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On the cover

EFAO member Annette Peltier-Flamand n'dizhnikaaz poses with some of the cattle she cares for as part of the Wiikwemkoong Agricultural Resources Management Program. *Story on page 6.*



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 support 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.

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

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A Message from the Board President and Executive Director

Sticking to the Plan

Two years ago, EFAO developed a new strategic plan to help guide the organization. Staff and board members spent many hours debating priorities and thinking about our long-term vision. The resulting plan is something we're very proud of, but it's important that we continue to refer back to our organizational goals and assess our progress.

The Strategic Plan identifies three outcomes for the organization to achieve by 2025:

1. Support EFAO members to run profitable, resilient ecological farms;
2. Broaden adoption of ecological agriculture among other farmers; and
3. Achieve provincial and federal policies that support ecological agriculture.

The complexities of achieving them are real, and determining how best to pursue these goals is no small task. Here are a few of the ways EFAO has begun to work toward these goals.

In order for **EFAO members to run profitable, resilient ecological farms**, they need access to a variety of resources. In the past, EFAO has been primarily occupied with offering such resources in the form of educational events and programming. This isn't about to change, but the staff and board recognize that there are other resources members need to be able to run profitable and resilient farms. A major one, especially for our equity-deserving members, is land. An increased focus on land access in EFAO's education and advocacy will be crucial to this strategic outcome.

EFAO's research and seed work continues to be focused on these outcomes as well. Year two of the Living Lab – Ontario partnership will demonstrate concrete ways for farmers to reduce tillage and increase soil health in horticultural and field crop production. Farmer-Led Research trials support farmers to find and demonstrate ways to improve production and increase resilience on their own farms. And in 2022, the Seed Program will implement a series of demonstration gardens, which will provide a new way of disseminating knowledge of regionally-adapted and locally-bred varieties that can improve the quality, quantity, and diversity of ecological seed grown on farms in Ontario.



In order to **increase the adoption of ecological agriculture in Ontario**, EFAO's Small Grains Program will support farmers to bring just short of 1000 new acres of small grains into production in 2022. In the North, we will provide approximately \$80,000 in start-up funding to up to ten farmers. And, through partnerships like Farmers for Climate Solutions, Living Lab – Ontario, and the Small Grains Program, EFAO continues to cultivate relationships with partners that can help us broaden our reach. These include the Ontario Soil and Crop Improvement Association, Ontario Soil Network, Innovative Farmers Association of Ontario, the Organic Council of Ontario, Ontario Sheep Farmers, Régénération Canada, SeedChange, the National Farmers Union, FarmFolk CityFolk, and regional conservation authorities in Ontario.

On the education front, offerings such as the Online Farm Planning Course and the Ignatius New Farmer Training Program continue to offer ways for new farmers to learn the principles of ecological farming and farm business management.

Finally, EFAO continues to increase its capacity to **achieve provincial and federal policies that support ecological agriculture**, primarily through its work with Farmers for Climate Solutions (FCS). Ali currently serves on the FCS Governing Body, and Brent is the FCS interim Director. In 2022, FCS continues to build momentum in its advocacy on both provincial and federal levels with the creation of a Provincial Government Relations Working Group, and the development of specific, evidence-based policy recommendations that will aim to influence the creation of the Next Agricultural Policy Framework, which is currently being negotiated by federal and provincial agriculture ministers and their staff. As the primary funding mechanism for agricultural initiatives in Ontario, this five-year policy framework is an important way to ensure support for farmers to adopt and maintain ecological farming practices.

You can find EFAO's complete strategic plan at efao.ca/strategic-plan.

Brent Preston,
Board President

Ali English,
Executive Director

Farmers for Climate Solutions – Equity Framework

In late 2021, a team of advisors came together from across Canada to help Farmers for Climate Solutions (FCS) develop a framework for fostering greater inclusion of a diversity of people in agriculture. That team was led by Arzeena Hamir of Amara Farm and Abra Brynne of FarmFolk CityFolk, and was advised by Judy Wasacase, Stuart Chutter, Tiffany Traverse, and Angel Beyde.

In addition to assembling the advisory committee, five focus group sessions were held in 2021, and gathered equity-deserving farmers to discuss the challenges and issues of greatest concern. Over 50 people also responded to a national survey, which provided additional insights into the barriers, strengths and needs of equity-deserving farmers.

FCS recognizes **equity-deserving farmers** as young farmers, women farmers, farmers with disabilities, Black farmers, Indigenous farmers and food providers, farmers of colour, small-scale farmers, 2SLGBTQ+ farmers, and new Canadian farmers. These farmers often experience additional and unique

barriers to enter and succeed in our sector.

The most common barriers identified by the farmers who engaged with the Equity Project include access to information, financing, and land, as well as a general sense of social isolation or exclusion.

Information

Rural communities, where most farms are located, are often tight-knit and can pose barriers to anyone new to the area. Local knowledge is vital for understanding the local climate and soil conditions, where to buy good feed, seed, and equipment, who is available for contract work or labour. This information can be hard to come by when you are not just the new person in town, but visibly different.

Financing

Most equity-deserving farmers who engaged with the Equity Project are on smaller parcels of land but funding can nevertheless be critical. Financial equity and cash flow can be a real challenge for equity-deserving farmers. Many rely on loans from family, their own savings, a supportive partner, and off-farm work.



Land

Participants in the Equity Project demonstrated diverse and creative approaches to accessing land. Some access land through multi-generational land ownership arrangements. Most have tenuous access to the land they grow on, farming on land owned by someone else with varying degrees of security of access. This land insecurity limits what investments they make, perennial planting decisions, and prioritizing infrastructure that can be dismantled and moved, as necessary.

The Equity Framework provides concrete recommendations for how FCS and its member organizations can advance equity internally, and shares a comprehensive set of recommendations for how equity considerations can be applied to FCS's policy work. The full Equity Framework can be found at farmersforclimatesolutions.ca/commitment-to-equity. ■

Congratulations Sleepy G Farm

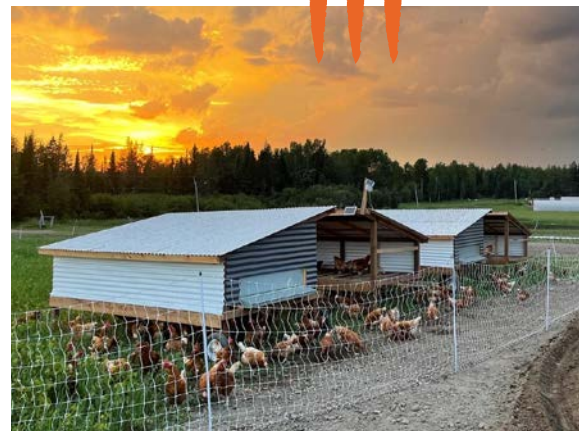
Winner of the 2021 Carrot Cache Innovation Prize

Brendan and Marcelle of **Sleepy G Farm** near Thunder Bay designed and implemented a system of integrating a flock of 100 layer hens into an organic vegetable crop rotation in order to accomplish three main objectives:

1. Use the hen manure as a major fertility input on a field in the year prior to heavy feeding vegetable crops.
2. Aggressively add biomass to the soil while simultaneously stimulating nutrient cycling via highly active soil microbiology.

3. Significantly reduce weed pressure on a field through a coordinated grazing and seeding schedule.

After three seasons of using this system it has proven to be the cornerstone of the 6-year crop rotation in use on the farm. In addition to producing exceptional quality eggs and providing outstanding living conditions for the hens, feed costs are reduced by 1/3 during the grazing season, and the benefits to both soil structure and fertility plus the weed control it provides make this project a big win for Sleepy G Farm. More details about this innovative system can be found at efao.ca/news. ■



Welcome Jackie!

We're pleased to welcome the latest addition to the EFAO team, Jackie Clark! Jackie manages EFAO's Small Grains Program, helping to encourage farmers to realize the benefits of incorporating small grains in field crop rotations. She is passionate about innovation and collaborative research across the agri-food industry, and connecting farmers with the resources they need to improve the sustainability of their operations.

Jackie holds a B.Sc. in Agriculture and M.Sc. in Sustainable Cropping Systems from the University of Guelph, where she studied cover crops and soil health. She has worked on a broad range of research projects based in diverse settings such as the terrace farms of Nepal, soybean fields in Nebraska, and corn fields and crop biotechnology labs here in Ontario. A two-year stint as an Agriculture Journalist bolstered Jackie's appreciation for the hard work

and problem-solving efforts of farmers as they work to grow safe and nutritious food for a growing population while mitigating the impacts of climate change, and she's eager to facilitate that goal in her role at EFAO. ■



Organic No-Till Vegetable Trials – Year 2 Summary

As part of the Living Lab – Ontario project, Ken Laing from Orchard Hill Farm is comparing cover cropping and mulching systems for transplanted and direct-seeded organic vegetable crops.

In 2020, Ken performed a broad survey of strategies and crops, and in 2021 he focused on the most promising combinations from 2020: garlic, potatoes, and winter squash, with a variety of covers such as deep compost mulch, sorghum-sudangrass, hairy vetch, rye, and crimson clover. In 2022 Ken will conduct replicated trials for his most successful systems.

No-till garlic

Garlic was transplanted into a mown sorghum-sudangrass cover crop (planted fall 2020) in a market garden with sandy loam soil. The garlic had a marketable yield of 11,223 lbs/ac and avg. bulb size of 72.5 grams/bulb. In a former poultry pasture with loam to clay loam soil, it had a marketable yield of 8,358 lbs/ac and avg. bulb size of 52.6 grams/bulb. No weeding was required, and final yields were very reasonable.

No-till potatoes

No-till potatoes were planted into rye/hairy vetch which was mowed at the time of potato emergence, with no hilling or weeding. Yields ranged from 25,289 lbs/acre with greening of 9,207 lbs/acre to 37,301 lbs/acre with no significant

greening. These results are quite acceptable for organic potato production in Ontario.

No-till winter squash

Squash was planted into various covers. Squash transplanted into rolled rye struggled (average yield 13,684 lbs/ac), but when transplanted into the hairy vetch, results were promising (29,950 lbs/ac). Squash transplanted into deep compost mulch (DCM) was very productive (49,616 lbs/ac), but this method may be less profitable due to the cost of DCM.

Ken is one of six farmer researchers in the Living Lab – Ontario project. Led by the Ontario Soil and Crop Improvement Association, collaborators include



No-till garlic in April 2021

farmers, agricultural and conservation organizations, and scientists from Agriculture and Agri-Food Canada. To read a full summary of Ken's findings from 2020 and 2021 visit efao.ca/living-lab-ontario-ken-laing/ ■

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Annette Peltier-Flamand

Ahnee! Annette Peltier-Flamand n'dizhnikaaz. I am from Wiikwemkoong Unceded Territory in northern Ontario. I grew up on a farm where my family was fairly self-sufficient. We had three large gardens and livestock (cattle, pigs and chickens) which we kept for both sale and sustenance. I remember my grandfather heading out to the chicken coop with an ax whenever my grandmother decided to cook chicken for supper. As children, we also observed the slaughtering of pigs and would wait with anticipation for the head cheese and blood sausage to be served. These delicacies were a special treat, until we found out why it was called "head cheese" and "blood sausage". After the death of my grandmother, the farm was eventually let go, but I always remembered the honesty of the farming lifestyle and decided that eventually I would return to that simple way of living.

In summer 2003, there was a major power outage. On Manitoulin, the power was out for three days but in other places it was out for weeks. The outage made me think about how dependent I was on others to meet my basic needs. As a single parent I began to wonder what would have happened to my children if the outage had happened in the middle of the winter and decided to take steps to become more self-reliant. I installed an outhouse at the edge of the yard (I live in a very rural area, don't try this in the city), wood stove in the basement and started returning to my farming roots by getting chickens, gardening, beekeeping and learning how to make wine, soap, preserves, and skin care products.

In the summer of 2019, the feeling that I should pursue an education in horticulture was overwhelming. I signed up for online Horticulture classes at the University of Guelph and took the plunge, closing my home-based business of 15 years. The intention was to eventually start a strawberry "pick your

own" operation and market garden. I received my Horticulture Certificate in spring 2020 and was offered a contract to coordinate the Gardening Program for my community. The gardening program activities included supplying information on vegetable production, site preparation, distributing live plants and seeds, and sourcing water totes and barrels. We bought a water pump, put a tote on a trailer and delivered water for gardeners. We also had a series of workshops on boiling water baths and pressure canning.

In 2021 we received financial assistance from the Local Food Infrastructure Fund to purchase our own tractor, one ton truck, dump trailer, water trailer, greenhouses, water tanks and irrigation equipment.

I am still working towards my Horticulture Diploma and work for Wiikwemkoong as the Agricultural Resources Management Coordinator. In addition to the gardening program activities, I also coordinate the logistics of the backyard poultry program, assist high school students to propagate tomatoes and peppers for distribution through the gardening program, facilitate food preservation workshops, oversee the band garden/food bank garden, manage the beef cattle herd, oversee two greenhouses, and feed cows on weekends. I am also a 4-H Leader, member of the Master Gardeners (Algoma group) and board member for the Indian Agriculture Program of Ontario.



I now feel a sense of control over my life and future, knowing that I am more capable of surviving on my own and would like to empower others to feel the same way. My drive to educate and enable others is intensified by the uncertainty of the pandemic.

Through my education and participation in EFAO workshops, I learned about the impact of conventional agricultural practices on the earth and environment, and decided to do more to educate others to consider conducting their activities with minimal carbon output. EFAO's mandate of promoting farming in an ecologically conscious way falls in line with my inherent responsibility to respect the earth and environment for the sake of our health and future generations. In First Nation communities, the cultivation of food is complementary to traditional harvesting activities such as hunting, fishing and foraging. Agriculture is a part of the solution to localize the food supply to keep people healthy.

I have come to realize that there are many obstacles that face Indigenous people who wish to adopt the agricultural lifestyle, including;

- a lack of appropriate education opportunities in our home community

(on the job training vs. leaving home community to attend post secondary institutions),

- lack of money and grants to invest in starting up a farm (no collateral on reserve, no jobs to save money to pay back loans),
- lack of good land (in many First Nation communities, the good land was kept for the settlers and the Indigenous were sent to reserves on rocky, inhospitable land with little topsoil),
- low self esteem/confidence/social issues due to the digression of family structure resulting from separating children from their families at young ages and the abuse suffered at residential schools,
- certain government regulations that support corporations and ignore the needs of subsistence farming, and small scale farm businesses.

The Wiikwemkoong Agricultural Resources Management Program has already had a noticeable impact on the community. In 2019 there were approximately 30 participants in the gardening program. In 2020 there were 274. Last year there were 403 individuals who accessed our services. More and more people are vegetable gardening, with some people planting bigger gardens and more new gardeners accessing services. New in 2021 was the introduction of the Backyard Chicken Program where people were able to have their first experiences with keeping livestock. We have observed more people offering produce and fresh eggs for sale in the community, which contributes

to our economy and the accessibility to locally produced, fresh food.

Recently, with funding from the NDN Collective of South Dakota, we purchased a starter herd of Hereford beef cattle from Rainy River. The cattle herd will be maintained to supply the food bank with meat. Some meat will be offered for sale. The daily care of the cattle will also provide hands-on training opportunities. We are anticipating a few “city slicker” moments as our trainees learn the meaning of “hands on training” when the first cow gives birth in March. Community members have stepped up to offer assistance including use of their land to harvest forage, lending expensive equipment, and offering discounts on services and equipment.

Our program now employs five individuals and “grows” substantially during the summer months with the addition of summer students who assist with the gardens.

The dream for revitalizing agriculture in Wiikwemkoong includes securing land so that we can begin developing a permanent facility to accommodate the various stages of production including barns, coops, gardens, pastures, greenhouses,

waste management/composting area, commercial kitchen, classroom space, farmers market, retail store, abattoir, butcher shop, and offices. This will enable us to provide on-the-job training and workshops in a more structured environment to more people who can then pursue careers in agriculture or take home what they have learned to become more self-sufficient. Structured as a social enterprise, the operation will provide meat and vegetables for the food bank as well as for sale locally. All of our activities will encourage ecological farming practices and field trials so that people can see for themselves that there can once again be balance between people and their environment.

Chi Miigwech (a big thank you) to the EFAO for this opportunity to share and to all the members/participants of the EFAO for having the welfare of our fellow creatures and environment in mind when planning your agricultural activities. ■



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Managing Biennial Sweet Clover

In a No-till, Micro Market Garden

By Martina Schaefer

Finding ways to use and manage cover crops on a very small scale, in a no-till system, can be challenging. At Spiral Farm, growing on just $\frac{1}{2}$ an acre for a 25-member vegetable CSA, space is a limiting factor, and that means it isn't realistic to leave portions of the plot in cover crops long-term. However, soil health is very important to me and using cover crops is a top priority. So, how does this work in a no-till, micro-sized market garden?

The cover crops I use most are those that are short-term and winterkill – oats, peas, and buckwheat. But in some cases it makes more sense to plant a cover crop that will be in place longer, even over multiple seasons. I tested this out with yellow blossom sweet clover from 2020-2021.

The soil at my farm is light and well-drained, and I've noticed how easily it can become dry and powdery. One part of my plot had been tilled in recent years, and had grown potatoes, then an oat cover crop, followed by lettuce and squash. This area needed a rest, so in late 2020 I decided to plant a longer-term cover crop.

My goals were to increase nitrogen and organic matter, suppress weeds as much as possible, and keep the soil covered until it was time to plant the next vegetable crop. I chose biennial, yellow-blossom sweet clover as it is known for vigorous growth and fixing high amounts of nitrogen in its second, blossom year. It has a taproot that scavenges nutrients and then breaks down to add organic matter to the soil. The tall second-year clover shades the soil to help it retain moisture; it's also



Sweet clover root with nodules.

a reasonably good weed suppressor. So this cover crop fit the bill!

However, in my research I could not find any information on managing and terminating sweet clover without using heavy machinery. As my plot is very small and I work mainly with hand tools, it didn't make sense to bring in a tractor for this purpose. I found no information at all on how to terminate sweet clover in its 2nd year, at the bloom



Sweet clover at the blossom stage.

stage, without either aggressive mowing or plowing under – impractical for the small 30' by 50' area in question. In some locations, this type of sweet clover easily becomes a weed, so terminating it properly was important.

I decided to find out if it would be possible to terminate the crop with the tools at my disposal in a way similar enough to heavy mowing that it would kill the crop successfully. My strategy

involved scything the clover at various heights during the blossom stage, followed by a generous watering and several weeks under a silage tarp.

I hand-broadcasted 1lb of sweet clover in August 2020 and tamped it into the soil with the back of a flat rake. It was watered with a sprinkler and then left to get established over the fall. By late October, the plot was carpeted in green and the clover was a couple inches tall. A few weeds grew and were carefully scythed down above the clover in order to prevent them going to seed.

The following spring, the sweet clover looked great as soon as things warmed up a bit. It had filled in noticeably although there were a couple of sparse patches. It continued growing until the blossom stage, which occurred mid-June. By this time the sweet clover was almost 4 feet tall, and attracted many pollinating insects.

I cut the sweet clover using a grass scythe, and in order to help the residue break down, I made several cuts at once, at different heights, until it was all cut down. The goal was to have cut pieces no more than 10" long. I made the first cut a few inches below the top, then the same patch was re-cut another ~10" lower, and so on, until there was plenty of cut residue in shorter pieces, and the remaining stubble still with roots in the ground was no more than 6" tall. The cut residue was left on the soil and spread out evenly.



Scything was paused to protect this field sparrow nest.

Halfway through scything the sweet clover, I discovered a field sparrow nest right in the centre of the cover crop.



Removing the silage tarp to prepare for planting.

Fortunately the scything did not injure the chicks or damage the nest. Upon some research I realized the chicks would be leaving the nest within the next week or so, and decided to leave the remaining half of the clover until then for their sake and to allow the pollinators to continue enjoying the blossoms. I left the cut clover where it was and did not tarp it.



Fall brassicas flourishing.

Once the sparrows had fledged, I scythed down the rest of the sweet clover, and as it was quite dry at that time of year, watered the entire area with an overhead sprinkler prior to covering the whole clover plot with a silage tarp. It remained tarped for about a month and a half, and I opened it back up in early August to prepare it for fall brassicas.

The original plan had been to keep the residue in place to use as mulch, but the

residue had broken down a lot and was fairly sparse, and there were still some weeds in with it, so I decided to rake most of it out. A light rake and a shallow pass with the wheel hoe prepared the area for the brassicas, which were transplanted mid-August. Part of the plot was also planted in carrots.

The soil was noticeably better in terms of structure and water holding capacity. The fall brassicas – kale, cabbage, and some greens – thrived with very little maintenance aside from an initial weeding. The main weeds in this area had previously been field pennycress, chickweed and speedwell. There was little weed pressure after this and little need to water. No sweet clover grew back.

I was very happy with these results and would continue growing sweet clover as a cover crop in other areas of the plot. It was low-maintenance and achieved my goals as well as providing food and habitat for pollinators and birds. I also saw more shrews and snakes in 2021, which may have been thanks to the stand of clover. Although I did not run a soil test at the time, I plan to do so this coming season to compare this spot with the rest of my plot. ■

Martina Schaefer is EFAO's Administrative and Membership Manager. In addition to her role at EFAO, she runs a human-scale, low-till market garden & CSA in Wellington County.

How Outcome Monitoring is Changing Beef Production

By Thorsten Arnold

Today, like every morning, Cory Van Groningen and his three daughters wake up early to do their family chores. The cattle farmer pastures his herd of 250 cows with their calves, and another herd of 180 yearlings. It has become a well-practiced routine: Cory makes sure his quad is stocked with any equipment he might need, and then he drives to the pasture, sets up fence lines for a new paddock, opens the gate, and watches as the herd moves onto the lush vegetation. Whenever possible, Cory takes a few more minutes to just watch as the mighty animals enjoy the fresh grass. These few minutes of observation have become a sacred moment in Cory's day — a moment of peace and reflection, which also teaches him about his farm. The entire routine takes less than 15 minutes — unless, of course, he has to move the water line.

On his way to the breakfast table, Cory stops to check if his daughters need help with their own enterprises: 11-year-old Ruth pastures 50 turkeys, 14-year-old Brooke runs a chicken mobile for farm-fresh pastured eggs, and 12-year-old Haley moves meat rabbits across the lawn. Sometimes Cory gives them a hand, but they pretty much have the process down now, all by themselves.

Holistic Management

For Cory, moving cattle has not always been this easy. He used to double-think each of his decisions. Now, he has laid out his season in a grazing plan that he updates each winter with his family, which also includes other family priorities like weddings and vacations. Grazing plans are made according to the constraints of the land, such as paddock size & health, and access to water. This plan guides him through the season. His day-to-day decisions are then adapted from this plan, taking



Cory's daughter Haley helps him move the cattle.

into account actual conditions: weather, plant growth and animal health. But still, the plan frames his decisions and greatly reduces the complexity of each decision — a game changer, according to Cory. “We are still monitoring our land and watching our animals’ behavior. And then we act as needed and change the plan — that’s what planning is all about. But we have less complexity to think about.”

VG Meats and family

Cory and his three brothers also co-own and co-operate [VG Meats](#): an abattoir, butcher and retail store that employs around 50 people. Together, the brothers manage an entire food chain: Chad runs the butchering facility, Kyle handles customer services, family geek Kevin keeps up with modern sciences and finds operational improvements, and Cory and his family operate the cattle ranch while overseeing strategic relationships. The brothers work as a team with

shared values — which has made VG Meats one of the most innovative farming businesses in Ontario. VG Meats is listening to what customers are asking for: food that is good for the environment, nourishing, and enjoyable for the eater. The company has been a sector leader on meat quality assurance; it has a long-established feedback and incentive program so farmers can improve their operations as well. By embracing Holistic Management and becoming a Savory Hub, the family is now taking leadership for environmental stewardship and long-term thinking.

Monitoring

Monitoring has become second nature to Cory and his brothers. But Cory only recently embraced the Ecological Outcome Verification (EOV) for grazing management. Of the method, developed by [Savory Institute](#), Cory says, “I read about the Land To Market label, and I thought, wow, that could answer so

many of those difficult questions our customers are asking!” Cory realized that his customers’ environmental concerns mostly deal with healthy landscapes, native species, and — even less specific — knowing that “farmers are doing the right thing”. To address these concerns meaningfully, VG Meat’s producers are on a journey to embrace EOv on their land.



Cory’s daughter Ruth’s farming enterprise: pastured turkeys.



Runoff from a neighbouring farm mixes with Cory’s, showing how different practices impact water quality.

Cory was already intrigued by Holistic Management (HM). “Making the right decisions for the land means we’re more productive and resilient, which directly benefits our bottom line,” he explains. But HM does not answer questions about the real impact that management choices are having on the land. When he saw the new EOv that addresses just these questions, opens a new market with the Land To Market label, and creates a self-reinforcing loop of better management, Cory thought, “How can I apply these methods, and get our suppliers to also use EOv?”

When making practical changes himself, Cory realized how EOv actually benefits his entire farm operation. “In essence, we farmers are trying to convert sunlight into something we can sell. So first and foremost, we need to use as much solar energy as possible for growth. A profitable cash crop may seem like a better bet, but if the field is “black” for several months in the spring, then we’re wasting that precious sunlight!” With an intensively managed permanent pasture system, Cory starts converting sunlight into feed the day that snow melts.

“What species of leaves will capture more sunlight? Could we use our animals for pasture renewal, for improving the plants’ age composition? How are we doing in terms of wind or water erosion, and the cycling of minerals through our soil?” Cory asks himself. “EOv teaches me how we can do better.”

For Cory, the concept of leading indicators, which is part of EOv, was the biggest game changer. “Leading

indicators train our brains to focus on what actually matters.” Cory used to rely on typical soil tests, but these only give him high-level feedback. With EOv, Cory learned how to adapt his management much faster. Leading indicators tell him: “Am I heading toward more carbon sequestration, water infiltration, and nutrient cycling? Am I doing what I set out to do?”

This concept has even transformed how the brothers operate the butchering facility: “We stopped looking for gross margin results, and started looking for the leading indicators of gross margin. Like, is the staff showing up on time, and are they adequately trained?” Leading indicators have changed what the brothers look at: “If we make a change in our management we might not see results for three years. The human brain hasn’t evolved

to understand the full complexity of a business operation. You have to have a system for understanding the impacts of your decisions fast. EOv offers that. It changes how we see and how we think — I call that ‘insight’. I can’t explain how empowering this has been for us at VG Meats.”

Changes in Cory & his operation

EOv has changed how Cory sees the world. Every day when moving cattle, he now observes how his decisions impact his farm system — he can’t avoid it! His awareness of how solar energy is converted into growth, how minerals and water cycle through his farm, and how biological communities evolve and diversify has sharpened. This awareness allows him to manage for regeneration and resilience: he has learned how tree shade improves growing conditions during times of “droughtiness” — and



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that these areas can feed his animals when the open pastures are in drought dormancy. He is learning how to combine multiple animal species, weaving meat birds and layers into his rotation. Every animal enterprise plays a unique role in regenerating pastures for abundance. And with the increasing biological productivity of his fields, he observes abundant wildlife — barn swallows and bobolinks

literally bombard him with bullets of concentrated fertility; raptors return.

Cory is now experimenting with how to establish warm-season grasses; he reads books about oak trees, hickories, and silvopasture. Opportunities now seem abundant — and give hope that there is a way to thrive in a changing climate.

A systems approach

The systems approach to farm management has helped in several ways. One neighbour, who got interested when reading Gabe Brown, has asked Cory to graze their cover-crop and corn stubble: economically, the free feed makes permanent pasture profitable, even in high-cost southern Ontario. His neighbours call him back each year because there is mutual benefit: Cory's animals provide fertility in return.

At VG Meats, consumer education with (outcome-verified) farmer stories is opening new markets with premium prices. VG Meats' staff now work in totally different roles in the food chain for two weeks per year. The benefits of this practice are evident in the staff's motivation and work quality. Recently, a retail employee who is a single mother spent two weeks pasturing poultry and building chicken tractors, so that she would be able to convey the farming practices to customers. Afterward, she proudly reported how this experience empowered her to build a playhouse for her son.

"These are leading indicators for how we positively impact our community — something that makes us happy by itself, but also is good for the work morale and for our business. Profitability and

regeneration are not goals that conflict — they belong together." ■

Cory Van Groningen has become a Savory professional educator and teaches Ecological Outcome Monitoring. Cory envisions (outcome-verified) regeneratively grown animal products and wants to support this with VG Meats.

Thorsten Arnold co-owns Persephone Market Garden. He educates about and advocates for regenerative food systems in all its facets, especially regenerative production systems, co-operative distribution, and restoration of climate-resilient landscapes.



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Agriculture at COP26

A Report Back from the NFU Delegation

By Ann Slater

Last November, a National Farmers Union (NFU) delegation of seven Canadian farmers attended the United Nations Conference of Parties on Climate Change (COP26) in Glasgow, Scotland. The delegation of Prairie grain farmers, market gardeners and an Indigenous seed saver included two Ontario NFU members. In December, three members of the delegation — Stuart Oke from Eastern Ontario, Jessie MacInnis from unceded Mi'kmaq territory (aka Nova Scotia) and Glenn Wright from Delisle, Saskatchewan — presented at a NFU University virtual session titled COP26 Climate Conference Report Back. This is a brief synopsis of that session. [The full session](#) can be viewed on the NFU Youtube channel.

All three members of the delegation spoke of the positive experience and value of being involved outside of the official meetings — the over 100,000 marchers on the street, the analysis shared among and within social movements, such as La Via Campesina, and the presentations by Indigenous people, youth, gender non-binary folks, farmers, women, peasants and trade union people during the People's Plenary on the final day of formal negotiations. They also all noted the missing voices at the conference, especially the voices of the small holder farmers who produce 80% of the world's food on holdings of two hectares or less. These voices were largely missing because of the lack of access to covid vaccines in third world and poorer countries, preventing access to transportation to and entry into Scotland.

Considering agriculture contributes about 25 percent of greenhouse gas emissions, the NFU delegates were surprised at how little agriculture was discussed at COP26. It tended to



only be discussed around the margins and when agriculture was mentioned, it was through a lens of corporate-centric approaches and top down solutions. One of the agriculture-related announcements was the Agriculture Innovation Mission for Climate (AIM4C), a public-private partnership created by the United States and the United Arab Emirates, with Canada as a partner. Private support for AIM4C comes from organizations like Bayer, Syngenta, BASF, Croplife International, Elanco, CGIAR and PepsiCo. For the NFU delegates there was a sense of business as usual with the same private agricultural input companies placing themselves in position to tap into climate financing and green funding to continue to sell their high input, high cost solutions to farmers. Farmers were not part of the discussion. When precision agriculture is championed by companies selling nitrogen fertilizer as a climate solution, their argument is that if the use

of their nitrogen is reduced, it will reduce yield, and thereby reduce farmers income. The NFU delegates agreed there is a role for technology, but what role and how? They suggested it needs to be open-source, farmer-led, lead to emissions reduction, not profit for developers, and must support farmers to integrate practices which have a tangible effect (e.g. grazing cover crops).

Discussions related to agriculture also frequently turned to livestock, methane emissions and strong ethical-based arguments against animal agriculture. Missing were the more nuanced discussions around livestock, such as the benefits of animal

fertility to replace synthetic nitrogen and the positive soil health benefits from rotational grazing.

One of the take home messages from the NFU delegates to COP26 was that the biggest job is at home — holding Canadian governments to account and moving forward with food sovereignty, agroecology and climate justice at the centre. ■

Ann Slater has been growing and selling organic vegetables from her 1 acre market garden in the St. Marys area for over 40 years. She has been an EFAO member since the 1980s and has recently participated in lettuce variety trials as part of EFAO's farmer-led research project. She is currently a member of the NFU's climate change and seed sovereignty committees and is on CBAN's steering committee.

Better Weed Control with a Modern Harrow



By Philip Bauman

Hello from Cedar Ridge Acres! My name is Philip Bauman and together with my wife and two children, I live and farm on a 170 workable acre certified organic farm located in southern Bruce County, near the town of Mildmay. I have been farming organic cash crops for 10 years, having grown up on a family dairy farm where we farmed without the use of synthetic fertilizers or pesticides. My father's intention for this style of farming was to leave the land better than he found it for the next generation — and he realized that the heavy use of chemicals would not attain that end.

We also rent an additional 100 acres of organic crop land, working in cooperation with my brother-in-law who farms a number of organic acres and assists with the field work in the busy seasons. We do custom planting, weeding, inter-row cultivation, and combine harvesting services for a small number of organic farmers within a 50 km radius of our home base.

As most farmers know, farming is not only a matter of seeding and harvesting but also managing weeds, for which there are various approaches. Some do this with no-till practices and chemical weed management, others use heavy tillage and reduced chemicals, and still others use extensive cover crops in combination with reduced tillage and minimal to no chemical use. For certified Organic farmers, chemical herbicides are not an option, so integrated and coordinated management practices are required.

For many years the moldboard plow was the foundation of the tillage and weed management on our operation due the fact that the equipment we had available to us was not able to accept any significant crop residues on the soil surface. A prime example of this is the tool known in North America as a tine weeder. There are many different brands of this type of weeder available today, and most of them share similar characteristics. Their primary function is to uproot weeds that are beginning to grow at the soil surface after the

crop has been planted. They operate by a series of spring tines set in ranks to scratch through the soil and disturb the entire surface of the field to a depth sufficient for removing the weedlings — but not so deep as to uproot the crop, which typically is planted deeper. This method can pose a challenge depending on weather, crop advancement, weed advancement, soil conditions and residue presence. This challenge is amplified by the crucial need to weed at very specific intervals, which is dictated by the presence of what I call white root hairs: the first root shoot that sprouts from the weed seeds before a shoot is visible above the soil. The window of maximum effectiveness for tine weeding can be very short in good growing conditions: sometimes as little as 12 hours can make all the difference.

Having rented an Einbock Aerostar weeder for a number of years, I was frustrated with its inability to tolerate any significant volumes of residue, especially corn stalks, and more importantly its inability to quickly adapt to changing soil textures and conditions.



What brought my frustrations to a head was learning that, due to the geometry of a coiled spring tine which has a very small window of travel while maintaining similar pressure on the soil, I was not even weeding the soil in the low divots of the soil surface, such as the depression left behind by the planter. Instead, I was partially filling it in with loose dirt from a higher spot. This not only does not remove the weeds, but actually increases the weed's rooting depth, making it harder to remove in subsequent passes.

In 2018, while attending the Guelph Organic Conference, I met and spoke with Jos and Ana Pelgrom from Man@Machine in Holland, who were presenting the Treffler lineup of machinery in Canada for the first time. Treffler specializes in machinery that is specifically tailored for the Organic farmer. They have ingenious approaches to the challenges we face.

The flagship machine of this company is — low and behold — a tine weeder (or harrow)! At my first introduction to this machine, I was able to see that Treffler has pushed the standard of effective weeding far above the ability of any other weeder I had ever seen. The design of this harrow was such that it would either eliminate or vastly improve all of the issues I had with other brands.

Because each hinged tine is fastened to its own spring and cable, and attached to a central tensioning system operated by a hydraulic remote from the tractor seat, the issue of needing rapid adjustment and fine tuning for changing conditions while moving through the field is completely solved. In addition, due to the genius design of the hinged tine and spring, now the tension of the tine against the soil will remain constant. This means that if the frame is set to a height that accommodates the entire soil surface profile, each tine still fully follows the contour of the soil it encounters, independent of any of the other tines surrounding it. Bingo!

Now the low divots will be harrowed equally as effectively as the high spots and the high spots will not be over-harrowed and dragged into the low spots. Also, now that the tine tension does not increase as the tine moves backwards, it no longer gathers and holds crop residues nearly as readily. When residue comes in contact with the tine, the drag increases and the tine rises. The residue is released and flows through (it is not impossible to clog the machine, but the instance of this happening is significantly reduced).

In addition to these important design advances, Treffler also offered a carbide tipped tine, which increases the wear factor by seven times. More importantly,

because the carbides are inset into the face of the tine, the tines always maintain a sharp leading edge, which increases crust penetration through the life of the tine.

After seeing it in person, I knew that if I were ever to purchase a weeder of my own it would need to be a Treffler Harrow! In the winter of 2019-2020, I purchased a fully mounted TS1220 harrow, which is a 5-section folding 40-foot machine. I received my new harrow in April 2020 and have used it for well over 2000 acres of weeding so far. The machine exceeded my expectations, and is now opening up opportunities for me to adapt the tillage practices that we employ in favor of reducing deep tillage and increasing cover on the soil. This machine definitely gives us a step up in the journey toward increasing the health and vitality of our soils, which then increases productivity and quality.

Please visit www.organicmachinery.net for more information on Treffler machines and for contact information for your region. Or feel free to call me directly at (519) 292-8286.

Happy Farming!
Philip Bauman

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Lettuce Collect Data

23 Site-years of Lettuce Variety Trials

By Jackie Clark

Where? When?

The introduction to this research sounds like a riddle: How did EFAO facilitate a 23-year lettuce variety trial, all from 2019 to 2021?

The answer isn't a clever pun or tricky turn-of-phrase.

The answer is a dedicated network of farmer-researchers, and the concept of site-years.

In research, a site-year is just as it sounds. A particular location, during a particular growing season, which gives a specific context of factors that may range geographically (like soil type) or temporally (like weather).

In these farmer-led lettuce variety trials, the experiments were conducted on seven farms in 2019 and 2021, and nine in 2020, giving 23 site-years of data to learn from. Let's dive in.

Why? Motivation and Inspiration

Angie Koch owns Fertile Ground Farm, a 100-acre farm outside of Waterloo, producing vegetables, as well as hay and small-scale livestock, with her partner.

She has been involved in an advisory capacity since the beginning of EFAO's Farmer-Led Research Program, and participated in all three years of the lettuce trials.

"We were learning a lot in those early years," she explains. "With the lettuce trial, I was looking for something achievable and not too complicated."

In 2019, the farmer-researchers experimented with 11 varieties of fall lettuce.

Fall lettuce must "germinate in the heat, and then grow in cool, wet, damp conditions," explains Ann Slater, another grower who participated in all three years of the trial. She runs a market garden near St. Mary's. "I was interested to see if there were varieties that could be reliable in the fall."

For Koch, the motivation was similar. Fall is tricky, she explains. "The plants germinate in excruciating heat in a greenhouse, they go out into scorching hot days, and then the temperature plummets and they have to deal with frost. It's just so much to ask of a plant."

However, the fall of 2019 was unseasonably warm and dry.

"That made me interested in doing more than one year of trials," says Slater. "One year only gives you information based on what weather you get that year, and that may or may not be typical."

In 2020, farmers investigated six summer varieties and five fall varieties of lettuce, hoping to find those which flourished in the unique challenges of each season.

Summer can also be hard on the crop with intense heat and humidity, Slater says.

The 2021 trial focused on six varieties of green head lettuce in the summer.



How? The Ups and Downs of Data Collection

A key challenge of farmer-led research on multiple farms is making the experiment's design uniform enough to provide a basis for statistical analysis, while still acknowledging the specific needs of each farm.

EFAO staff Sarah Larsen, Dillon Muldoon, and Rebecca Ivanoff worked with the growers to develop protocols for data collection that worked for everybody, and would garner usable data.

Dedicating time to data collection alongside harvesting can be a challenge, says Slater. Certain parameters, such as days to bolting, didn't work for her farm.

"I have a very small space, so I needed to harvest the lettuce," she explains.

Multi-farm trials can be helpful, because when certain metrics are difficult for some farmers to capture, you can still gather data from the others.

Multi-farm variety trials are “a good place for someone to start out, because it’s not just on you,” says Slater. “You’ve got a group of people to work with, and if something goes wrong – because things always do go wrong – other farmers are there.”

Over the three years, farmer-researchers and EFAO staff gained insight on how to improve the uniformity of observations and data collection, says Koch.

In 2021, the farmers “submitted our observations weekly, and [EFAO staff] looked at them each week,” Koch says. Staff and farmer-researchers addressed any concerns in real time.

Flavour trials were popular with farmers and their customers. Tasting “makes a great social media story,” says Koch.

“Flavour is always a personal thing,” adds Slater. Some folks like a touch of bitterness, or crunchiness, or softness, or sweetness.

“It was helpful for me to see how other people describe certain lettuce,” she says. Those observations from other farmers help her to describe lettuce flavour and texture to her customers.

What Did We Learn?

EFAO staff and farmer-researchers teased out key conclusions from the lettuce trial.

In 2019, Magenta, a green/red organic Batavian and Ruby Sky, an organic red leaf lettuce excelled in terms of performance in the field and flavour. Both varieties also performed well the following fall in 2020, along with another red leaf lettuce variety, Red Mist. Red Mist had similarly high overall ratings for performance, though germination success was dependent on seed source.

Magenta was also a top performer in the summer of 2020, along with Nevada and Muir, two more Batavian varieties. In 2020, Nevada had a longer harvest window and held off on bolting compared to some of the other varieties.

In 2021, Nevada again held off on bolting and had consistently high ratings in terms of flavour and overall performance, whereas Starfighter, a green leaf lettuce, had the highest germination rates.



Both Koch and Slater say that the metric most useful to them was the overall performance rating all farmers gave each variety.

The rating combined all the subtle grower observations into one parameter, says Slater.

“Everybody’s a little bit different in exactly what kind of lettuce they [and their markets] might like, but seeing some commonalities in the varieties

that worked for me and other people was useful,” she explains. “Certain varieties tended to rise to the top across several farms.”

Koch agrees. Even when the specific parameters or statistics didn’t show what the growers expected, they mostly ended up on the same page when it came to those overall ratings, she says.

That consensus could indicate a well-rounded variety, or a variety that displayed characteristics that are hard to quantify, measure and compare, but are truly significant for farmer needs and marketability.

The value of those overall ratings was key for “realizing that farmers really have a feel for things. The trial made us pay attention in ways that we might not otherwise pay attention,” says Koch. “Even if the statistics couldn’t pull the story out of all of the numbers, we could see the story and we could tell the story, because we were paying attention differently.”

The ratings helped to show that “Nevada is a superstar, every year,” she adds. “We thought its taste was sweeter and it seemed to last longer every year,” she says. “The consistency of observation and rating between growers gave confidence that even if

we weren’t able to capture the other stuff statistically, we could trust that it was there.”

Learnings from the trial have on-farm implications, including direct changes to lettuce variety selection, general experimentation, and marketing.

Batavian is not typically a well-known type of lettuce for some customers.

...Continued on page 18

"It's sometimes been a bit of a hard sell," says Koch. "So the trial did give me some confidence."

Both summer and fall "trials confirmed that the varieties I had were good ones," says Slater. "The fall lettuce trials gave me some new varieties to grow."

What Next and Who Should Be Involved?

Participating in the multi-farm lettuce trial gave Slater insight on how to set up rigorous research trials on-farm, she says.

It's changed "how I compare varieties, or [practices] on my farm in general," she explains. "I have a little more awareness of whether or not this is really something that's a significant difference or just relying on observation with nothing to back it up."

"It helps me think more scientifically," she adds. "It helps me think in a different way about how I compare differences that I see within how things are growing in my fields."



Koch explains that she now runs 'pre-trials' to consider ideas that she may want to explore in a formal research trial, to help determine what kind of data will answer her research questions.

She encourages curious farmers to "jump in on a fairly simple, multi-farm trial, even if it's not the thing that you think is the most burning question on your farm... just to learn from the

process, before you try to set your own up." ■

You can download the full report on this and all of EFAO's 2021 Farmer-Led Research trials at efao.ca/research-2021.

Jackie Clark is EFAO's Small Grains Program manager, helping to encourage farmers to realize the benefits of incorporating small grains in field crop rotations.



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Q&A with Wholesome Pastures: A Living Lab

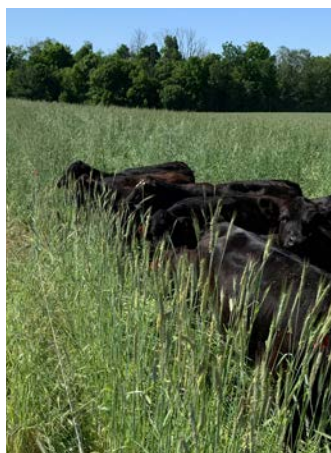
Mike and Lindsay Groot, of *Wholesome Pastures Farm* in South Huron County, are participating in the Living Lab — Ontario project through the Innovative Farmers Association of Ontario. Living Lab — Ontario is a collaboration hub created under the *Living Laboratories Initiative*, which brings together farmers, scientists, and other partners to develop, test and share innovative agricultural practices and technologies.

Tell us about your farm!

Lindsay's grandparents immigrated from Holland in the 50s and settled on the farm in Crediton, ON. When we took over the operations of the land, one of the first things we did was sell our plough and committed to no-till, cover crops and grazing livestock. Since our involvement, it has been shifting into a regenerative model that we are always striving to improve upon. We strive for healthy soils that can support a thriving ecosystem below and above the ground.

We have expanded our operation over the last decade to include grass fed and finished beef and lamb; pastured chicken and duck; free range chicken eggs; and home and body goods such as skin care, sheep skins and leather products. One way we work to improve our soil is grazing our animals using a rotational grazing system.

We sell our goods directly from the farm and at local farmers markets. Items are visible on our website, wholesomepastures.ca, and we mail everything but our meat products directly to customers. We like to encourage discussions about farming strategies within our community.



What does your rotational grazing system look like?

Our system is laid out with a permanent 4-5 strand electric fence around the perimeter, with o-hooks and a single electrical wire strand to create strips or sections that are smaller, for cattle. We use these smaller strips to do rotational grazing, where we move the cattle daily. We aim for grazing to start in the spring on grasses when growth is advanced enough to allow for optimal plant health. Once the animals have eaten $\frac{1}{3}$ of the plant matter, we move them.

This allows for optimal plant health and soil structure as well as protection from erosion.

Our sheep are within a similar perimeter fence of electrical netting, to prevent lambs from getting out and predators from getting in. In 2021 we added Thor, a livestock guardian dog to our farm that lives with the sheep 24/7, because we hope to practice silvopasture more moving forward, and there is a significant coyote population in the area.



How did you get involved in the Living Lab – Ontario project? Why did you decide to sign on?

The Living Lab project came up through our participation with the Innovative Farmers Association of Ontario and our knack for asking a lot of questions and seeking out research to back up practice changes. We decided it was a great opportunity to ask a few questions from a scientific point of view.

There is a lot of talk over social media and at farm meetings and conferences about what some of these practices can do on “your” farm, all while skeptics ask, “where is the science?” When the opportunity to be involved in “the science” came up, we jumped at it.

What does your Living Lab trial seek to demonstrate or discover?

Our trial seeks to demonstrate that there are a multitude of benefits in adding rotational grazing to a modified standard cash crop rotation. We hope to capture the benefits of nutrient cycling, carbon sequestration, and water cycling among others. We hypothesize this can be demonstrated by adding in a single season long grazing window, a three-year grass rotation or just cover crops after wheat.

What have you learned so far? Why is it interesting and how will it help other farmers?

Although the pandemic has caused a lot of issues in regards to data measurement and backlog, we hope the data we obtain will help build relationships between cash crop farmers and livestock farmers.

What were some of the biggest challenges you faced in setting up your current grazing systems?

Finding resources is always challenging when you’re stepping outside of the box a bit – and around our area, we were. We had to figure out how to properly set up gates and access, what water allocation would look like when it had to be moved frequently, ensuring equipment could still get in and out, mapping property lines, etc. It was hard work and it often felt like we were doing it alone.

Some people called us crazy and laughed during conversations about the methods we were implementing. We heard comments such as, “planting cover crops is a waste of money”. We came to the conclusion that some would respond like that because their focus was cash crop value, not soil health value, and that’s okay. Perhaps they were not educated on the topic or perhaps they were holding too tight to their parents’ practices, but we are lucky to have the flexibility and support for change.

What has been the impact of diversification of crops and livestock on the farm operation, and on the business side?

When Lindsay’s parents farmed they focused on cash crops, hay, broiler chickens in a conventional barn and beef stockers that had access to a few acres. By the time her dad retired due to a battle with Huntington Disease, there

were no livestock on the farm and the land was rented out.

When we took over the farm in 2013, we started with a small herd of cattle. A few years later we added sheep and then started to add electric fences to the fields. We wanted to rotate the parcels doing livestock grazing one year to crops the next. Since then, we have increased the number of ewes that we pasture all year when possible and focus on genetics that have resilience to the natural pasture environment, with the goal of reducing parasite issues and the need for intervention.

As a family, we consume an enormous amount of eggs weekly, so having chickens made sense. We wanted our chickens to follow our grazing pattern and be involved in scratching and spreading the larger ruminants’ manure to get optimal coverage with minimal compaction. So, what started as a hobby to feed us evolved into over 70 free range hens and selling out of our eggs weekly.



Furthermore, the possibility of working together so that everyone can become more economically diverse is exciting.

What challenges have you faced so far?

The COVID-19 pandemic poses challenges due to lockdowns and labs being closed. Then, the obvious challenge for any farmer is the weather. When timing plantings, whether cover crops or grass for grazing, 2021 was not an easy year from a weather perspective.

What do you hope to achieve by the end of 2022?

Although many of the practices we use have long term benefits, we hope to obtain some economic data that could help other cash crop farmers see the benefit of adding livestock to their rotation. We also hope to show that the land managed with more diversity does have better soil structure and organic matter than soil that is not.



What does “honouring your animals” mean to you? How does that attitude play out in your business?

We want to ensure our animals are living their best lives and only have one bad day, but for a great cause, which is to feed families quality, nutrient dense food. We believe animals are resilient.

They thrive outdoors, even during calving or lambing. We rarely need to intervene and assist.

The mainstream processing system actually does a great job utilizing animal byproducts (buttons, make-up, glass, etc). There is actually very little waste. Our animals are born and raised with us and only leave the farm for processing, 15km away. We sell in our farm store so they only travel 30km total! We keep the beef hide, bones and other items that aren't highly sought after as a raw product. Many customers

are amazing and seek out nose to tail, organs, and more.

One way we honour our cattle by using all of the byproducts is by making tallow, which is rich in Vitamins A, D, E, K, Omega 3 + 6 as well as conjugated linoleic acid (CLA). Tallow can be used in cooking, often in place of less stable oils. We have customers from across the country repeatedly purchasing our tallow products.

What are some of the ingredients to your marketing approach that you feel other farmers could learn from? What are some of the challenges you face in marketing?

The biggest challenge in marketing on social media (@wholesomepastures) is censorship. It's incredible what types of posts get flagged on social media. Most alarming is how any food labelled “beef” or “lamb” is not okay to post about, but chicken is. If we share a post about beef burgers, they don't pass the test, but if we take out “beef” they do. Seems a little fishy, or beefy, if you ask me.

What we have found most helpful is having an email list. We send very few emails, but it's a great way to share farm updates, restocks, new product releases and items that are in high demand with limited inventory. We try to build a relationship with our customers and let them get to know us. ■

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The Story of Zawadi Farm

By Jessey Njau

It would be my future to reclaim our lands, grow our sustenance through farming, and build on the power of the human connection — but I had to first unlearn some lessons.

I was born and raised in Nairobi, Kenya, in a family of four with a vast network of relatives living in the countryside. Both of my grandmothers were phenomenal land stewards. I wish I had picked up more of their farming wisdom.

Growing up farming wasn't something to aspire to. My father threatened that if I failed in my education, I'd become a farmer. Every time we passed a market and saw farmers moving and arranging produce, I was reminded — repeatedly — “This will be your future if you fail.”

What a lie that was!

Fast forward to 2014: I had moved to Canada and done all I could do in the world of technology, worked with Google, built and sold my first tech company — and had a seat at the table of some big conversations.

It took a while before I realized that I was on the summit of the wrong hill. The systems I was building didn't foster human connection; they flourished to the detriment of it. I was on the wrong summit; the vista was all wrong. I wrote about this journey in my book, *Scripts and Screens to Seeds and Soil: A personal journey from the world of technology to finding life in soil*.

I became depressed and had suicidal thoughts during my descent. In hindsight, it's no surprise.



Farmer Jessey in the hoop house.

Fortunately, my fall brought me to the life-giving work that is farming. The lie had become the source of truth that I needed to find a reason to live!

I started living the farming life by volunteering at Wheelbarrow Farms. That's where I connected with Fresh City Farms and Foodshare Toronto in 2016. Bumping into then Fresh City Farm Manager Hannah Hunter (now of Ferme Agricola in Quebec) became a pivotal moment in my journey into farming. Hannah's teachings of mindful farming and her methodology of working alongside other farmers are tools I refer to frequently.

An inspiring encounter with Michael Ableman of SOLE Food Farm in 2017 affirmed my calling. During a dinner hosted by Toronto Urban Growers, Michael said to me, “We need crazy people in the field, and you are the right kind of crazy!” He ignited something in me. In his book,

Street Farm – Growing Food, Jobs, and Hope on the Urban Frontier, he signed “To Jessey, You are the future, Keep Growing!”

You don't have to tell me twice!

Zawadi Farm was born and I've never looked back. Zawadi in Swahili means Gift. It is because of this meaning that we refer to ourselves as stewards of our land, because this land is a gift. It will outlive you as it did your predecessors.

I met my farming partner and brother Misha Shodjaee in 2017 thanks to Katie German

of Foodshare. Misha is an integral part of Zawadi Farm. He helps take my crazy ideas and molds them into what you see today.

We started off with roughly 7,500 sq. ft. of growing space, generously offered by Angas Farm and Nursery. We also launched a farmers' market at a local mall parking lot. We invited other farmers to join us, stacked our produce high, and waited to see it fly! It didn't go as planned... customers ended the



Michael Ableman of SOLE Food Farm signing Jessey's copy of his book.

conversation by telling us where they could get the same produce for less.

It stung!

I asked myself, Did I make a mistake with the location? Was the demographic wrong? Did I not distribute enough flyers? Were my prices inflated? Did I do my math wrong?

With no answers, it was time to unleash the “crazy” ideas.

At the next market, when anyone challenged me on price, I gave them the produce for free. Any sound business owner would tell you not to venture down this path!

But what happened next was another turning point. The conversation changed from “What is the price for... ?” to “How much can I get for... ?” We talked about how good the produce tasted and what it reminded them of. Something had changed! Then, when Misha’s dad was visiting the market he suggested selling

YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
HOMESTEAD T.O.	HOMESTEAD T.O.	ZAWADI FARM	ZAWADI FARM	ZAWADI FARM
GROW VEGGIES PROGRAM	GROW MORE VEGGIES PROGRAM	ZAWADI FARMS Y1 PROGRAM	ZAWADI FARMS Y2 PROGRAM	ZAWADI FARMS Y3 PROGRAM
Learn theory and gain hands-on experience as a group at Downsview Park	Grow in your own 500 square foot plot with mentorship at Downsview Park	Manage a Zawadi Farm plot in the city and follow Zawadi's crop plan	Take over growing space with your own crop plan and Zawadi will buy your crops	Grow into more spaces in the city and sell your own crops; business launched!

market boxes for \$25. That is how our farm shares were born.

These small steps forward did not solve the food access issues in my community, where those with income insecurity have been removed from the conversation. But along came Foodshare Toronto to help me with my next “crazy” idea: to take the income generated from our farm shares, purchase Zawadi Farm produce with that income, and launch a community market at the heart of a Toronto Community Housing complex, selling at a cost that allowed the community to participate.

a local church to build an urban farm whose building is used to house refugees in transition into Canada. Suddenly, we had 85 farm share members. We were able to hire local youth, one of whom is a 16-year-old gardener. She manages all of our field tomatoes, eggplants, and zucchini beds.

Zawadi Farm is creating an urban farm framework to guide and teach others, creating a resilient economy that feeds our city.

In late 2021, we launched a 5-year urban farming incubation program in partnership with Homestead Toronto to support the growth of more urban farmers and open up growing spaces in Toronto by creating a clear, realistic, and guided pathway for anyone looking to grow food as a career within the city. More at homesteadto.com/growing-urban-farmers/


We keep growing!

I wish I could show the brilliant women farmers from my childhood how far I’ve come – and that the perceived failure taught to me in my youth was what ended up bringing me life. ■

Jessey Njau is an urban farmer in Toronto. Once a technology enthusiast, he now manages


Zawadi Farm, an urban farm that works to rehabilitate urban spaces into growing spaces that feed the city.





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This market had a successful four-year run before covid restrictions shuttered it. Instead, since 2020, we have been selling our produce directly to Foodshare Toronto.

We have been transparent with our farm share members about this model, reminding them that their support – purchasing a farm share – fuels our ability to feed our community as a whole.

By 2021, we had grown from a single 7,500 sq. ft. location to nine growing spaces covering an acre of ground. We partnered with

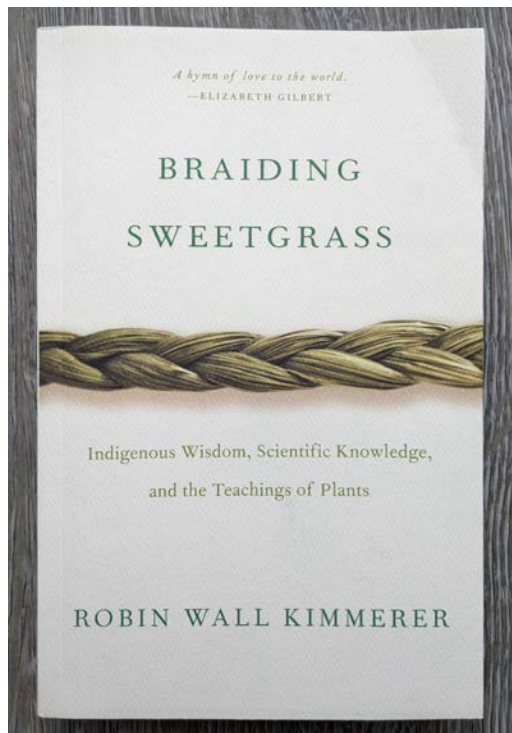
How to Give Thanks to Wild Leeks

by Celeste Smith

I have read *Braiding Sweetgrass* by Dr. Robin Wall Kimmerer more times than I can count. The first time I read it so quickly, I had to reread it immediately because I could not wait to relive the beautiful stories of the author's Indigenous teachings, intertwined with the scientific principles of her work as a university trained scientist. It was a situation I was intimately familiar with from my own life experience and I immediately felt a kinship with this Potawatomi Plant Sister who lived on my People's Traditional lands of New York State, (Haudenosaunee Territory).

The most dog-eared section of my copy of her book is the chapter on the "Honorable Harvest," her philosophical breakdown of the Indigenous rules of reciprocity. She begins by sharing a story about harvesting spring leeks in the forest by her home. She asks the forest permission to harvest the bulbs for her salad and her first dig in the ground reveals a withered husk. This small, malformed bulb tells her that the patch is not healthy and it is time to move on. So, instead of digging more, she leaves the plant where she found it and goes home. This lesson about listening to the plants, and to "take only what is given (or offered)" is a masterclass in Indigenous stewardship.

I have also been taught to offer thanks (tobacco) and to ask humbly for what I need and if the forest offers it, I will find what I am looking for. Eastern Woodland stories tell us that if we take without asking or showing gratitude, the forest will not provide for us in the future, or even worse, we will become like a Wendigo: the monster



of overconsumption. It is said that the Wendigo eats and eats but can never be satisfied, and this constant hunger is his curse. It is of course only a parable, but it is one that many Indigenous cultures consider a sacred one, and the warning winds throughout all of the teachings we learn. Western Society has not learned to "ask permission" or to "give thanks," which is why many Elders I have spoken to think the earth is in big trouble.

Reciprocity is not a lesson that is taught in a capitalist world, which is why so many folks are inspired by this book. They simply did not know there was another way to live.

The lessons of Indigenous stewardship are summed up by Robin in a short list:

- Know the ways of the ones who take care of you, so that you may take care of them
- Introduce yourself

- Ask permission – listen to the answer
- Never take the first or last
- Take only what you need
- Take only what is given
- Never take more than half
- Leave some for others
- Minimize harm while harvesting
- Use it respectfully, and never waste that gift
- Share and give thanks for what you have been given
- Give a gift in return
- Sustain the ones that sustain you and the earth will last forever

This list is not exhaustive, but I would agree with her that it is a good start. The thing about Indigenous teachings is they are fluid and nothing is really spoken of in absolutes.

The chapter ends with an experience of finding wild leeks at the grocery store that becomes a call to action on the dangers of commoditization. The horror of Robin's discovery is palatable. To find something so wild in a plastic container is a sign, and it is not a good one. I remember my own horror at seeing wild leeks by the dozens for sale online and how a debate on overharvesting created a rift in a wild harvest group I belong to. I distinctly remember the sense of injustice and genuine anger I felt with each post that defended the exploitation as "a right of discovery." I told the group again and again that the wild spaces would react to their greed in some way but my warnings were dismissed and I was labeled rude and banned from the group.

When I teach Traditional Indigenous Knowledge (TEK) at the college level, the first activity I do is a comparative analysis between Western Science and Indigenous Science. When I put the two methods side by side on the white board,



Robin brings life to folks like me who see the wide gulf between our worldviews and see a possible link between them. She illuminates the bridges and the valleys with such poetry that it seems like there can be hope after all. This is where the genius of Kimmerer's writing lies, because her storytelling is exactly the way Indigenous people pass down knowledge to each other. The oral histories of our people are just as she describes them, as told in the language of nature, a language not generally understood by modern folks, because they have not been taught to listen.

You can hear it in the gentle lilt of her voice, in her stories about the proud Tree Nations, the torrid relationship between moss and the understories of trees and complexities of how to give thanks to wild leeks.

This language is Indigenous Science, and it is a language our Elders urgently tell us we all must learn. ■

Celeste Smith (she/her) is Oneida from Six Nations of the Grand River Territory. She is a seed steward, traditional agriculturalist and former professor of Traditional Ecological Knowledge at Niagara College.

"I have often said that I have been taught that there are no experts, but when one knows about a subject being discussed, one stands up and offers that knowledge and then sits down. I offer my small knowledge in this way."

Celeste Smith,
January 2022



it is painfully obvious that there is a fundamental difference in philosophy. To sum up: Indigenous Science is communal, subjective, oral and Interconnected, while Western Science is Individual, objective, written, and isolated. I make sure to mention that

the two are separate but equal, and that Indigenous views are just as important as Western ones on the topic. By this time most of my students sheepishly express the fact that they didn't even know Indigenous Science existed, let alone that it could be compared to what they have been taught their entire lives "as real science". This is when we discuss Western Science's supremacy complex. The word supremacy makes some students uncomfortable, but what else would you call a scientific method that does not allow for any other possibilities other than its own, I ask? There is almost always a slow, embarrassed agreement.

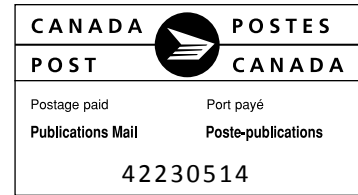
It has never even occurred to most of my students that Indigenous people even have science.

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