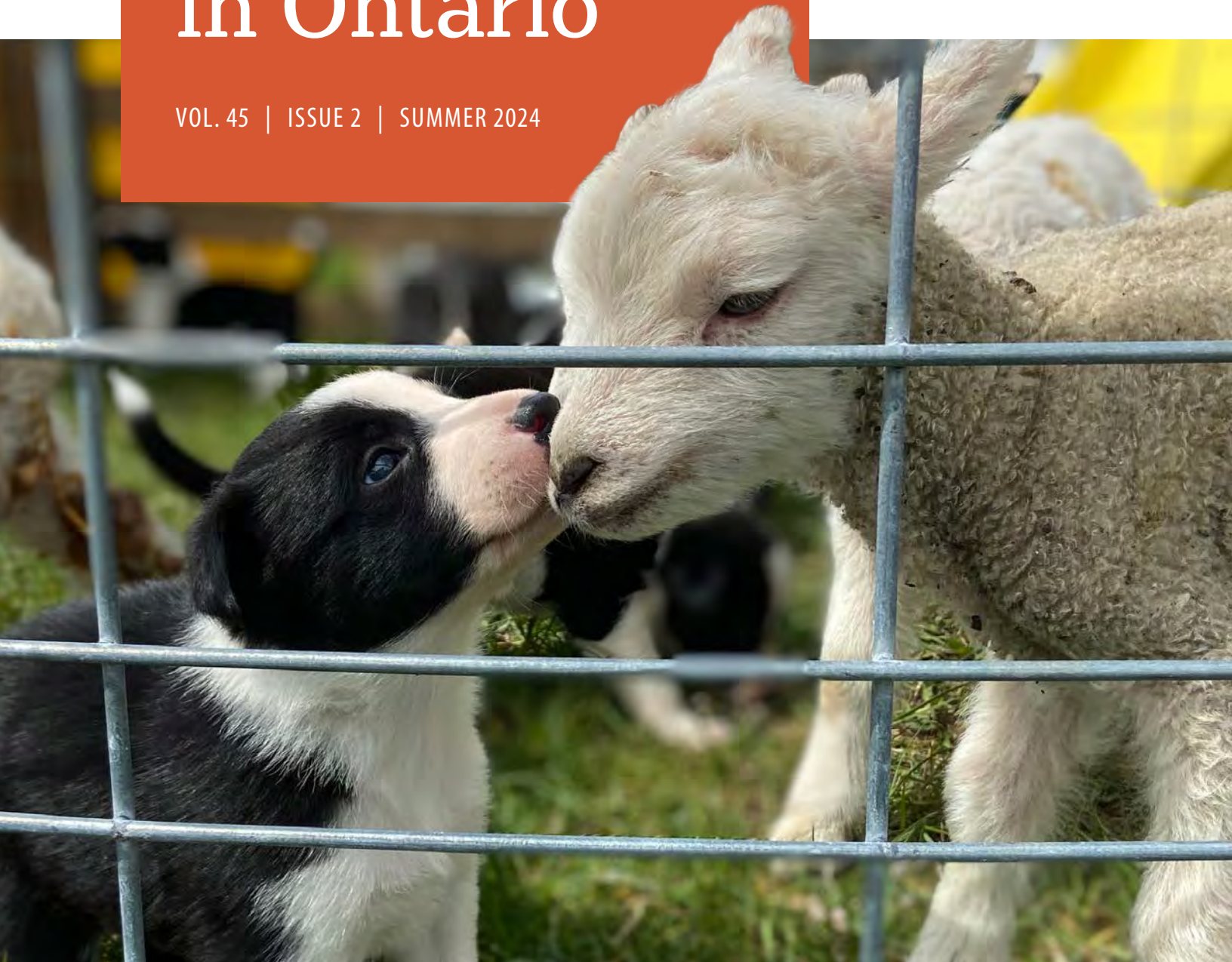


# Ecological Farming in Ontario

VOL. 45 | ISSUE 2 | SUMMER 2024



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A border collie pup meets a lamb for the first time at Drover’s Way Farm in Perth. Article on page 12.





## 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](http://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 Fall 2024 issue: July 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](mailto:editor@efao.ca). We reserve the right to edit submissions for space and/or clarity.

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Allison Muckle, Northern Outreach, New Farmer Programs and Operations Director, [allison@efao.ca](mailto:allison@efao.ca)  
Angel Beyde, Strategic Partnerships and Eastern Outreach Director, [angel@efao.ca](mailto:angel@efao.ca)  
Chloe Rodriguez, Events and Communications Coordinator, [chloe@efao.ca](mailto:chloe@efao.ca)  
Cassie Wever, Education Coordinator, [cassie@efao.ca](mailto:cassie@efao.ca)  
Jackie Clark, Small Grains Program Manager, [jackie@efao.ca](mailto:jackie@efao.ca)  
Katie Baikie, Education and Policy Director, [katie@efao.ca](mailto:katie@efao.ca)  
Laura Northey, Communications and Engagement Director, [laura@efao.ca](mailto:laura@efao.ca)  
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Rachel Lachance, Northern Events Coordinator, [rachel@efao.ca](mailto:rachel@efao.ca)  
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Sarah Larsen, Research and Small Grains Program Director, [sarah@efao.ca](mailto:sarah@efao.ca)  
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## CONTACT US

### Ecological Farmers Association

#### of Ontario (EFAO)

5420 Hwy 6 North  
Guelph, Ontario, N1H 6J2

Phone: 519-760-5606

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# Dear EFAO members and friends,

A big thank you to everyone who attended EFAO's Annual General Meeting on April 25th. We wanted to share the opening letter from EFAO's 2023 Annual Report and encourage you to check-out the [entire report](#) to learn more about EFAO's work over the past year.

**S**o much has been learned and accomplished in 2023 thanks to the incredible knowledge and passion of EFAO members, a strong staff and board team, and the many individuals and organizations we collaborate with through our work.

Four years into EFAO's five-year strategic plan, we now have a total of 1055 members, exceeding our goal of doubling the membership by 2025. EFAO members steward over 88,000 acres, an 85% increase since 2019. The largest segment of EFAO's membership is that of new and aspiring farmers, which underlines the importance of EFAO's [new farmer programming](#), such as the Online Farm Planning Course, the Land Access Coalition and the Ignatius Farm New Farmer Training Program.

In 2023 EFAO brought together 1727 participants at 80 different educational events; supported 31 members to conduct 25 different research trials; and enabled 60 farmers to grow 1,367 acres of small grains and cover crops. Behind these numbers are stories of relationships, learning, and community. You can learn more about EFAO members and connect by visiting the new [member map](#).

Highlights from the past year include returning to the full in-person conference in London and launching an [Indigenous outreach and engagement initiative](#) that is working to facilitate beneficial outcomes for Indigenous food sovereignty through Indigenous-led knowledge-sharing events and mentorship. EFAO is committed to advancing [equity, anti-racism and belonging](#) in all areas of our work.

We continue to have a dynamite staff team of dedicated and talented individuals, with 12 staff members in 2023. A big thank you to the 11 members who served on EFAO's board this year, with special mention to Brent Preston who has been one of EFAO's longest serving board members, was President for 5 years, and whose work has made a big impact on the organization.

The staff and board team takes its inspiration and guidance from the experiences, interests and feedback of EFAO members and the growers we work alongside, so please don't hesitate to reach out with any suggestions or questions.

A big thank you to everyone who has engaged with and supported EFAO's work of building resilient ecological farms and growing a strong knowledge sharing community over this past year.

Sincerely,



*Katrina McQuail*  
Katrina McQuail,  
Board President



*Ali English*  
Ali English,  
Executive Director

Photo credit: Kendra Knaggs

# Save the Date! EFAO Conference 2024: Interconnected

EFAO's 11th Annual Conference will be held December 4th and 5th, 2024, at the Ramada by Wyndham in Belleville. The 2024 theme, "Interconnected" reflects the infinite and increasing symbiotic connections that occur throughout healthy ecosystems, as well

as the parallel strength and solidarity that is experienced in human systems when diversity, community, and interdependence are valued and prioritized.



## Welcoming Three New Board Members

Thank you to all who attended EFAO's AGM in April! Three new board members were elected onto the board at the meeting, and EFAO is pleased to welcome (left to right) Isabelle Rodé, Rav Singh, and Sarah Martin-Mills to the board.

Thank you to all who attended, participated, and voted at the AGM.



## Welcome Back, Katie and Cassie!

EFAO is thrilled to welcome two incredible members back to the staff team in May: Katie Baikie (left) rejoins the EFAO team as Education & Policy Director, and Cassie Wever (right) returns after parental leave, as Education Coordinator.



# Arnest Sebbumba of Sarn Farm and the Harambee Collective

**EFAO:** Arnest, your farming and food growing story is rooted in your family's farm in the Kayunga District of Uganda. Can you share about the beginnings of that journey and what has kept you farming for so many years and across continents?

**ARNEST:** I was born in Kayunga District of Uganda and as a young boy I grew up in a family of five, and my parents were farmers. So we used to have a family farm and, growing up with farmer parents, there were always different animals around: birds, especially chickens and turkeys, sheep, goats, and cows. And also there were banana plantations and coffee. So it was diversified farming, though not commercial, and it was mostly for home use — only the surplus was sold.

After I had graduated school where I did studies in telecommunications, I worked in the telecom sector for one year. After that, I started participating in entrepreneurship training programs, which really inspired me to get back into farming. They focused on agri-business and youth engagement. One of the programs that I attended was the Strengthening Rural Youth Development through Enterprise (STRYDE) program by TechnoServe. It was then that I decided to let go of my telecom career and go back to my family farm and start my commercial farming journey.

I did some reinventing around the farm. We had cows that were mostly local breeds, so I started doing artificial insemination to get hybrids that were higher yielding. Alongside that I was running a youth project that I founded because I wanted to share the knowledge I had with other young people.

**EFAO:** Tell us about the youth organization that you started. Why did you end up having to emigrate?

I had started this youth organization earlier on but it didn't have any active programs running until I attended that program through TechnoServe. Then I started running programs because I had acquired knowledge about the potential of agriculture, and I wanted youth to have that knowledge as well. The organization was called Countryside Youth Foundation. There was political persecution around my involvement with this youth work. So in 2018 I had to move to Canada as a refugee.

**EFAO:** Where did you live when you first got to Canada, and how did you get into farming here?

**ARNEST:** When I got to Canada I didn't have anybody to stay with so I lived in a homeless shelter for a period of around two months. As soon as I got my work permit I started working in warehouses. I didn't really like the work, but it was work. Among the jobs I applied for was FreshCity Farms. At first I was working in their warehouse, but later I was introduced to the urban farm, so I started working there, and that's how I got reintroduced back into farming.

**EFAO:** How did you transition from working for FreshCity Farms to having your own plot?

**ARNEST:** Being an employee with FreshCity farms, I worked with them for



one full growing season. I got to see the Canadian farming practices that were used and I was really intrigued and I just wanted to get back into farming. So back then they were running a program that was facilitating urban dwellers to access land at FreshCity's farm site, called the member farmer program. People would access land through their farm site, and in exchange for that land access, they would provide some work hours to the Farm. When I asked the farm manager whether as an employee I would also be able to access that program, they said yes, so at that point I was offered 4,712 square feet that I started farming in my first year. That was in Downsview park, in 2021. I then decided to fully focus on the farming venture I had established, so I resigned from working with FreshCity and focused on my own farming. So that's how I started Sarn Farms.

**EFAO: What was surprising about starting to farm when you got to Canada? What did you have to learn?**

**ARNEST:** There were quite a number of surprising things! Like the aspect of the variability of weather in Canada. I was surprised to see that at one point in the year we're having extremely cold winters and snow, and then later hot summers, and all the planting and harvest is dependent on those weather conditions. Where I come from, we have two growing seasons throughout the year. Of course we don't have winter, but we receive rains twice, so you can grow throughout the whole year. Here it was surprising that the growing was just happening for some specific months, unless you have infrastructure that can help you extend your season to be able to grow all year round.

Also, the growing practices. Back home in Uganda, you could hardly grow tomatoes without spraying them with fungicides. And when I got here, we were growing tomatoes right from seed till harvest without any chemicals applied, so that was really exciting to me. For example, I used to grow tomatoes, but you have to spray fungicides almost throughout the life of the tomato plant, right from when it's just a small seedling. They wouldn't survive without this. So it was really a different kind of growing here and I really wanted to learn more about it.

**EFAO: Why was it necessary to spray so often?**

**ARNEST:** The fungi and disease are more prolific in Uganda. Because it's a tropical climate, they really multiply. And, the soils also have viral and bacterial diseases so you can hardly grow some varieties, and you have to buy varieties that are resistant, to be able to grow. Canadians are blessed to have winter, to kill off the viruses and the fungi and you are able to get all this produce that is healthy and without



any chemicals! Especially from small ecological farms.

**EFAO: So you started Sarn Farms in 2021, and you were in Downsview Park. How were you selling what you grew?**

**ARNEST:** Well for the first year it was a struggle, for sure. I had never been to a farmers market. So my first growing season I started going to a market at the Metropolitan Church on Queen Street East in downtown Toronto. And for the second year I continued going to markets, but I switched markets I was going to. I went to one called the Underpass Farmers Market, which is also downtown, as well as one that focuses on BIPOC farmers called Deeply Rooted farmers market.

Apart from farmers markets, I tried to establish a community supported agriculture box, where I would be delivering to the households of people that subscribe to my CSA, but I never succeeded in getting lots of subscriptions. I guess that's one of the major reasons why I'm coming together

with these other farmers as [the Harambee collective](#).

I would say I'm good at growing. I grow some of the best produce out there. But when it comes to marketing, I'm not good at that. So the reason why we came up with this collective is that we all have different skill sets. Jessey from Zawadi Farm is good at marketing and I'm good at growing. And Judith from Ubuntu Community Farm is good at grant writing, so we are putting all our skills and expertise in a pool so that we can build something that can eventually help all of us.

**EFAO: What does Harambee mean and where did that name come from?**

**ARNEST:** Harambee is from the Swahili language, which is predominantly used in Kenya. Jessey comes from Kenya,





and Uganda is neighbors with Kenya, so we are neighbours. Judith has worked in Tanzania, which is also in the East African corridor, so she speaks Swahili too. So we came up with the name Harambee which literally means “let’s pull together” or “let’s put our efforts together,” and it’s a way of cooperating for a common purpose. In this case we are cooperating for a common goal of marketing our produce and sharing our resources.

**EFAO: How did you originally connect with Judith and Jesse?**

**ARNEST:** I first met Jesse when I was farming at the old location, when I used to work for FreshCity Farms. Back then, Jesse was one of the member farmers who had a plot at that location. We’ve been growing at the same location since then. He runs Zawadi Farm on a half-acre of space. And Judith also runs Ubuntu on a half-acre, at this location. So we are all growing in the same space, we are all black farmers, and we are all working towards growing and enabling food access and food security in our communities.

**EFAO: Where is the new location?**

**ARNEST:** FreshCity Farms leases the space. They made a call for farm partners and made selections, and that’s how we all came together. This new site is a 10 or 11 acre piece that FreshCity Farms leases from Canada Lands, within Downsview Park. Initially we were nine farm partners on site, including Fresh City Farms, Homestead TO, Zawadi Farms, Sarn Farms, Crooked Farmz, YMCA, Ubuntu, Yoyu Aquaponics and Agape Farms, but Agape and Yoyu have left. So as a collective we took over the space formerly allocated to them. Collectively we have two acres now. This new site is located in the southwest corner of Downsview.

**EFAO: Did you have a model for the collective?**

**ARNEST:** Yes. When I started, I opened up a social media account for the farm, “@SARN farms” on Instagram and Facebook, and I started following other farms and people in the sector who are doing tremendous work. I learned about this cooperative farm called Agricola

in Quebec. I like the cooperative model, so this has been inspiring me for a long time. I’ve been having discussions with Jesse and Judith about ways we could collaborate. Our main vision is to come up with a co-op. The collective right now is an experimental working arrangement for us that we hope to eventually build into a cooperative. Agricola is one of the models I’ve been looking up to for that.

**EFAO: So what has it been like so far doing this collective marketing approach? Have there been challenges?**

**ARNEST:** This will be our first growing season as a collective, so we haven’t faced many challenges on the ground yet. But as a collective we are trying to address the challenge of limited market access. We believe once we put our resources and marketing efforts together we can come up with a better marketing plan and we can have access to a wider market.

Also, being a collective, we have more access to growing space. As individuals each of us has half an acre but as a collective we now have two acres, so we can grow a lot more.

Another challenge is covering expenses. Like investing in a BCS. That’s something we wouldn’t have been able to do individually but when we pool our resources, we can, so we are able to work more efficiently. Before it would have taken a lot more time to prepare the beds, but right now we are able to do it quickly. Resource sharing means we just buy one full load of compost for all of us, which helps us save on delivery costs.



Also as a collective we can attract support from people who are interested in supporting small ecological farms. We are working towards having a collective approach to everything. We will be doing farmers markets as a collective, too. And when we take our produce to the market we have lots more varieties to offer than we would individually. We will be running a farm stand on site too.

One other challenge we are facing is long term access to land. FreshCity has filed for legal insolvency, so we don’t know what the future holds at this site. So that’s a challenge for us, because we don’t have that guaranteed access for years and years. And we invest in bettering the soil. When we first got to this site it was really heavy clay, and we have put in a lot of work and financial investment to turn the soils around and make them more productive. We’ve added lots of compost and amendments. For this season it’s okay, but for next year we don’t know what’s going to happen. So we have been working on a shared nonprofit model that would be a vehicle for all of us to be able to take on the lease if FreshCity says they are walking away from it.



**EFAO: The foundation that you started in Uganda — to encourage youth to enter agriculture — how does that connect with what you’re doing with Harambee?**

**ARNEST:** With Harambee, in the longer term, we’d be looking at evolving into a cooperative. So this would mean that we would have access to a larger growing space, which would allow us to have programs mentoring young people who are hoping to get into farming, and showcase what’s being done within the small ecological farm setting. And there would be land access for younger farmers who are interested in getting into the sector, and some kind of mentorship, like I was doing in my foundation.

**EFAO: And finally, just for fun, what are your favourite crops to grow, and why?**

**ARNEST:** I would say cherry tomatoes. They are easy to grow, they are colourful, and they have a high demand at the market. They sell so fast.

Also salad lettuces. I love growing these because I can have multiple harvests from them. They grow quickly and they also fetch a good price at the market. And I also like growing afrocentric

crops like white garden eggplants, just because I love eating them myself. And they are things that you can not easily find because not so many farmers grow them, so it’s also a way to cater to people from the African diaspora, because those are things they love to have. I will be growing okra and callaloo as well this year. ■

*You can find Arnest on social media as @sarnfarms, and online at [sarnfarms.ca](http://sarnfarms.ca).*



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# The “Smart” Decision Can Still Come from the Heart

by Jess Pfisterer

In business, especially in agriculture, each decision comes down to being justified as a “smart” or “heart” one. In January we made the “smart” decision (but difficult on the heart) to sell our herd of beef cattle and focus solely on field crops. At the same time we were invited to attend the Practical Farmers of Iowa Covers and Grains Conference, which felt fitting at this was the “smart” direction we are taking the farm in after all.

Driving across to Minnesota we quickly noticed differences in our American counterparts’ agricultural landscape. First, they have lots of irrigation in their very large fields which are almost exclusively made up of corn and beans. Anhydrous is an extremely popular fertilizer available at every co-op, which we later discovered is partly due to the fact that there is almost no livestock left in the midwest. Talking with local farmers we learned that monoculture cropping – we heard that some sow beans for 20 years straight – has depleted the soil quality to a point where these intense inputs are necessary to continue growing.

The conference itself felt familiar. If it wasn’t for the accent, we might have thought we hadn’t left home. The sentiments, discussion topics, and general laments on modern day farming mirrored those in southern Ontario. Ironically though, Canadian agriculture is woven throughout the Midwest, as our bountiful farms are strong and dominant competitors. So much so that groups in Iowa and Minnesota are looking to open a farmer-owned oat elevator to compete with prairie farmers for the Quaker contracts. It was difficult to not beam with pride as “those Canadian farmers” were mentioned multiple times throughout the conference.

Regardless of location, the need for both smarts and hearts is universal, and key to a successful agricultural operation. Everyone is trying to answer the question, “how do you optimize your farming practices while maintaining financial and ecological sustainability”?

One way is by diversifying your crop rotation to mitigate fluctuating input costs, market swings, and weather. By planting a three-crop rotation that includes substantial legumes in his cover crops Andy Linder custom grazes cattle as a way to contribute to his bottom line. As a one man operation, the diversity in harvest windows also allows him to spread the workload out over a longer period of time.

Sustainable farming practices like small grains and cover crops have the ability to conserve and reduce inputs, specifically when we are talking about nitrogen. They not only help the balance sheet but drastically reduce nitrate loss in ground water and improve overall soil quality by keeping nutrients where they belong.

Farmer Martin Larsen, who works for Olmsted County, discussed their recent implementation of a soil health program that funds farmers to adopt such practices. He shared that in the last two years, eighty seven farms (~8,000 ac) were able to keep approximately 310,000 lbs of nitrogen from leaking into local groundwater: about 13 semi-trailer loads of fertilizer was kept out of the watershed.

These practices are great, but as one farmer shared “you can have all the data, technology, and plans in the world but it doesn’t matter if there’s no rain.” And the reality is that timing is everything when it comes to agriculture,



which is why the “how” you’re doing something is just as important as “what” you’re doing. One of the key practices discussed at the conference was no-till, which offers a myriad of benefits besides nutrient retention. No-till reduces soil compaction, offers fuel and time savings, and provides an opportunity to plant while the current crop is still in the field. On the bleeding edge of farming technology, Mike Unruh shared how his custom seeding operation employs the use of a drone to broadcast interseed cover crops – a tractor never touches the field.

We left the conference feeling energized and excited about the future of our farm, and after all, just maybe the smart decision will become one of the heart, here at Pfisterer Farm.

*Jess Pfisterer and her partner Ryan run Pfisterer Farm on a 100 acre parcel of land just outside of Damascus, Ontario.*

# Bring Back the Oats – Lessons from the Midwest

by Norm Lamothe

In March I had the pleasure of traveling to Minnesota to attend a conference hosted by the Practical Farmers of Iowa. The focus of the conference was grains and cover crops. I heard from a variety of speakers who have long term experience in using small grains and cover crops in their rotations.

Like many Ontario growers, the farmers in the room were looking for solutions to make their soils more resilient to harsh climate conditions. A dry season in 2023 was evident from the stunted corn still left in some fields on my drive through the Mississippi basin, which also appears to be remarkably low. Unusual for March was the fact that there was no snow on the ground throughout the state.

## Cover crops

Consensus was that growers who choose cover crops often started with a different best management practice such as rotation and reduced tillage before venturing into cover crops. A common theme amongst the converted is the difficulty in measuring the dollar benefits of cover crops within the rotation, but most claimed they were not losing money by incorporating this

practice. The benefits that they were observing in soil health, reduction in disease, pest and weed pressures were evident to most, but few could peg a dollar value on cover cropping alone.

## Tillage

During my drive through the countryside, I noticed mostly two crop rotations with very little cereals in the mix. There were a lot of fields that had



EFAO's Jackie Clark in Norm's oat crop, at a 2022 field day.



Norm inspecting his oats in 2022.

been worked in the fall, and even in early March there was evidence of some producers having worked land. Many of the growers in the room had adopted some form of minimum tillage and many were strict no-tillers.

### Rotation

Minnesota is not a large wheat growing area and the cereal of choice in a three-crop rotation is oats. Quaker has a plant in Cedar Rapids, Iowa which supports demand for the crop locally. Some swath their crops, others straight cut, but one thing for certain is oats are a tough crop and have low input requirements when compared to other cereals such as wheat.

One of the speakers I spoke with consistently grows over 100 bu/ac of oats on 30-40 units of nitrogen in a rotation that includes cover crops and still makes test weight. Note: achieving a high test weight is very important when growing food grade oats. We grow oats on our farm in Eastern Ontario and would never think of going to such a low nitrogen rate, so I challenged the group I was sitting with at lunch and was surprised to learn that the University of Nebraska has a 40-year trial, looking at rotations and various nitrogen rates to measure their impacts on soil health, yield, and fertility response. A four-crop rotation of corn, soybeans, grain sorghum and oats (underseeded with a clover cover crop), with zero nitrogen provided, producing a near comparable yield to a more traditional rotation with high N rates. More importantly, it provided a profitable alternative to simpler rotations whilst adding soil organic carbon (SOC) and offering more agronomic and soil benefits compared to inorganic nitrogen alone. You can learn more about those trials on the University of Nebraska-Lincoln's website.

The biggest take away from this experience, for me, was hearing that those growers who incorporated a diverse rotation, cover crops, and



ONFARM researchers conducting population and yield estimates in Norm's oat crop.

reduced tillage were seeing lower yields than the state averages, but were more profitable on a per acre basis. Better yet, they felt good about what they were doing to the lands they managed and had a positive outlook on their operations. My favourite tagline from the conference was a grower who suggested we “take out the yield monitors and replace them with profit monitors” – I couldn't agree more. ■

**Norm Lamothe** is a farmer in Cavan-Monaghan, Peterborough County. He uses strategies like diverse rotations, cover crops, and reduced tillage to produce a variety of small grains crops, and has participated in EFAO's Farmer-Led Research and Small Grains programs.

A graphic with a green background and torn map pieces. It features a white location pin icon and dashed white lines. The text reads: "Connect with EFAO members using the EFAO Member Map! Access the map at efao.ca/directory. To update your listing details, log in to your Member Account at efao.ca/login".

# Don't Put the Sheep Before the Dog

by Sarah Loten

In the early days of our farming journey, we had many great ideas and not a lot of experience, so we often got “the cart before the horse” or, in the context of sheep farming, we got “the sheep before the dogs”. Naturally, we had seen the iconic pictures of the fluffy woolly shapes grazing high up on the British green hills, a shepherd, accompanied by a black and white dog, nose to the ground. However, in those early days of our Ontario farming career, we thought we knew better...

**W**e are in Canada, after all, the land of ice and snow, we thought, not too inaccurately! In earlier years, we saw pasture as an extra benefit for feeding over the summer months, a break from feeding chores. Pasture was a way to dump sheep on some land, out of the barn, for some fresh air, exercise and a temporary self-serve buffet. Little did I know, some 25 years ago, that there was a good reason for that iconic image of sheep, a black and white dog and a shepherd.

Before releasing our new flock onto pasture, we realized that we had to bring those sheep into the handling system barn, to sort, to vaccinate, deworm and the various other sundries that need to be done to maintain the sheep. With all the innocence and enthusiasm of beginner shepherds, we decided to herd the sheep with the resources that we had at hand: our children, their cousins and cobbled together crates, panels, pieces of wood. In fact, we decided to line up our young nephews and sons to form an alleyway, to move our rams from one barn to another. What could possibly go wrong?! Well, the oldest nephew still tells the story to this day. Did we get the rams into the barn? Well, eventually. Did our youngsters get knocked down like bowling pins? Well, yes.

Within a couple of years, we got our first trained Border Collie. His name was Sweep. He was a retired dog from a handler who ran Sheep Dog Trials. We were impressed with Sweep's work ethic and his skill, even though we had no idea how to run him. He knew what to do! In fact, our biggest challenge with him was that he would work himself into exhaustion or heat stroke if we did not keep a careful eye on him. The work ethic and desire to complete the job is incredible with these herding dogs.

Several years later (and many feed, vet and bedding bills later), we were beginning to use pasture more effectively. Nutritional and regenerative pastures became our primary goal for land use. We needed a cheaper and healthier way to feed our large flock of sheep. After many years of housing sheep in barns, lambing through pens, making tons of expensive stored feed that had to be delivered to the sheep in those barns, we felt a strong need to change the paradigm of our farming practices.



Author with a 2 year old Border Collie female, trying to convince her to wait patiently. That is a big ask of a young dog, which explains the hilarity!

I often say that the trajectory of our farm was changed by the acquisition of one 30lb black and white Border Collie called Dotti. A few years back, I was tired of working on my own. Sweep had gone on to higher green pastures several years earlier. We thought that we could



This is the classic stance of a herding dog as they approach a flock of sheep. Here, a younger dog is moving a group of rams so she has to approach with care but with strong body language to say they mean business. It's incredible instinct and skill that allows a 25lb dog to move many sheep that are significantly larger and more numerous than they are.

manage without a dog. I was finding it demanding to move sheep through pastures, consistently and with good timing, as much as I knew the value of this work. I needed a working partner who could be with me most of the time, to get the jobs done. I also missed the wonderful companionship of a loyal and biddable dog as I went about the many hours of work.

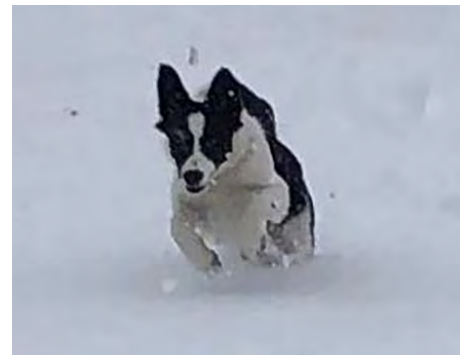
After a few phone calls, I was very fortunate to acquire a 2-year-old, started Border Collie. Dotti wasn't sure she could handle several hundred sheep, by herself, but neither did I! We went about figuring it out together. In fact, Dotti had all the intelligence and instinct that is well known of her herding breed, as well as an excellent start in training. I think I learned more from her than she did from me in those first couple of years! Many of the pasture-based practices



A good working dog will learn how to handle younger, skittish lambs differently from an older, more opinionated ewe by changing the herding body language. Here, Dotti has a gentler, less aggressive stance as she tries to move a small group of lambs away from the hedgerow.

that we use today were implemented because I had a very effective canine tool to get the work done efficiently and with more enjoyment.

Border Collies, as well as other herding breeds (Australian Shepherds, Cattle Dogs, Kelpies, etc.) have been bred for centuries to do the work of moving animals on pasture. Where animals are pastured, herding



Herding dogs work in all kinds of weather! It is no problem starting them on a cold winter's day...they greet every new assignment with much enthusiasm.

breeds can be found all over the world. Livestock guardian dogs (LGD's) are also found working in pastures everywhere, as I described in an earlier EFAO issue.

Although both types of dogs (herding and livestock guardian) are found throughout the world working alongside each other, their motives, instincts and responsibilities are quite different. LGD's are designed to protect from predators and nurture and move their flock to safety. Herding dogs are designed to gather, herd, drive and sort sheep working with their human.

The movement of animals on pasture is a key component of working with ruminant animals to balance the needs of the land and the nutritional needs of the animals. Herding dogs can be a highly effective tool for ecological farming.

Arguably, much of Ontario farmland has not been pastured since the second world war, except in certain pockets where pasture was the only viable option. For many years, pasture-based science, and the skills to do pastoral work, have not been as heavily promoted in agricultural education, as building construction, feed production, delivery and equipment infrastructure to support all that. A good tractor, baler, mower or cropping equipment, can run to hundreds of thousands of dollars. A started Border Collie is generally available for under \$5000 and a puppy costs considerably less. Sometimes, handlers who do competitive sheep dog trials are looking



There is nothing cuter than a litter of Border Collie pups. Their intelligence, athleticism and trainability is exceptional and, potentially, they can be an invaluable member of the farming team. However, before buying a pup, it's highly recommended that you find a trainer or mentor, to help you and your pup to be a good working partnership. Herding dogs can be pets but they are happiest when they have something to do with their brains and bodies. If you have a good working dog on your farm, you have the most loyal, dedicated companion and employee.



Herding is hard work but nothing makes a Border Collie happier than heading off to do a job!

for farm homes to retire their older dog. Acquiring a retired trial dog is an excellent opportunity. Although these dogs aren't up to the intensity of competition, they still have many working days left, a keen desire to work and excellent training.

Border Collies are a highly useful and cost-effective agricultural tool, compared to most farm equipment! Not to mention, only a dog can commiserate with you on a hard farming day and give you much joy and companionship on a good farming day...every day, in fact! Having effective grazing tools allows a farmer to keep livestock out of expensive

buildings, reduce the volume of stored feed and bedding and all the equipment and fuel that is needed to make and deliver that feed.

All that said, herding dogs, despite their incredible instinct for work and natural drive, do not run themselves. Like any farm skill, learning how to run a herding dog requires education and acquired experience. Just as I have spent years acquiring

the skills to grow crops and raise livestock, I have also, intentionally, learned how to train and work with my Border Collie. I am far from an expert in these skills, but I can get the jobs done, in a faster and simpler way, than I ever could before using a herding dog. As a result, my pastures and sheep are healthier and well fed.

My adult children, who have grown up with herding dogs, think nothing of grabbing a dog to "go get the sheep". In fact, I smiled, when the very same nephew who got knocked over by the rams as a youngster, ran into the house to say, "I need Dotti to go move the

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sheep!". This nephew has grown up in large cities around the world, but the time he has spent on our Ontario farm has taught him that using a dog to work the sheep is as natural as watching sheep and cows graze grass!

My dream is that the black and white dog, nose to the ground, farmer at side, moving through a green pastoral landscape, will become an iconic image of agriculture, here in Ontario, as well. That is a picture of ecological livestock agriculture at work. ■



# A Short History of Eat Local Grey Bruce

by Kristine Hammel

Eat Local Grey Bruce is a not-for-profit co-operative of eaters and producers. It operates an online store and aggregates, packs and distributes food via its Meaford warehouse for producers and eaters throughout Bruce, Grey and parts of Simcoe counties. Founded in 2016, it currently has approximately 50 producer members and 300+ eater members.



The story of Eat Local I will share here is very much my perspective – there are many others, but I hope sharing mine will be useful to you. I served on the board from 2017 to 2021 and rejoined the board in December of 2022.

My experience with Eat Local actually goes back to 2014. That's when Thorsten Arnold, my husband, first had the idea of aggregating local food. Initially, he thought we should do it through our CSA. While Thorsten and I share a lot in common, our brains work very differently. He saw the possibilities. I saw the thousands of logistical details involved. And said NO WAY. I was already market gardening with a toddler. More complications seemed ill-advised.

So Thorsten found a small group of farmers willing to participate in a feasibility study. This actually started at the first EFAO conference in Orillia, where Thorsten met Jen and Matthias Seilern and pitched the idea to them. Thanks to their support and leadership, the feasibility study was carried out in 2015. News of the approval for grant funding arrived shortly after our daughter was born. By the end of the summer, there was a cautiously optimistic feasibility study and cautiously interested producers.

So Thorsten led a “test run”. Software was selected to organize a pop-up online farmers market – common now, but basically unheard of then. Producers signed on. Eaters placed orders. In late October, around \$20,000 worth of food was aggregated on our farm, packed by an enthusiastic (and well fed, thanks to my Mom) crew of farmer volunteers, and delivered throughout Grey Bruce. I think we only needed one tow truck rescue. It was a success.

So the farmers met and decided to move ahead. With help from other Ontario co-operatives, bylaws and policies were assembled by a brand new board of directors, led by Jen Seilern. While not officially a multi-stakeholder co-operative, the co-operative has two types of members – producers and eaters. The decision was made that in order to protect the interests of farmers, the board would have to include 50% + 1 producer members. **LESSON:** In hindsight, it seems eater members may have looked out for the producers



better than the producers looked out for themselves. This board composition requirement was dropped in the rebirth of Eat Local in 2023.

A lease was signed on a warehouse in Owen Sound. Shelving and a walk-in cooler were purchased and assembled by producer volunteers. The launch was supported by a Greenbelt Foundation grant and a generous donation from one of our CSA members, which allowed the co-op to purchase a delivery van. The co-op also sold bonds to community members. Finding capital was extremely difficult – a not-for-profit co-operative, operating a ‘business’ with practically no assets (aside from the van) is a hard sell to both investors and granters. It just does not fit into the traditional boxes.



Nevertheless, the co-op opened its doors in June 2016. Grant funding supported a general manager (Thorsten) and warehouse assistant. An email newsletter list grew, and so did sales, slowly. At the time, online grocery sales were not common, which is hard to imagine now. Grey Bruce is also a big region — about 200 km north to south and 150 km east to west. We put a lot of kilometres on the delivery van.

In order to cash flow the operation, the board (mostly producers) decided that delaying payments to producers would be used as a tool to manage cash flow problems. **LESSON:** This can be helpful, but needs much clearer and firmer boundaries!

**MAJOR HICCUP #1** arose in autumn 2016, when the software provider for the online store announced it was going out of business and that the co-op would need a new provider. This took a lot of time and effort that needed to be going into growing the co-op!

Getting the bookkeeping and accounting set up was also challenging. We would have benefited from in-house knowledge of which numbers in our financial statements were crucial to monitor and respond to. **LESSON:** Running a farm business is not necessarily adequate preparation for running a larger enterprise.

By February, the grant funding for the manager ran out and Thorsten was laid off. The board took on active management of operations. This was a hard slog for producer board members, who had their own farms and families to look after. Over the years, a

disproportionate number of board members have been women, operating farms with small children and/or babies along for the ride. I have often wondered why the work of nurturing local, resilient food systems was falling to a group of folks who clearly already had a lot on the go, especially in a region with a large number of early retirees with relevant professional experience. Perhaps because we most need the change?

Still, Eat Local was moving along. In early 2020, we submitted a large grant application to the Investment Readiness Program, which was geared to preparing social enterprise for investment and growth. Then March 2020 arrived, and with it **MAJOR HICCUP #2:** the pandemic. All of a sudden, online grocery shopping and home delivery seemed like a great idea to a lot of people! Eat Local's sales grew 100% in one week. That's a lot to swallow for any organization, especially in the context of evolving public health directives. Staff and board members made it work! We got local food to local people, while keeping everyone safe. We were hiring while other businesses were letting people go.

But with margins not where they needed to be, higher volumes actually meant we were losing *more* money. We knew we needed to increase our markup, but unless we asked producers to reduce their own prices, that would have resulted in increased prices for eaters. We didn't want higher prices to result in lower sales and worsen our financial situation, but we also didn't want to force farmers to lower their prices, since we were already behind on producer payments.

We did move to increase our markup early in the pandemic — but only a bit, because increasing prices during a public health emergency (even to ensure the survival of the co-op) was a difficult proposition! Later, consultants (thank you Local Food and Farm Co-ops and Fair Finance Fund) hired through the IRP grant strongly recommended further increases to our markup, in order



to achieve a viable margin. The board heard it. We were making progress.

**MAJOR HICCUP #3** arrived in autumn 2021. Grey County announced it was purchasing the warehouse Eat Local was renting, to convert the space into urgently needed transitional housing. So Eat Local had to find a new home, at the tail end of a pandemic, when everyone (board and staff) was exhausted. But the staff and board pulled it off again. The new warehouse space was in Meaford, on the eastern fringes of our delivery area, about 25 km east of Owen Sound, which had been centrally located for producers, eaters and staff. It was also bigger and more expensive. So our costs shot up, both for the warehouse and for aggregation and delivery. Thanks to staff and volunteers, the move was managed within a single week of closed operations in April 2022.

Then the pandemic was declared over and many customers went back to grocery stores, farmers markets and restaurants. Sales plummeted (a common experience for many local/ecological food endeavours across Ontario). By early December, the co-op was in a cash flow crisis, operations ceased and all staff resigned/were laid off.

On December 16<sup>th</sup>, the board called producers to a meeting and recommended that it was time to declare

bankruptcy. Many of the people in the room that evening were owed a lot of money. It could have turned ugly, but it didn't. The absence of anger, accusations, and fighting still moves me to tears when I think about it.

The staff and board at Eat Local had tried hard to avert disaster, but had perhaps missed one crucial opportunity: engaging eater members as true partners in the co-operative, rather than as consumers. A small group came together that evening and decided we had one last opportunity to save Eat Local: asking the broader community for help. This small group spent Christmas 2023 (remember the blizzard?), launching a campaign to save Eat Local. And this time, we asked big – for money to carry us through the insolvency, for a qualified new board, and for a commitment from eaters to continue purchasing. It was an “all-or-nothing” campaign that launched shortly after New Year's Eve. We had two weeks to prepare, and four weeks to reach our finish line.

Incredibly, the community stepped up! By early February, we had raised over \$135,000, which was needed to pay off immediate debts and have a small cushion for relaunch. Receiving a cheque for \$50,000 from an anonymous donor is quite an experience. Thanks to the campaign and its donors, we also had a fresh crew of board members and volunteers, with skills in finance and debt restructuring, small business accounting, food systems, and marketing. Prior board members Jason Hayes and myself stayed on to support the relaunch and provide knowledge of the past.



**LESSON:** Not-for-profit co-operatives can have slower and at times more challenging decision-making processes than other private businesses. This can be a weakness (or not). But, Eat Local survived because it is a not-for-profit co-operative, and because of that structure and identity, the community was willing to help save it in a way that no private business would have been supported.

We dove deep into understanding what went wrong and tried to learn as much as we could from Eat Local 1.0. It helps to have a small business accountant involved! And the insights of diverse producers, eaters, former staff and volunteers were all valuable.

In April 2023, we relaunched operations with a new general manager. Home delivery was eliminated in favour of the pickup spots we had started with. Warehouse operations were significantly revamped. We grew slowly and paid producers monthly. Every month!

By early 2024, the cash flow cushion was gone and eater member interest was waning, again. Again, the board engaged with eater members and put out the call to “use it or lose it”. Sales doubled in a week and have since leveled off to more manageable volumes. The margins are right, but we are still working on consistent sales. Local, ecological food has become a harder sell post-pandemic – even though, I think, the world needs it more than ever.

The board continues to share a vision that with a bit more consistent volume,

Eat Local could do so much! We already have a mutual aid program in place. Eaters can purchase solidarity tokens when they shop, which are then provided to households in need of support to purchase food through Eat Local. Finding more support for this program would allow us to make local, ecological food available to more people in a dignified manner.

Thanks to our new location close to a high school, Eat Local has also benefited from the volunteer work of high school students with challenges. And the benefit is mutual: the work is deeply meaningful and satisfying for these students.

More possibilities abound: bike tours to member farms that double as fundraiser and community engagement, birding tours of farms to see what habitat our member farms can provide for diverse species while growing food for our community, and more!

At its core, Eat Local is a group of diverse people who have united to imagine a different way of growing and sharing food in our community. The work is never done. But I have come to appreciate that it is about the journey, not just the outcome. Eat Local is an opportunity to practice working together as a community, with all our diverse perspectives, experiences and talents, so that together we can solve problems and meet needs better than any of us could on our own. ■

*Kristine Hammel manages Persephone Market Garden with her husband, Thorsten Arnold, and their kids, Oskar, Marilla and Frieda. They live at the base of the Saugeen Peninsula on the land of the Saugeen Ojibway Nation. Both Kristine and Thorsten are immigrants who feel incredibly lucky to have landed in this beautiful place on Mother Earth. We hope our farming and community work is a love song to the Earth and all our kin. Currently, we grow lots of vegetables, herbs and seeds. We also care for a flock of sheep. Thanks to Oskar's enthusiasm for poultry, the farm is home to a growing gaggle of geese, a waddling of ducks, and very colourful flock of lay hens. We are dabbling in propagating native flowers and trees.*

# Beetle Banks: A Pest Control Solution at Any Scale?

by Fianna Dirks and Sarah Larsen

Photos by Fianna Dirks

Beetle banks are a type of non-crop habitat for beneficial ground-dwelling insects, such as predatory beetles, that can promote crop health. After observing the effects of wood chipped grassy areas in an orchard, EFAO member Fianna Dirks got curious about non-crop habitat for insects and came across the use of beetle banks, especially in Europe to help with pest control when there is loss of hedgerows.

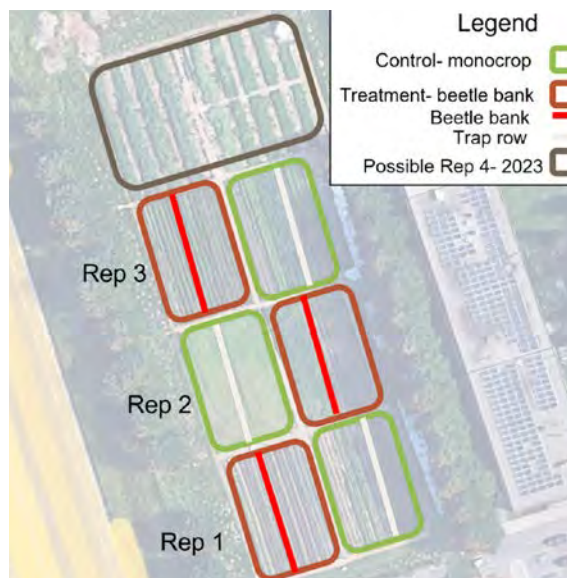
In North America, there are examples of beetle banks in agroecosystems on the west coast of the United States but limited examples in the east or on small scale farm or market gardens. In fact, the literature advised that beetle banks are only necessary at larger scales (20+ hectares). This advice didn't match Fianna's observation in the orchard. Working with the EFAO team, Fianna landed on the following research question:

**Does incorporating managed beetle banks (i.e. non-crop habitat) into a small scale farm increase beneficial ground-dwelling insects such as predatory beetles, compared to monocropped beds?**

Fianna set out to answer this question using research methods: she established three paired replicates of vegetable cash crops and beetle banks, as shown in this layout. Each of the six beds was 17' x 4', with 76' between the beetle banks and the controls.

Fianna established the beetle banks by raising the soil of the banks using a rotary plow and then mulching thickly with a mix of mostly hardwood remedial mulch. She then transplanted a diverse species of plugs in 2 bed rows with 12" in row spacing.

They laid out the same trapping design for each of the six beds (three beetle banks; three mono-cropped control beds). This included four pitfall traps in the center of the 30" beds, at 20' intervals starting at 20' into the bed and ending at 80'.



An aerial view of the gardens at FoodShare used for this beetle bank project. Garden areas where Fianna established beetle banks are in orange and areas that were mono cropped without beetle banks are in green. Red lines denote the location of the beetle bank within each plot; white lines denote the bed location of the cropped control beds.



The beetle banks were first established in the fall of 2022, alongside a rye cover crop.

In 2022, Fianna trapped the first week of August and October. In 2023, they trapped the first week of June, August and October 2023.

**Fianna found the same type of ground beetles in the beetle banks and cropped beds, and significantly more ground beetles in beetle banks than cropped areas.**

This is similar to longer-term studies that observed polyphagous predator densities in the beetle bank were similar to or greater than those in the conventional hedge banks or fields.

In addition to the ground beetles, Fianna observed numerous other beneficial insects in beetle banks that were not present in the cropped areas.

While they are non-crop habitat, she found that beetle banks provided some market opportunities including harvesting the native grasses as fillers for flower bouquets, and mushrooms produced from the wood chips inoculated with wine cap mushroom spores. A downside to beetle banks is they can provide overwintering habitat for voles.

When planning a layout that includes beetle banks, larger path sizes (24") are recommended because grasses can grow quite large and encroach on production beds near beetle banks.

The take home message? Beetle banks can be an effective way to increase ground beetles for market gardens, in



Native grass seedlings hardening off outside the greenhouse, in preparation for planting in the beetle banks.

The beetle banks consisted of 70% native bunching grasses, and 30% native flowers.



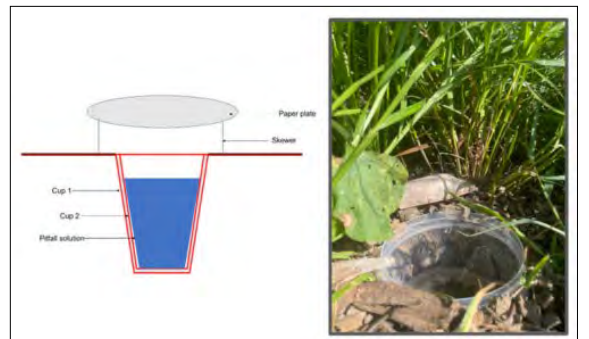
The same beetle bank, one year later, in 2023.



The same beetle bank again, in 2023.



A big headed ground beetle (*Scarites subterraneus*) found in a beetle bank.



Each pitfall trap consisted of two cups placed within each other. (The second cup allowed for easier extraction.) Fianna filled cup 2 (the inner cup) with a pitfall solution consisting of ethyl alcohol, and then covered the cup with a paper plate held up by skewers to minimize rain and other debris from falling in the cup.

turn possibly reducing weed and pest pressures. And, seeing beetle population differences in field blocks only 76' away suggests that more species-specific

habitats on smaller farms could increase beneficial insect numbers.



Two bronze ground beetles (*Carabus nemoralis*) making a run for it.. Ground beetles are hard to find and even harder to photograph!



Ambush bugs on swamp milkweed — one of the flower species making up a diverse beetle bank habitat.



A parasitoid wasp laying eggs on mating flea beetles in bed adjacent to beetle habitat.



A bold jumping spider (*Phidippus audax*) found in a beetle bank.



A lady beetle taking flight from a yarrow flower in a beetle bank.



Wine cap mushroom (*Stropharia rugosoannulata*) flushes growing from inoculated wood chips used in the beetle bank. The bases of the grasses offer a shaded environment for them to grow.



Another beetle bank replicate creating a nice backdrop for some garlic and kale.

**Fianna Dirks** runs *It's Giving Farm* with *Ekow Stone* on 7 acres in the northern tip of *Rouge National Urban Park*, in *Altona ON*. She has been working as a farmer for the last 13 years focusing on organic growing, on-farm compost production, and beneficial insect habitat creation.

**Sarah Larsen** is EFAO's Research & Small Grains Program Director and also supports soil health components of EFAO's education programs. She holds a Ph.D. in Soil Microbial Ecology from Iowa State University, and along with her partner and their daughter, tends the land that they call *Three Ridges Ecological Farm* near *Aylmer, Ontario*.

# Ecosystem Restoration on the Farm

by Julia Sutton

*This article is a continuation of a piece first published on page 19 of the Winter 2023 issue of Ecological Farming in Ontario.*

## Building Greater Ecological Integrity

There are many small and simple things that can be done to help make our farms more ecologically healthy.

### Shifting Our Thinking on Pollinators: Support, not Attract

Pollinators need a food source for the entire season, and not just the plants that are advertised as pollinator attractors. By planting the right variety of native species, we can help to provide them with this. When we think of pollinator plants, we often think of wildflowers, but trees play a key role in spring, as do shrubs in early summer before many of the native wildflowers, which provide a food source throughout midsummer and fall, are blooming. In the fall, native goldenrods and asters are key species, and by planting different species of each, you can extend the bloom time even longer. The plants don't need to all go in the same spot – you can spread them out around your property if that suits it best. On our farm, we have been planting more willows, as they are the first food source available to pollinators when they emerge.

### Layers

Most ecosystems consist of multiple layers of vegetation. A healthy forest consists of four main layers – a ground layer of ferns and wildflowers, a taller layer of tree saplings and shrubs, a further taller layer of young trees, and the canopy, which contains the mature trees. Ensuring any forested area on your farm has these four layers growing is also a type of restoration. We want

to make sure we have young trees growing up to replace the older ones, in addition to a good diversity of species to help lessen the impact of upcoming invasive forest pests and diseases. If you lack a ground layer in the forest, you can plant using either the random/natural method or the island method. In our softwood forests, there isn't much understory due to shade and a more acidic environment, but there are some species that can survive there. You can experiment with cutting branches to let in a few windows of light to the forest floor and then plant the appropriate native species.

### Brush Piles

Brush piles are a great way to easily add habitat for insects, amphibians, birds and mammals around your farm. They're easy to make and used as escape routes, shelter, perching, resting, home, food and overwintering habitat. A brush pile can simply be a pile of branches, but you can make it more intricate than that, using only natural materials. Begin with a layer of large branches and place them parallel to each other. Then layer on smaller branches and twigs. Planting some wildlife friendly shrubs, such as native elderberry or viburnums, will help to provide more privacy and protection for wildlife, as well as extra food and cover.



Building a fascine with volunteers as part of a bioengineering project in my past work at Rideau Valley Conservation Authority.

### Maintenance

We have been taught that in order to be seen as a good neighbour, we should keep our places neat, tidy and maintained. But wildlife doesn't thrive in tidy. Can we give a bit more of our landscapes over to being "messy," and thinking more like an animal or a bird? Leaves and debris become shelter from the cold, protection from predators, and for some, a source of food. Some species of butterflies disguise their cocoons and chrysalis as dried leaves to help blend into the environment, and solitary bees overwinter in piles of bark or dried leaves, or nest in hollowed-out stems and decomposing logs. Dead standing flower stalks become a source of food for birds all winter. Standing stalks from goldenrods, asters and black-eye susans are especially important. When it comes time to "clean up" the garden, we are very careful about what we do in the fall. We



A new forest created through passive island restoration on our farm.

cover our cultivated beds with leaves in the fall, and leave any trimming for spring. In spring, we wait until we've had several days where the temperature has been more than 10°C before we start removing leaves and trimming dead stalks.

### Erosion

If you have a waterway running through your farm, or perhaps some steep inclines with gully erosion, you can work with certain plants to prevent and repair erosion. It's a process called bioengineering, which basically involves engineering plant cuttings into specific shapes and installing them in specific ways to slow water movement, sprout an intense structure of roots, hold the soil in place, and restore plant life. You need specific plant material, such as willows or dogwoods (also alders and viburnums), as they have the ability to sprout roots along their branch nodes.

Bioengineering is timing specific. You want to gather the plant material while it is dormant. This plant material can then be used to create shapes. **Fascines** are long tubular structures, which can

be placed horizontally (e.g. along the low water line) or vertically, in the case of gully erosion. The tubes need to be half buried in the soil and half exposed. The part that's buried sprouts roots, and the exposed branches sprout leaves when they break dormancy. **Brush mattresses** are a fan-shaped structure, designed to lay flat along a slope, half buried and half exposed.

Bioengineering can be simple, but it can also be complex and require permits and sometimes machinery. But it's often a much cheaper solution to erosion than rock, and many conservation authorities or local environmental organizations have resources on how to approach such a project.

### Plants and Plant Sourcing

Last but not least, where do we get our plants? As farmers, we know that quality and knowledge really matters. The same goes for native plants. If you are looking for native plants, I highly recommend going to a native plant nursery. They have the expertise and variety that you

need. Any native plant nursery that I've worked with is completely sustainable and harvests seed ethically, helping to increase genetic diversity. Local garden centres in our region typically only have five to seven "native" species, which are grown in southern Ontario in greenhouses that often use neonicotinoid pesticides. The plants labeled "native" would be cultivars of native species. This matters, as the cultivars don't contribute to genetic diversity, and may not provide the same benefits to wildlife as the actual native species does. For example, at my local garden centre, I can buy turtlehead, labeled as a native plant. But it's pink, and the actual native turtlehead that grows in Ontario is white. The native turtlehead not only provides bees with a food source, but it also has a medicinal quality for them. The pink cultivar is a food source but does not have that same medicinal benefit. This is why it becomes so important to reach out to native plant nurseries and/or to people who work with native plants in order to source appropriate plants.

## Restoration on Our Own Farm

On our farm, we've done a mix of passive and active restoration. Our farm is 82 acres, with approximately 10 acres of meadow. The rest is coniferous forest, deciduous forest and a wetland with

a stream. While there are introduced forage grasses that had been planted for cattle in the meadow, along with other introduced species, there is a large percentage of common milkweed

and native asters and goldenrod in the meadows, and in more moist areas of the field, meadowsweet. The wetland and forests all consist of native species, as does the wetland. There was not a lot



of major restoration that was needed, and we didn't want to smother the native wildflowers in the meadows to get rid of the smaller percentage of forage grass. The previous owners did a lot of mowing in natural areas, and things were very tidy and trim. We decided we would let things grow in and up, add a greater diversity of plants and create more wildlife habitat. For the first six years here, we both worked off-farm while working to expand the vegetable gardens and improve the soil, and this style of restoration suited the resources we had available (both time and money).

For passive restoration, we have let things grow in, including meadow areas, tractor pathways and forest trails. We had a few pockets of trees sprouting up in one of the meadows in an island shape, and by letting the island spread, it has now formed a larger area of young forest in the middle of the meadow, increasing edge habitat and benefitting our market garden.

We've mixed passive and active restoration on one of our front lawns, which was previously mowed grass and two mature maples. To slowly transition the understory into a woodland habitat, we stopped mowing and let the leaves fall and stay in place to help smother the grass. To add layers and plant diversity, we've been planting shade tolerant groundcover and shrub species, letting tree saplings grow up, and we've added a large brush pile. We've had woodland species such as trout lilies and Canada mayflower sprout up without planting as the ecosystem has started to change — a sign that we are heading in the right direction!

Other active restoration we've done includes some erosion repair along the stream from some poorly done road work, using coir logs to stop sediment from entering the stream and planting willows to hold the bank. Over time, we've planted a greater diversity of native wildflowers, grasses and shrubs in all of the different environments, including established gardens at the house, around new construction, in edge habitats, around the irrigation pond and inside our market garden, with a particular focus on species that will help



An example of mixing restoration methods in one area with changing site conditions. The site was mowed grass between an unmaintained strip of vegetation (a mix of native and ornamental species) and around previously planted ornamental maple trees. Between the natural strip and the maples, which would increasingly get more shade, I added shade tolerant wildflowers, ferns and shrubs to help naturalize the area more quickly. On the other side of the planted maples, we removed all of the mowed grass using landscape fabric for one year. I planted native lowbush blueberry at the front where it would continue to get sunlight, with native wildflowers (mainly asters), around the base of the maples, where it would still get sun but become a bit more shady.

support pollinators and insects at times of year when food is more scarce.

When we create new trails, we do a plant walk first to pick the route that causes the least plant destruction, and we keep trails narrow. In some areas, we made detours on existing trails, where there were plants we didn't have on any other part of the farm. We've added bluebird boxes around our garden, and we hosted a bat workshop to put up bat boxes and learn where they would be best placed.

As you can see, there is no one way to do restoration, and especially as we face escalating environmental changes with more and more species becoming at risk, even doing a very small project can have a big impact. We've been on our farm now for 12 years, and we are now seeing more species of birds around the farm and a greater diversity of butterflies and insects. We've also seen new native species that we haven't planted sprouting up, dormant in the soil

until the conditions were right. It may be part of a changing climate, but I also believe the combination of active and intentional inactive management on our farm is helping to create a very diverse habitat and build ecological integrity on our farm overall.

I hope this article has provided some inspiration and sprouted some ideas on what you might try on your own farm! ■

***Julia Sutton** lives on the traditional lands of the Anishinabek and Mississauga Nations, where she operates Santosha Farm, a 1.5 acre market garden, and does restoration work through her consulting business. She and her partner Rob run Missing Link Adventure Tours on the farm, a new retreat centre focused on cycling retreats, winter recreation and farm to table meals.*

# Regenerating Life: A Review

by Rob Lewis

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To a climate conversation long dominated by computer models and technological jargon, [Regenerating Life: How to Cool the Planet, Feed the World and Live Happily Ever After](#) brings some badly needed rain, along with dung beetles, sweating trees, fungal mycelia, cloud-making forests, beavers, soil microbes, cow patties and whales. As more and more people are learning, there's another side to the climate that's been overlooked, one having less to do with what we put in the air than what we do to the land. This film brings it to life.

It's a daunting task, for once we open our eyes to the biological side of climate, we confront an almost incomprehensible complexity. There's photosynthesis to understand as well as plant transpiration, the small water cycle and the greenhouse effect. Soil microbiology, ecosystem dynamics and nutrient cycles all figure in. There is the physics of light and heat and the twin chemistries of carbohydrates and hydrocarbons, not to mention the legacies of colonization, slavery and the industrialization of agriculture. A lesser filmmaker would leave us lost in facts and figures and timelines, but John Feldman, writer, photographer and editor of the film, delivers a journey so visually sumptuous, so evenly paced and cleverly edited, we hardly realize we are being taught at all.

The film starts quietly, with the sound of rain, then opens to a downpour in a woodland. As the camera follows a creek down a mossy ravine, Feldman begins, "When I started this film about the causes and solutions to the climate crisis, I had no idea I would be spending so much time looking at water." And

so it is with anyone who learns about the living basis of climate. It's so much about water. And water is so much about life. Together, and in exquisite synchronization, through myriad cycles and feedbacks, they produce what we call the climate (of which CO2 emissions are a critical part). But there is no simple linear explanation for it all. As he discovers early on, "everything leads to everything else."



To deal with this lack of linearity, Feldman divides his film into three parts, looking at the whole through three lenses. Part I, called *Water Cools the Planet*, looks through the water lens. Part II, *Life Sustains the Climate*, asks "How does life sustain itself?" and looks through the lens of life. Part III, *Small Farms Feed the World*, takes on the industrialization of agriculture while providing common sense climate solutions through the lens of food.

I use the word "lens" deliberately. Feldman *shows* his story as much as tells it. An example comes at the end of Part I. He's just led us through the intricate ferment of living processes that run the water cycles that cool our climates. We've seen how living soil not only sequesters carbon but also water,



banking moisture against drought while hydrating green growth above, and how vegetation sweats much like we do, with forests cooling their environments much as a sweaty shirt in the wind cools us. We've examined the subtle, but oh-so-powerful physics of how heat moves through the phases of water, liquid to vapor and back again. There's been a lot of information to take in, and then as reward he lets our eyes feast on a time-lapse unfolding of morning mist over a glen. Vapors rise, twist, curl and fall like dancing veils as we move beyond the science into the thing itself, the animate beauty and mystery of it.

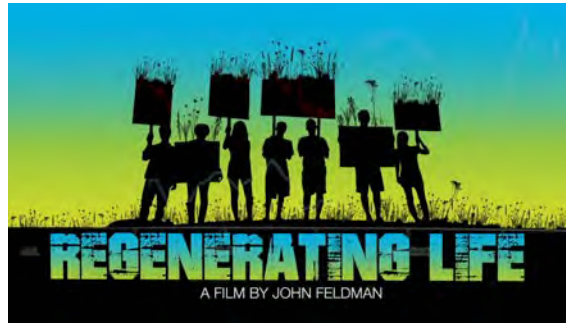
Part II widens the lens yet further. To understand climate you must understand water and to understand water you must understand life, thus

the question: “How does life sustain itself?” I love that he asks this question. It’s the very opposite of the scientific reductionism that characterizes the standard climate narrative.

A particularly mesmerizing passage occurs when Feldman takes us behind a microscope to look at the “soil microbia.” Looking down on the slow, translucent bodies moving about, with the film’s subtly melodic musical accompaniment tugging at my borders, I felt a sympathy and connection with these beings. The passage affects me still. This morning I was looking at the edge of an incoming tide and saw what I first thought was a fragment of dead seaweed. But noticing it was translucent like the microbes I had seen in the film I looked longer and realized it was moving on its own. Then I saw the dark eyespots, and fin-like appendages. Would I have noticed this embryonic creature-in-making had I not seen this movie? Hard to say, but life is so at the center of this film that it seems to have affected how I look at things even days afterward.

In Part III the film takes on more of an edge. To talk about food is to talk about industrial agriculture. It’s also to talk about slavery and its legacy, as well colonialism and its long trail of brutal land-taking. Feldman doesn’t shy from any of it, detailing just how the growing of food has become so poisonous, industrial and corporatized. The “green” revolution turns out to be not so green after all, kind of like “green” energy: imposing an industrial solution on an organic problem.

I’ve mentioned how Feldman shows as well as explains his material. He also lets others do the telling. There’s long been a quiet community around the world of people who, coming to understand the power and beauty of this new, more ecological way of



seeing the climate, have pretty much dedicated their lives to it. We meet many of these figures and what’s so refreshing is that none of them are big names. These are just everyday people who, in their own way, have come to see how all the pieces fit together. Along with soil scientists, microbiologists and organizers, we meet an ecologist who homeschools eighth graders, a nutritionist turned soil communicator, two African American sisters reclaiming their afro-indigenous heritage, farmers in India applying regenerative agriculture at province-wide scale, and a community gardener in New York City who is regenerating life from the city-center out and says, “to grow your own food gives you power.”

There’s a good chance some people won’t like this film. They won’t appreciate it referring to carbon gasses and the

greenhouse effect as a cause of climate change, rather than *the* cause of climate change. Some may even try to portray it as a kind of climate denial. But this film isn’t about denying anything. It’s a film of affirmation. And what it affirms, over and over, is life, and its power to heal our broken climate. It’s a force with its own will. And if you allow yourself, it will fill you with awe and even hope.

Feldman is surely awed. You may well be too. It’s something you can only see through discovery, and now you have this calm and generous film to help you with that. You might want to have pen and paper on hand, and maybe invite a friend or two to join you.

There’s a lot to talk about. ■

*Rob Lewis is a poet, writer and activist working to give voice to the more-than-human world. Lately, he’s been writing about how the climate isn’t a machine with an engineering fix, but a living system that only can only be healed through restraint and restoration.*



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