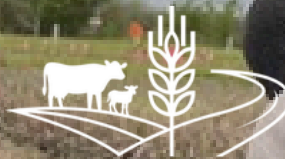


Vol. 02 2026



LARA
INNOVATION | RESEARCH | EDUCATION

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Practical Agriculture for Living Landscapes

Reducing herbicide
dependence: Allelopathic
potential of cover crops

No-Till Gardening in the
Lakeland

Boosting Fall Forage
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Days with Italian Ryegrass
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Stay Rooted.

Good ideas don't grow in isolation. Stay connected with LARA for field updates, upcoming events, and practical insight from across the Lakeland.



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Publication of this magazine is made possible by:



GROWING THROUGH THE SEASON

Highlights, milestones and stories from spring

Last Frost

With all the snowfalls in April and May, it felt like winter would never end. While warm temperatures came and went, the risk of crop-killing frost stuck around much longer than usual.

This year, our final significant frost event arrived over the Victoria Day long weekend, bringing temperatures cold enough to threaten emerging crops—and, in true Alberta fashion, it was accompanied by another round of snow!

For producers, knowing when that last frost occurs makes all the difference when it comes to seeding decisions and crop establishment. While every season is different, 2026 served as a reminder that late-spring frost remains a reality across the Lakeland, even after the calendar says spring has arrived.

Thankfully, once the May long weekend passed, temperatures began trending upward and the growing season could finally get underway.

Started Seeding

After what felt like 5 false starts to spring, the research team was finally able to get out in the fields to begin seeding on May 7, 2026. We started at our Fort Kent Research Farm, seeding the early seeded winter cereals trial- an important project evaluating how winter wheat, winter triticale, and fall rye respond to different spring seeding dates.

A few days later, on May 12, the team headed to St. Paul to start seeding our regional variety trials. These trials compare a wide range of crop varieties under local growing conditions, provide producers with practical, region-specific information on performance, yield potential, and help farmers make informed decisions about which varieties are best suited to their operations.

Spring may have taken its time arriving, but the 2026 field season is officially underway. Our research team is looking forward to another year of collecting data, monitoring crop development, and sharing research results that support profitable and sustainable farming across the Lakeland region.



Planting the Greenhouse

On May 12, while the research team was busy seeding our regional variety trials in St. Paul, Kristy and summer student Vanessa were hard at work bringing another growing season to life in the greenhouse.

The pair spent the day planting a variety of tomatoes, cucumbers, onions, herbs, beets, beans, marigolds, and borage- creating a vibrant space that will continue to grow and evolve over the coming months.

The greenhouse plays an important role in many of LARA's horticulture and youth education initiatives, giving visitors a chance to see different crops up close and learn about plant growth from seed to harvest.

A special thank you to West Coast Seeds for generously donating the seeds for our greenhouse this year. Their support helps us continue providing hands-on learning opportunities while showcasing a wide range of crops for producers, students, and community members to enjoy.



West Coast Seeds





Lessard, AB
Source: Keegan Miller



La Corey, AB
Source: Mary Evans



St. Paul, AB
Source: Gerard Dargis



Flat Lake, AB
Source: Mark Hassan

A Weekend of Rain

Seeding quickly turned into a race against the clock as producers across the Lakeland worked long days to get crops in the ground ahead of a major rain system that moved into the region.

Over the last weekend of May, much of the Lakeland was under a heavy rainfall warning, with forecasts calling for more than 100mm of rain in some areas. While the moisture was certainly welcomed after several dry growing seasons, the timing created a narrow window for producers trying to finish seeding before fields became too wet to access.

The rain totals did not disappoint. At our research sites, Fort Kent received 70.3 mm of rain, while the St. Paul Seed Cleaning Plant recorded 86.1 mm.

The highest total came from our St. Paul Grain Variety Trial site, which received an impressive 109.6 mm.

Rainfall amounts varied widely across the region, with producers reporting anywhere from 68 mm near Lessard to a staggering 172 mm in the Flat Lake area. In many locations, fields quickly became saturated, putting seeding progress on hold and leaving producers watching the forecast instead of the drill.

While the rain may have delayed some field work, the moisture provides a much-needed boost heading into the growing season. After several springs marked by dry conditions, the challenge this year may be finding enough dry days to get everything finished rather than hoping for rain.



Sunset Lake, AB
Source: Bernadette MacMullin



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FOCUSING ON FARM KIDS' SAFETY THIS SUMMER



BY MARA NEEDHAM *Marketing & Communications Coordinator
Lakeland Agricultural Research Association*



Now that kids are on summer break, the Canadian Agricultural Safety Association reminds families to think about how kids fit into every-day farm life. No school or extra curricular activities means more time spent in busy farmyards, livestock and machinery.

Robin Anderson, CASA's director of programs and communications reminds us that "Keeping kids safe on the farm is a year-round job" but that during summer "we have to integrate kids being home with farm work".

Things like haying, yard work, equipment movement and eventually harvest, don't stop because the kids are home, so parents need to decide where the kids will be, who's watching them and what areas are off limits during the busy times.

One of the greatest risks to children on farms is machinery runovers. Having their own collection of tractor toys and ride-ons and attending farms shows add to the curiosity and appeal of farm equipment, but according to Canadian Agricultural Injury Reporting data cited by CASA, there were 435 child and youth fatalities on Canadian farms from 1990 to 2020. Machinery runovers accounted for 32 per cent of those deaths and were the leading cause of farm-related fatalities among children between the ages of one and nine.

CASA recommends operators do walkarounds before starting equipment, keep children away from machinery routes and work areas, avoid having extra riders and teach children about blind spots- just because they can see the driver doesn't mean the driver can see them.

Anderson also suggests creating safe play areas to keep kids away from machinery routes, livestock areas and any other work zones, but adds that safe play areas aren't a replacement for adult supervision.

**More resources and information on
farm safety is available at
kidsfarmsafe.org**

For older children who are wanting to help with farm tasks, Anderson recommends matching jobs to age and ability and warns not to confuse knowledge with maturity- just because a child knows and understands farm equipment and terminology, doesn't mean they are able to take on risk. Checking the Ag Youth Work Guideline recommendations can help parents decide what tasks their child is ready to take on.

Livestock, especially protective mothers and their young, are also a summer safety concern. Children are often drawn to newborn calves and other baby animals, but mother animals may become dangerous when protecting their young.

CASA recommends never leaving children alone around any livestock and teaching children to stay out of enclosures, to approach animals slowly, using calm voices and avoiding the hind legs of cows and horses. Parents should also teach their children the warning signs of fear and aggression in animals: pinned ears, stomping, rapid tail movement, head shaking and loud noises.

By implementing these strategies and ideas, parents can safely include their children in the day-to-day operations of their farm but also helping to ensure they grow up to be the next generation of farmers and ranchers.

Source: "Summer holidays bring renewed focus on farm kids' safety" by Don Norman, reporter, Glacier FarmMedia



Angelica Ouellette, Research Scientist

Dr. Angelica Ouellette has been part of LARA's research team for the past two years, bringing more than a decade of experience in agricultural research to the role. She holds a Ph.D. from the University of Guelph, an M.Sc. from Dalhousie University, and a B.Sc. with Honours in Environmental Science, along with a GIS certificate, from York University.

At LARA, Angelica contributes to applied research that supports producers across the Lakeland region—helping ensure projects move from the field to real-world impact. Whether she's collecting data, supporting trials, or digging into results, her work helps turn research into something producers can actually use.



Outside of research, Angelica is a movie lover with a curiosity for different cultures—and a definite sweet tooth. Her husband (and best friend) is fellow LARA Agrologist Lance Ouellette, so it's safe to say agriculture is part of everyday life, both on and off the clock.



Phil Amyotte, LARA Board Vice Chair

LARA Vice Chair, Phil Amyotte is a 3rd generation farmer and has been working on his family operation near Mallaig for over 30 years.

Phil's been roped in to being on the LARA board for over 7 years, with 2026 being his first serving as our Vice Chair.

His favourite part of LARA is the local research that provides real results producers can apply in their operation.

The LARA research team can always count on Phil to work with them- he has hosted many LARA trials and field tours over the years.

This season we're excited to see the results from 2 field scale trials Phil and the team are working on! These research projects evaluate cost-effective sustainable intercropping strategies to boost forage yields, improve feed quality and extend late-season livestock grazing. By integrating winter cereals or ryegrass with spring crops producers can maximize land use and reduce winter feed costs!



BOOSTING FALL FORAGE PRODUCTION AND GRAZING DAYS WITH ITALIAN RYEGRASS IN SILAGE STUBBLE



BY ALYSSA KRAWCHUK *Executive Director*
Lakeland Agricultural Research Association



Stubble grazing has become a common practice in Northeastern Alberta where many livestock producers turn cattle out to graze harvested fields, such as canola or cereals. However, quality of stubble can vary significantly based on a number of factors, including crop species, harvest date etc. Anecdotal reports from local producers have indicated that stubble quality can be improved by incorporating perennial forages or winter cereals in the rotation. This concept has the potential to provide a cost-effective option for improving fall grazing capacity, thus improving resilience to drought conditions and reducing reliance on stored feed.

One of these perennial forages is Italian ryegrass, which has been shown to be an excellent companion crop for intercropping and could provide a late season forage source for cattle. Italian ryegrass is a fast-growing, high-yielding bunchgrass that provides excellent palatability for livestock along with high forage quality. It can thrive in cool conditions, making it an ideal forage for early spring or late fall grazing.

“As a producer, I am interested in exploring management practices that may improve soil cover, nutrient use, and overall system resilience following silage harvest.” Keegan Miller, Muskoka Prairie Farm

In addition to the potential increased grazing capacity, practice of relay cropping, where two crops are seeded in the same field, has the potential to boost profitability, reduce soil erosion and improve soil health by keeping living roots in the soil longer. However, there remains a lack of information on agronomics, such as seeding rate and weed management, as well as limited scientific data on the number of grazing days achieved, average daily gain and stubble quality.

Funded by the Farmer for Climate Solutions Farm Resilience Mentorship Program, we will be partnering with three local producers in the MD of Bonnyville and County of St. Paul to establish this one-year trial. At each location, the establishment, growth and yield of the Italian ryegrass will be assessed in addition to the estimated grazing days after harvest and potential average daily gain (ADG) of the livestock grazed.

“I believe this project is a great opportunity to see if under-seeding ryegrass into silage for fall grazing is a viable option for our operation and for other producers in the region” - Phil Amyotte, Silver Spruce Farms

One primary concern with relay cropping is if the yield of the silage crop will be compromised by including Italian ryegrass. Through a partial budget analysis, this trial will be assessing if any decrease in silage yield is offset by an increase in grazing potential in the fall or if there is potential for normal silage yield to be achieved plus an increase in fall grazing. Italian ryegrass regrowth will be re-assessed in the spring of 2027 to help determine if the crop has the potential to overwinter in the Lakeland region and become a management concern in future years.

This trial, along with a number of other field scale trials LARA will be managing this year, will be featured in an upcoming field tour this fall.

PROUDLY FUNDED BY:



Source: Canadian Cattleman file



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REDUCING HERBICIDE DEPENDENCE: ALLELOPATHIC POTENTIAL OF COVER CROP SPECIES AND THEIR TERMINATION METHOD ON WEED CONTROL AND CASH CROP PERFORMANCE



BY DR. ANGELICA OUELLETTE *Research Scientist*
Lakeland Agricultural Research Association



What is something that sunflowers, cucumber and rye have in common? These plants all exude small particles into the soil that prevents other plants from growing near them and is more commonly known as allelopathy. Allelopathic plants can affect different species, which is the case for sunflower and rye or they can be from the same species such as alfalfa and cucumber.

On farms across the world, the application of herbicides has been indispensable since the 1940's. Its use is so effective, that more than 60% of the management of weeds in an agricultural settings is through herbicide spraying.

However, like many too-good-to-be-true solutions, there are hidden inconveniences that have emerged.

While some weeds perish in the face of continued herbicide application, others have found ways to regrow and oppose the toxic herbicide effect. Since wild carrot plants in roadsides in Ontario were reported as the first resistant weed case in 1957, examples of weeds resistant to either one or multiple chemical groups, have escalated everywhere in the world (<https://www.weedscience.org/Pages/Species.aspx>). With increasing weed resistance cases, growers need to find alternative methods of weed control in their cash crops.

**What does
allelopathy have to
do with herbicides
and weed
resistance?**

The use of allelopathic crops in a field has the potential to reduce some of the weeds that interfere with cash crop growth and development as well as their eventual yield. Moreover, it could potentially reduce herbicide applications. In other words, (a) herbicide spraying is less recurrent and thus weed resistance can be reduced or prevented and (b) less money needs to be spent on herbicides, spraying equipment and labor.

In this experiment we seek to answer the following questions: how much weed biomass and how many weeds are affected if we grow allelopathic cover crops; and how is cash crop yield affected after a year of cover crop seeding. Is the effect more prominent if we combine two cover crops instead of seeding a sole cover crop? Moreover, cover crops can be terminated either through incorporation (mixing it with the soil) or roller crimping (breaking the plant and rolling the broken residue over the soil surface). Could termination affect weed number and weed biomass? Could termination affect cash crop yield?

The experiment was located at two sites: one is St Paul (54°5'N, 110°15'W), and one in Fort Kent (54°18'N, 110°37'W). In 2024, aside from a pre-seed herbicide burndown, there were no further applications of herbicide for the rest of the growing season. Rye, annual ryegrass, hairy vetch and sunflower along with mixtures of these crops (rye + ryegrass, rye + hairy vetch, etc.) were seeded in May. Except for sunflower, the seeding rate of all other cover crop species was doubled. An untreated control, where no cash crop is seeded was included. In 2025, canola (cash crop) was sown on both sites.

Weeds were monitored three times during the growing season. Prior to cover crop termination (late August) all plants within a designated quadrat were removed from the ground up and separated into weeds, cover crops and volunteers if present to determine percent of each group present.

The same procedure occurred the following year, when canola was planted. Plant removal was conducted before canola harvest and separated into canola, weeds, cover crop (if present) and volunteers (if present).

Overall, compiling data from both sites showed that no cover crop species or cover crop mixes impacted canola yield differently from the other. However, separately, data from St. Paul showed that if canola is sown a year after annual ryegrass was planted, yield was 25% greater than in canola sown after mixtures of annual ryegrass + sunflower and hairy vetch and 33% greater to plots being sown to rye + sunflower.

However, planting after annual ryegrass resulted in a 25% decrease in yield compared to that obtained from an unseeded control. Cover crop termination influenced yield, data in St. Paul showed that roller crimping cover crops favored canola yield by 18% compared to incorporating cover crop residue in the soil.

Weed growth was effectively mitigated with annual ryegrass + rye in both years, when cover crops, and, when canola, were grown. This is interesting because it shows that annual ryegrass and rye hamper weed development into further growth stages, thereby impeding weed growth.



However, planting after annual ryegrass resulted in a 25% decrease in yield compared to that obtained from an unseeded control. Cover crop termination influenced yield, data in St. Paul showed that roller crimping cover crops favored canola yield by 18% compared to incorporating cover crop residue in the soil.

Weed growth was effectively mitigated with annual ryegrass + rye in both years, when cover crops, and, when canola, were grown (Figure 2 and Figure 3). This is interesting because it shows that annual ryegrass and rye hamper weed development into further growth stages, thereby impeding weed growth. Rye in combination with annual ryegrass or sunflower show promising use in weed management, similar to rye monocropping. In contrast, hairy vetch had almost no effect on weed growth when compared to the control treatment.

In 2025, before canola harvest, weeds were sparser in plots (a) sown to annual ryegrass + hairy vetch, hairy vetch and rye and terminated through incorporation and (b) sown to hairy vetch + rye and rye and finalized by roller crimping. Termination played a role in the number of weeds found among canola plant individuals. By the end of the season, more weeds were found in plots where cover crops were roller crimped, in comparison to those plots where the cover crop was incorporated. Overall, analysing weed number from both cover crop and canola crop seasons, the real weed mitigators were annual ryegrass + sunflower, hairy vetch + rye if incorporated. If roller crimped, then weeds could be reduced with rye mixed with either hairy vetch or sunflower. We still have a long way to go with this research hence these results are just preliminary. Stay tuned for more findings!

PROUDLY FUNDED BY:



FORT KENT FIELD TOUR

August 15, 2026

8:00 – 10:00 AM

**LARA Research Farm
Fort Kent, AB**

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RIPARIAN AREAS - THE GREEN RIBBON AND LANDSCAPE'S NATURAL SPONGE



BY KRISTY TETREAU *Environment & Education Coordinator
Lakeland Agricultural Research Association*

For the past several years, through Alberta's Watershed Resiliency and Restoration Program (WRRP), we have often described riparian areas as the green ribbons that remain on the landscape during drought. When pastures turn brown and dugouts shrink, these narrow corridors frequently continue to support lush vegetation, wildlife, pollinators, and livestock while the surrounding landscape struggles.

What we see above ground, however, is only part of the story. Beneath that green ribbon lies the landscape's natural sponge. Healthy riparian soils, built over decades by living roots, organic matter, soil organisms, and natural flooding cycles, create a network of pores and channels capable of absorbing, storing, filtering, and slowly releasing water.

During drought, that stored moisture supports the vegetation we see. During periods of excessive rainfall, the same soil structure helps reduce runoff, erosion, and downstream flooding.



After years of drought across the Lakeland, this winter and spring have brought significant moisture, including precipitation events approaching 100 mm in many parts of the region. Saturated fields, flooded low spots, delayed operations, and water appearing in places it hasn't been for years have created challenges for many producers. While these conditions can be frustrating and costly, they also provide an opportunity to observe another critical function of riparian areas and to better understand how water naturally moves across our landscapes.

Built for Water

Riparian areas are the transition zones between land and water. They occur alongside lakes, wetlands, streams, rivers, and other water bodies and are influenced by the presence of water for at least part of the year. According to Cows & Fish, although these areas occupy only a

small percentage of Alberta's landscape, they provide disproportionately large benefits for water storage, biodiversity, forage production, and water quality.

A healthy riparian area is far more than simply a wet spot. Over time, deep-rooted vegetation, decaying organic matter, fungi, bacteria, earthworms, and countless other soil organisms work together to build soil structure. This living system creates pore spaces and stable soil aggregates that allow water to infiltrate rather than immediately run across the surface.

As organic matter increases, so does the soil's ability to absorb and retain moisture. During flooding events, healthy vegetation slows moving water and traps sediment, gradually building deeper soils with even greater water-holding capacity. The result is a system that stores water when it is abundant and slowly releases it when the landscape needs it most.

**Riparian Areas
are nature's
sponge.**



Participants of the 2025 Grazing School for Women at LARA's WRRP demonstration site explored practical riparian management strategies - including exclusion fencing, off-site watering systems, livestock crossing, wetland planting, and water quality monitoring - showing how healthy riparian areas function as both the visible "green ribbon" on the landscape and the living soil system beneath it - the landscape's natural sponge.

Protecting the Landscape's Natural Sponge

Ironically, the greatest damage to this natural sponge often occurs during the very times when it is needed most. When soils are saturated, repeated livestock traffic or vehicle use can quickly compact the ground, collapsing the pore spaces that allow water to infiltrate and be stored. The landscape's natural sponge becomes compressed. Water that would otherwise soak into the soil is more likely to run across the surface, increasing erosion and contributing to downstream flooding and degraded water quality.

Wet periods are therefore some of the most important times to carefully manage livestock access to riparian areas. Excessive grazing pressure or prolonged trampling during saturated conditions can damage vegetation, destabilize streambanks, and reduce the soil's long-term ability to store and filter water. Strategic grazing management—including temporarily

resting riparian areas when soils are wet—helps preserve these valuable ecological functions while allowing the area to recover and remain productive. Timing is often just as important as stocking rate.

Better Water for Better Performance

Protecting riparian areas isn't simply about conserving habitat or reducing erosion—it also benefits livestock production. When cattle have unrestricted access to dugouts, streams, and wetlands, they inevitably deposit manure and urine directly into the water while trampling shorelines and streambanks. This disturbance damages vegetation, compacts soils, and reduces the natural filtration provided by healthy riparian areas.

Healthy banks, vegetation, and well-structured soils act as a living filtration system, trapping sediment and nutrients before they reach the water. Off-site watering systems help protect this natural process by reducing livestock pressure on shorelines while providing cattle with cleaner drinking water.

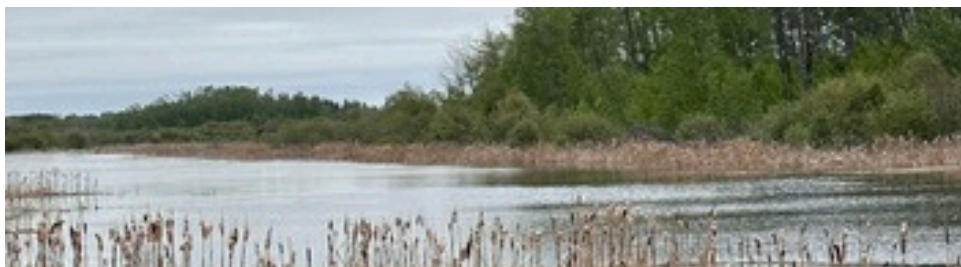
Research summarized by the Beef Cattle Research Council has demonstrated that cattle drinking clean, pumped water often consume more water and, in turn, increase forage intake and weight gain compared with cattle drinking directly from dugouts or ponds. Cleaner, more palatable water is

therefore not simply an environmental benefit—it is also a production tool.

However, the design of off-site watering systems matters. LARA Board member Phil Amyotte has observed on his own operation that long runs of black above-ground pipe can allow water to warm considerably before reaching the trough during hot weather. If troughs are large and refill infrequently, water temperatures can remain elevated, making the water less appealing to cattle. Phil suggests that smaller troughs that refill more frequently or buried water lines would keep water cooler and may encourage greater water consumption.

While burying water lines may involve greater upfront costs, these investments should be evaluated against potential improvements in water intake, forage consumption, weight gain, and long-term riparian protection. As the saying goes, good management isn't about minimizing expenses—it's about maximizing returns.

Producers interested in learning more about evaluating these kinds of investments may wish to attend the Ranching for Profit workshop being held in St. Paul on July 28 and 29, where participants will explore the economics behind management decisions and learn how to effectively crunch the numbers.



Learning from Wet Years

One of the most valuable riparian management tools costs nothing: observation. Wet years reveal information that often remains hidden during drought. As water moves across the landscape, it identifies historical drainage pathways, floodplains, wetlands, and riparian areas that have always been part of the watershed's natural water storage system.

The vegetation itself also provides clues. Willows, cattails, rushes, sedges, and other moisture-loving plants indicate areas naturally influenced by water. These species have evolved to tolerate seasonal flooding and fluctuating water levels and often define the true extent of a riparian area more accurately than fence lines or property boundaries.

When we observe where water naturally wants to go, we can make more informed decisions about fencing, livestock access, crossings, infrastructure placement, and grazing management.

Ask yourself:

- Where does water naturally accumulate?
- How high does water rise during exceptionally wet years?
- Which areas remain saturated the longest?
- Are there locations where grazing pressure or vehicle traffic should be adjusted?

The answers can help guide management decisions long after the water has receded.



Practical Improvements

The good news is that improving riparian health does not always require expensive infrastructure projects. In many situations, relatively small management changes can produce significant long-term benefits.

Examples include:

- Riparian exclusion fencing to manage livestock access.
- Off-site watering systems that provide clean drinking water while reducing pressure on shorelines and streambanks.
- Designated livestock crossings that minimize bank erosion.
- Planting native trees, shrubs, and wetland vegetation to stabilize banks and improve wildlife habitat.
- Restoring wetlands and other natural water storage features.
- Monitoring riparian health to identify opportunities for improvement and track recovery over time.

Many of these practices have been demonstrated locally through LARA's WRRP projects, including exclusion fencing, off-site watering systems, engineered livestock crossings, wetland plantings, and water quality monitoring.

Perhaps the most important lesson from these projects is that healthy riparian areas are not land taken out of production—they are land managed differently. Well-functioning riparian areas can provide high-quality forage, improve livestock water sources, reduce erosion, support pollinators and wildlife, and help buffer agricultural operations against both drought and flooding.

A Different Way of Looking at Wet Years

For many producers, the first instinct during a wet year is to focus on the inconvenience—flooded roads, saturated fields, delayed operations, and waterlogged yards. Those challenges are very real.

However, wet years also provide a rare opportunity to learn from the landscape. The water shows us where floodplains still function, where wetlands once existed, where riparian areas begin and end, and where the land naturally wants to store water.

If we pay attention, these observations can guide management decisions that make our farms and ranches more resilient regardless of what weather comes next.

After all, the green ribbon we notice during drought exists because beneath our feet lies the landscape's natural sponge—a living soil system built by roots, microbes, organic matter, and time. Protecting that sponge protects our water, our livestock, and the long-term resilience of our operations, whether the challenge is too little water or too much.

Interested in Learning More?

Join LARA during Open Farm Days on August 15 to tour our riparian demonstration site and outdoor classroom. Visitors will have the opportunity to see practical examples of riparian fencing, off-site watering systems, livestock crossings, wetland plantings, water sampling, and other watershed resiliency projects that demonstrate how working with natural systems can benefit both agricultural production and the health of our watersheds.

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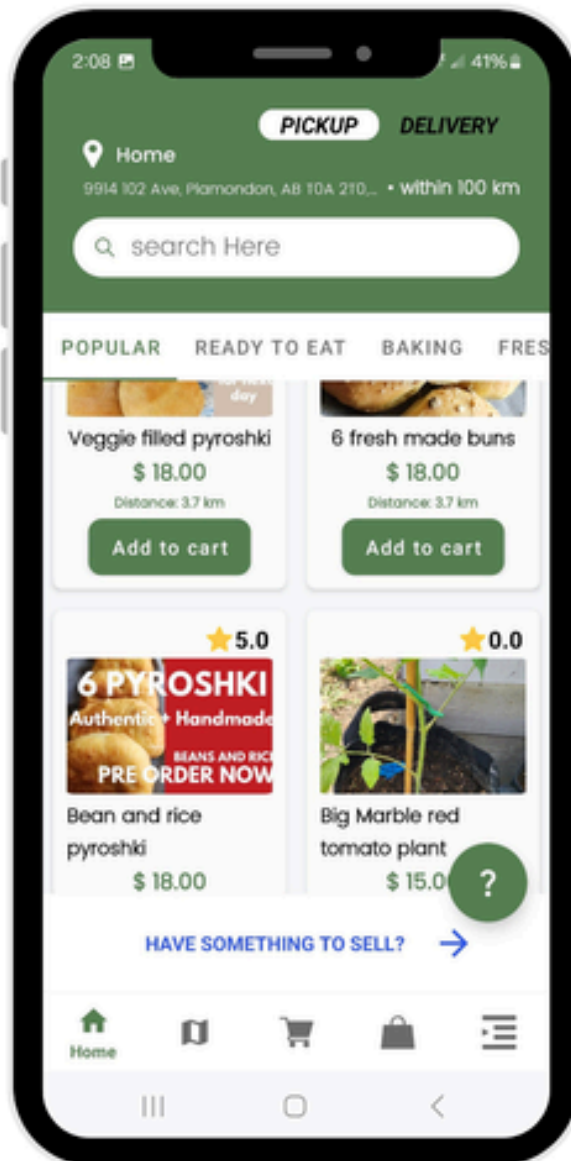
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BREAKING THE SILENCE: UNDERSTANDING STIGMA IN FARMING AND MENTAL HEALTH



BY LESLEY KELLEY *Farmer & Co-Founder*
The Do More Agriculture Foundation

The narrative in agriculture is evolving. Caring for the land, animals, and equipment has always come first; now farmer well-being belongs on that list. For centuries, the culture in agriculture has valued resilience, self-reliance, and hard work. These are important qualities that have built our farms and fed our world. Yet these same values have, unintentionally, helped create one of the biggest barriers to farmer mental health: Stigma. Stigma shows up as silence, hesitation, fear and shame, making farmers feel they must carry their struggles alone rather than reach out for support.

Decades in the Making

The roots of those feelings - fear and shame towards mental health in agriculture stretch back decades, woven into the history of rural life. Farmers have been expected to endure hardship quietly, whether it was a drought, market crash, or a barn fire. Generations grew up hearing phrases like “tough it out” or “pull yourself up by your bootstraps.” Asking for help, especially for mental or emotional struggles, was often seen as a weakness that could tarnish a family’s reputation or cause the community to question a farmer’s ability to manage their operation. Even the most tragic situations were spoken about in hushed tones.

In many rural areas, the whisper of suicide was exactly that: a whisper. Even the most tragic situations were spoken about in hushed tones. In many rural areas, the whisper of suicide was exactly that: a whisper. Families grieving such losses would face heartbreak and silence. Causes of death might be softened or not discussed openly, reinforcing the message that these topics are shameful and therefore should remain private.

Language Matters

The words we use matter. In agriculture, language around mental health is often full of stereotypes, bias, and even prejudice. Calling someone “crazy,” “unstable,” or “not tough enough” for the farm sends a damaging message: That mental health struggles are a flaw in character rather than a health condition. This language discourages farmers from speaking up and makes it harder for communities to offer meaningful support. Thankfully, more farmers and farm organizations are now talking openly about anxiety, depression, burnout, trauma and mental illness. And while language is shifting, the habits of dismissing or downplaying these struggles can still linger.

**You are
not alone**

Family Dynamics, Privacy, and Risk

On many farms, the family is also the business. This can create an added layer of pressure, not just to succeed financially, but to uphold a legacy. A farmer may fear that speaking openly about mental health challenges could be viewed as letting the family down, creating worry, or even putting the farm’s future in question.

In close-knit rural communities, privacy can be hard to maintain. News travels quickly, and farmers may worry about being judged if others know they are struggling. This fear isn’t only about reputation. It can extend to concerns over losing land, market relationships, or even securing financial loans. For some, the risk of speaking out feels too high. It’s why some will go to lengths to remain unseen, parking their vehicle around the block from a mental health counsellor’s office, booking appointments far from home, or avoiding local services entirely.

The impact of fear and shame about mental health

The consequences of fear and shame can be profound. Farmers experiencing mental health challenges may delay or avoid getting support at an early stage, when help can make a huge difference.

Too often, they wait until they are in crisis. They might isolate themselves, rely on unhealthy coping strategies including heavy drinking or drugs, or push themselves beyond safe limits. Not reaching out for help because of fear and shame affects individual well-being, safety, and the long-term sustainability of farm operations. The better you're feeling, the better your farm will do.

Breaking Down Barriers

Helping reduce the feelings of fear and shame around mental health in agriculture requires both cultural change and practical action, both as individuals and as a community:

1. Open Conversations: Opening mental health discussions in everyday farm settings like at the coffee shop, in producer meetings, or at the rink makes it easier to talk before problems escalate.
2. Role Models: When respected farmers share their own experiences, it sends a powerful message that seeking help is a sign of strength.
3. Language Shift: Choosing respectful and supportive words reduces shame and invites understanding.
4. Accessible, Discreet Support: Offering online and phone-based services allows people who value privacy to still get help, such as:
 - AgTalk, provided by The Do More Agriculture Foundation, is a free, private, moderated online peer-support community where farmers, farm families, and ag workers can connect anonymously to share experiences, ask questions, and access vetted resources anytime.

- National Farmer Crisis Line 1-866-327-6701 (1-866-327-FARMS01) is available 24/7/365. This crisis line can provide support and connect you to provincial and local crisis resources, depending on what you need.
- Training and awareness: Equipping community leaders, ag professionals, and farm families to spot distress and start compassionate conversations saves lives. For example, The Do More Agriculture Foundation's Talk Ask Listen workshop is practical and ag-specific, offered in-person or virtually, and provides support to learn to talk about mental health with courage and confidence, to learn to ask others about their mental health, and how to listen without judgment. Such workshops help connect people to mental health resources and supports.

Moving Forward

The culture of fear and shame about mental health has been reinforced through generations of silence, whispered tragedies, and unspoken rules about toughness in agriculture. And just as farmers adapt to new markets, technologies, and weather patterns, we can adapt our attitudes toward mental health and cultivate a culture of mental well-being across Canadian agriculture.

By speaking openly, showing compassion, and making mental health part of everyday conversations, we can create a culture where asking for help is as natural as calling the vet for a sick calf or repairing a broken piece of equipment.

Because in the end, the most important thing we grow on our farms isn't just crops or livestock, it's healthy, thriving people.



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Fort Kent, AB

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- Riparian Area Presentation
- Shelterbelt Program
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- Equipment Demonstration
- Corn Maze
- Open Market & Tradeshow



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No-Till Gardening in the Lakeland



BY KRISTY TETREAU *Environment & Education Coordinator
Lakeland Agricultural Research Association*

Rethinking the Garden: Why No-Till Works in the Lakeland

For many gardeners, spring begins with the same ritual: turning the soil, preparing a clean seedbed, and starting fresh. It's a method deeply rooted in tradition. However, as our understanding of soil ecology evolves, so too does our approach to growing food.

No-till gardening challenges this long-standing paradigm. Rather than disturbing the soil each season, it encourages us to build and protect it—working with natural systems instead of against them.

What is No-Till Gardening?

No-till gardening is the practice of growing food with minimal to no soil disturbance. Instead of mechanically turning the soil, organic matter is added to the surface, and soil structure is allowed to develop naturally over time.

This approach mirrors how soil functions in undisturbed ecosystems, where plant residues, root systems, and soil organisms interact to create a stable, fertile growing environment.

Why No-Till? The Science and the Benefits

Soil Organic Matter Retention

Tillage increases oxygen exposure in the soil, accelerating the decomposition of organic matter. While this can release nutrients in the short term, it often leads to long-term losses—particularly in coarse-textured (sandy) soils common in the Lakeland region. No-till systems slow this process, allowing organic matter to accumulate and persist.

Moisture Conservation

Surface mulch significantly reduces evaporation. In regions where moisture is a limiting factor—as has been the case across much of the Lakeland in recent years—this can be one of the most impactful benefits. Covered soils retain water longer and require less frequent irrigation.

Soil Biology and Function

Healthy soil is biologically active. Microorganisms, including bacteria and fungi, play a critical role in nutrient cycling, soil aggregation, and plant health. Repeated tillage disrupts these communities, while no-till systems support their stability and growth.



Reduced Weed Pressure

Bare soil triggers weed germination. Maintaining consistent soil cover—through mulch or plant residues—reduces weed emergence and competition.

Long-Term Productivity and Resilience

Over time, no-till gardens often demonstrate improved yields and greater resilience to environmental stressors, including drought and temperature fluctuations.

System Design: Mounded Rows and Mulched Pathways

Rather than using framed raised beds, the LARA garden utilizes soil mounds:

- Growing rows are shaped into gently raised mounds
- Pathways remain slightly lower between rows
- Straw mulch is applied across both rows and pathways

This design improves drainage, enhances root-zone aeration, and provides subtle frost protection by elevating plants above low-lying cold air.



Planting and Management

Transplants are inserted directly into the mounds, with mulch pulled in around the base—leaving a small gap at the stem to prevent rot.

Direct seeding involves temporarily pulling mulch back, planting into the soil, and reapplying mulch once seedlings are established.

Because mulch can slow spring soil warming, management depends on crop type:

- Cool-season crops (e.g., peas, spinach, brassicas) tolerate cooler soils and can be planted early.
- Warm-season crops (e.g., tomatoes, peppers, squash) benefit from either delayed planting or temporarily exposing soil to increase warming.

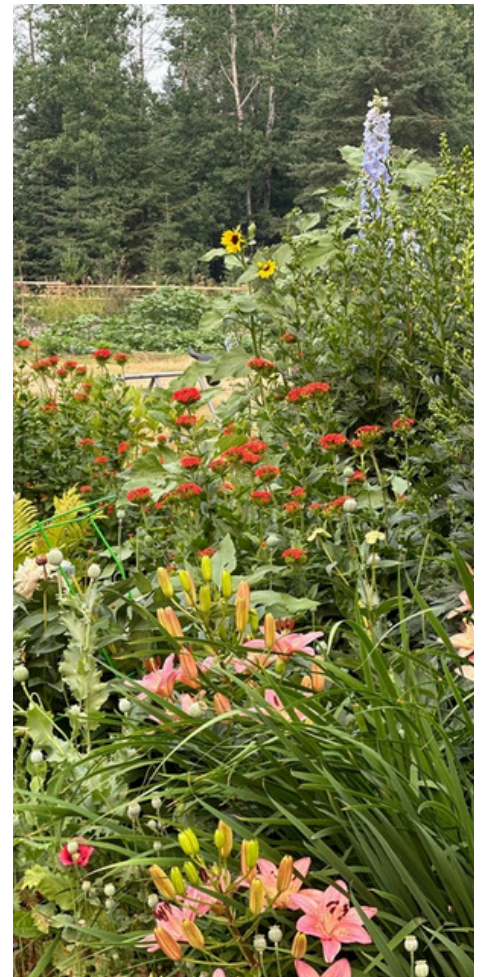
Let the Roots Do the Work

An often-overlooked practice in no-till systems occurs at harvest.

Rather than removing plants entirely, crops are cut at the soil surface and the root systems are left in place.

This practice provides several measurable benefits:

- Improved soil structure
- As roots decompose, they leave behind continuous pore spaces (biopores) that improve aeration, water infiltration, and root penetration for future crops.
- Organic matter inputs



- Root biomass contributes directly to soil organic matter, often more effectively than above-ground residues.
- Microbial habitat
- The rhizosphere—the zone surrounding roots—is one of the most biologically active areas in the soil. Leaving roots in place sustains these microbial communities.
- Reduced disturbance
- Avoiding root removal preserves soil aggregates and minimizes disruption to soil structure.

Over time, this process contributes to a more stable and resilient soil system.

Observations from the Field

After multiple growing seasons using this method, several consistent trends have emerged:

- Organic matter levels have increased
- Water requirements have decreased significantly—even during dry periods
- Crop productivity has improved year over year
- External inputs, including fertilizers and pesticides, have been reduced or eliminated

A broadfork is occasionally used to relieve compaction with minimal disturbance, though its use becomes less necessary as soil structure improves.

Frost and Microclimate Effects

An unexpected benefit of the mounded system has been increased frost resilience.

Cold air naturally settles in low-lying areas. During several atypical frost events, crops growing on raised mounds remained largely unaffected, while those extending into lower pathways experienced damage. Even minor elevation differences can influence microclimate conditions in a garden setting.

Rethinking the “Ideal” Garden

Perhaps the greatest challenge in adopting no-till gardening is not technical, but conceptual.

For generations, a clean, tilled seedbed has been seen as the standard of good gardening. However, in natural systems, soil is rarely bare. It is continuously protected by plant cover or organic residues.

No-till gardening shifts the goal from managing soil as a medium to cultivating it as a living system.

28 | Rooted.

Tools for a No-Till Garden

No-till systems require relatively few tools:

- Shovel or rake (for shaping rows)
- Broadfork (optional)
- Mulch materials (straw is widely effective and accessible)
- Standard planting tools

The absence of mechanical tillage equipment simplifies both setup and long-term maintenance.

A Practical Path Forward

For gardeners in the Lakeland, no-till offers a practical response to real challenges—moisture limitations, fragile soils, better capture of excess moisture, and increasing climate variability.

It reduces labour, improves efficiency, and builds resilience over time.

Perhaps most importantly, it allows gardeners to step back from constant intervention and instead support the natural processes that sustain productive systems.

In doing so, it transforms not just how we garden—but how we understand the soil beneath our feet.



This photo is from July 22, 2025 when an unusually late frost occurred at the LARA research farm in Fort Kent, AB. The leaf on the right was sitting at a slightly lower elevation, where the leaves on the left were slightly higher on the mound and not impacted by frost.

ASB TOUR

& RURAL BEAUTIFICATION AWARDS

Enjoy a day exploring local agriculture producers, agro-tourism operators, and the opportunity to visit the **Agricultural Service Board's 2026 Rural Beautification Contest** winning properties in person! The southeast side of the M.D. will be featured this year, including lunch at **Kinosoo Ridge**!

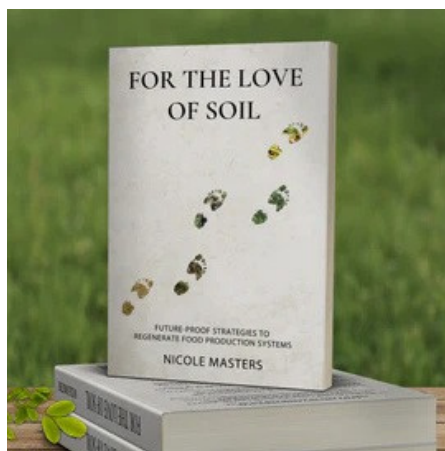
Tickets are \$25 and go on sale July 6 at bit.ly/MDBvilleAgWorkshops. Follow M.D. socials for updates about the tour.



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Field Hours & Fresh Ideas

Long hours in the tractor have a way of giving you space to think—but they're also the perfect time to take something in. Plugging into a good podcast or audiobook can turn those steady passes across the field into an opportunity to learn, reflect, or hear how others are approaching similar challenges. Whether it's a conversation between producers, a deep dive into soil health, or a story that shifts your perspective, these listens offer a convenient way to learn from others in the industry, gain new perspectives, and explore innovative ideas.



For the Love of Soil - Nicole Masters

In *For the Love of Soil*, agroecologist Nicole Masters offers a grounded, practical, and deeply hopeful look at the living world beneath our feet. Rather than treating soil as a static growing medium, Masters reframes it as a dynamic, interconnected ecosystem—one that responds directly to how we manage land, livestock, and crops.

At its core, the book explores the idea that healthy soil is not built

through inputs alone, but through relationships. Masters walks readers through the complexity of the soil food web—bacteria, fungi, protozoa, and larger organisms—and how these players interact with plant roots to cycle nutrients, build structure, and increase resilience. She emphasizes that when we shift our focus from “feeding the plant” to “feeding the system,” we unlock a more stable and productive landscape.

What makes this book particularly valuable for producers and gardeners in regions like the Lakeland is its practical lens. Masters doesn't ignore the realities of drought, degraded soils, or tight margins. Instead, she offers tools to observe and respond: reading soil structure with a shovel, interpreting plant signals, and understanding how management decisions—from grazing pressure to fertilizer use—ripple through the system.

Ultimately, *For the Love of Soil* is both a science-based resource and a mindset shift. It speaks to seasoned producers, new gardeners, and anyone interested in the connection between soil health, food quality, and landscape resilience. For readers of *Rooted*, it aligns closely with the idea that working landscapes can be both productive and regenerative

when we take the time to understand the life beneath the surface.



Building Your Homestead Podcast

2020-11-15 #6 - Nicole Masters: *For the Love of Soil*

Nicole Masters emphasizes that healthy soil is a living system driven by biology, not just chemistry. She explains how plants and microbes work together to cycle nutrients, build resilience, and ultimately influence the nutrient density of our food. The conversation highlights the importance of observing and understanding your land.

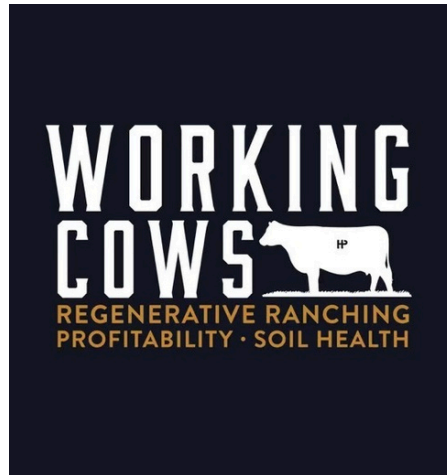


**Not ready to commit to an audiobook?
Check out the Author - Nicole Masters in
this Podcast with Takota Coen**



Do you have a favorite Agricultural Podcast or audio book?

Share with us on
social media so we
can share with our
community. Let's
keep learning, and
growing together!



Working Cows

Genetic Adaptation - How to Prepare for the End of This Cattle Cycle (WCP 503)

As the cattle cycle begins to turn, this episode of the Working Cows Podcast offers a timely reminder that profitability starts with genetic adaptation. Cattle that are matched to their environment—able to breed back consistently and thrive on available forage—outperform high-production animals that require more inputs. The conversation emphasizes fertility, cost control, and using environmental pressure to guide herd selection, making the case that resilient, low-input systems are best positioned to weather the next downturn.

Regenerative Agriculture
Podcast by John Kempf
Episode 178: Reducing Inputs and Reclaiming Independence with Alex Undermann

As the cattle cycle begins to turn, this episode of the Working Cows Podcast offers a timely reminder that profitability starts with genetic adaptation. Cattle that are matched to their environment—able to breed back consistently and thrive on available forage—outperform high-production animals that require more inputs. The conversation emphasizes fertility, cost control, and using environmental pressure to guide herd selection, making the case that resilient, low-input systems are best positioned to weather the next downturn.





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REAL GOOD RANCH - ARDMORE, AB



BY KRISTY TETREAU *Environment & Education Coordinator*
Lakeland Agricultural Research Association



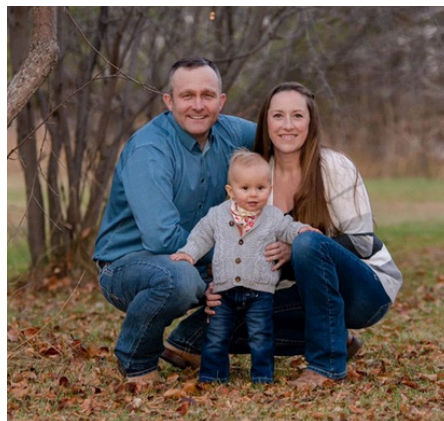
Raising Chickens, Building Soil: How Real Good Ranch is Doing Poultry Differently

Just north of Ardmere, Alberta, a collection of old carport frames rolls slowly across green pasture each morning.

What might look like a creative recycling project is actually the foundation of a unique poultry operation. At Real Good Ranch, Brad and Kelli Healey, along with their daughter Della, are raising pasture-raised chickens using regenerative farming principles.

Rather than spending their entire lives inside a barn, the chickens at Real Good Ranch live in mobile shelters known as “chicken tractors.” Constructed from repurposed carport frames and covered to provide protection from the elements and predators, the shelters are moved daily across fresh pasture using a quad.

“It’s a simple idea,” says Brad



Healey. “Move the chickens every day, give them fresh ground, fresh grass and fresh air.”

The daily moves create a healthier environment for the birds while also benefiting the land beneath them.



Chickens as Part of a Regenerative System

Regenerative agriculture focuses on improving soil health, increasing biodiversity, and working with natural ecological processes. At Real Good Ranch, the chickens are more than just livestock—they are active participants in the ranch’s pasture management system.

As the birds move across the pasture, they scratch, peck, forage for insects, and deposit manure. This naturally distributes nutrients across the field rather than concentrating them in a single location.

Research on rotational grazing and pasture-based livestock systems has shown that animal manure contributes valuable organic matter and nutrients to the soil, helping cycle nitrogen and support soil fertility. When livestock are moved frequently, manure is spread more

evenly across the landscape, reducing nutrient concentration while supporting healthy pasture growth.

The chickens at Real Good Ranch are raised alongside the ranch's cattle and horses, creating a multi-species grazing system that mimics natural ecosystems more closely than single-species production.

This stacking of species can improve nutrient cycling and pasture utilization while helping build biologically active soil over time.

Letting Chickens Be Chickens

Spend a few minutes beside one of the chicken tractors and it's immediately obvious the birds are busy.

Some are hunting grasshoppers. Others scratch through the grass looking for insects. A few stretch out in the sunshine before returning to the shade of the shelter. The pasture-raised chickens still receive a balanced poultry ration to ensure proper growth and nutrition, but access to fresh forage, insects, sunlight, and outdoor space allows them to express many of their natural behaviours. According to Canadian pasture poultry producers, birds raised on pasture

often consume grasses, legumes, seeds, insects, and worms in addition to their grain ration. This varied diet and increased activity can influence both bird welfare and meat quality.

Nutrition From the Ground Up

Interest in pasture-raised poultry has grown significantly as consumers seek food produced closer to home.

Research comparing pasture-raised poultry with conventionally raised birds has found differences in nutrient composition. Studies have reported higher levels of omega-3 fatty acids, vitamin E, vitamin A, and vitamin D in pasture-raised birds, likely due to increased access to forage and sunlight. Some research has also shown improved omega-6 to omega-3 ratios compared to conventionally raised poultry. Many customers say they notice differences in flavour.

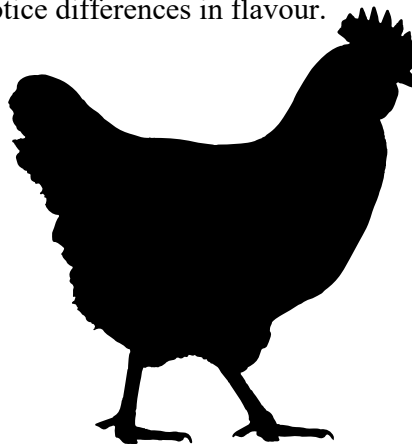


Photo credit: Kelli Healley

To get in touch with Real Good Ranch find them on Facebook or call Kelli @ 306-575-3000



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BY KRISTY TETREAU *Environment & Education Coordinator
Lakeland Agricultural Research Association*



When a Caterpillar Isn't a Tent Caterpillar

After years of drought across the Lakeland, it almost feels strange to complain about rain. Yet after more than 100 mm of rainfall fell across parts of the region in late May, many rural residents found themselves dealing with flooded basements, washed-out driveways, overwhelmed dugouts, saturated fields, and septic systems struggling to keep up. I was working on articles for this magazine when my husband found himself tackling one of those very rural problems: our septic tank high-water alarm had started going off.

Like many people across the Lakeland, frustration was beginning to set in. After years spent wishing for moisture, dealing with water in places it shouldn't be somehow seemed to double the aggravation.

While investigating the area around where our septic system pumps out, my husband noticed a large patch of thistle and stinging nettle covered in caterpillars. To him, they looked like tent caterpillars—a pest many Albertans are familiar with. In a moment of frustration, he burned a number of them before sending me a photo.

The photo told a different story. With the help of Boyd Mori, PhD Associate Professor of Agriculture and Ecological Entomology at University of Alberta, the caterpillars were identified as Red Admiral butterfly caterpillars. The discovery became a reminder of how easily we can misidentify the living things around us—especially when we're distracted, frustrated, or viewing nature through the lens of whether something is helping or hindering us.

Similar, But Not the Same

At first glance, Red Admiral caterpillars can appear somewhat similar to tent caterpillars. Both are dark-coloured caterpillars that may be found in groups and both use silk during their development. The similarities largely end there.

Tent caterpillars are moth larvae that build large communal silk tents in the branches of trees such as poplar, cherry, apple, and other deciduous species. During population outbreaks they can defoliate entire trees and are often considered a nuisance by homeowners and landowners.

Red Admiral caterpillars, on the other hand, are butterfly larvae. Rather than creating large communal nests, individual caterpillars use silk to fold or roll a single leaf around themselves, creating a small shelter.

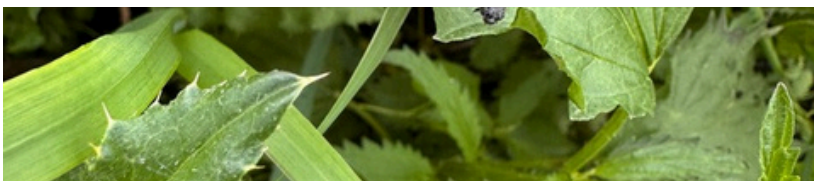
These shelters are most often found on stinging nettles, one of their primary host plants.

One of the easiest ways to distinguish them is by where they are found. If the caterpillars are living in a large silk tent in a tree, there is a good chance they are tent caterpillars. If they are tucked into folded leaves within a patch of nettles, they may very well be future butterflies.

The Value of Nettles

Stinging nettles rarely win popularity contests. Their sting can be unpleasant, they spread readily, and they often show up exactly where we don't want them. Yet nettles provide an important ecological service. Red Admiral butterflies rely heavily on nettles as host plants. Female butterflies lay their eggs on the leaves, and the caterpillars feed on the plants as they grow. In many ways, a patch of nettles functions as a butterfly nursery.

The same patch of weeds that might be viewed as untidy or problematic can also be supporting an important stage in the life cycle of a pollinator.



Beyond Friend or Foe

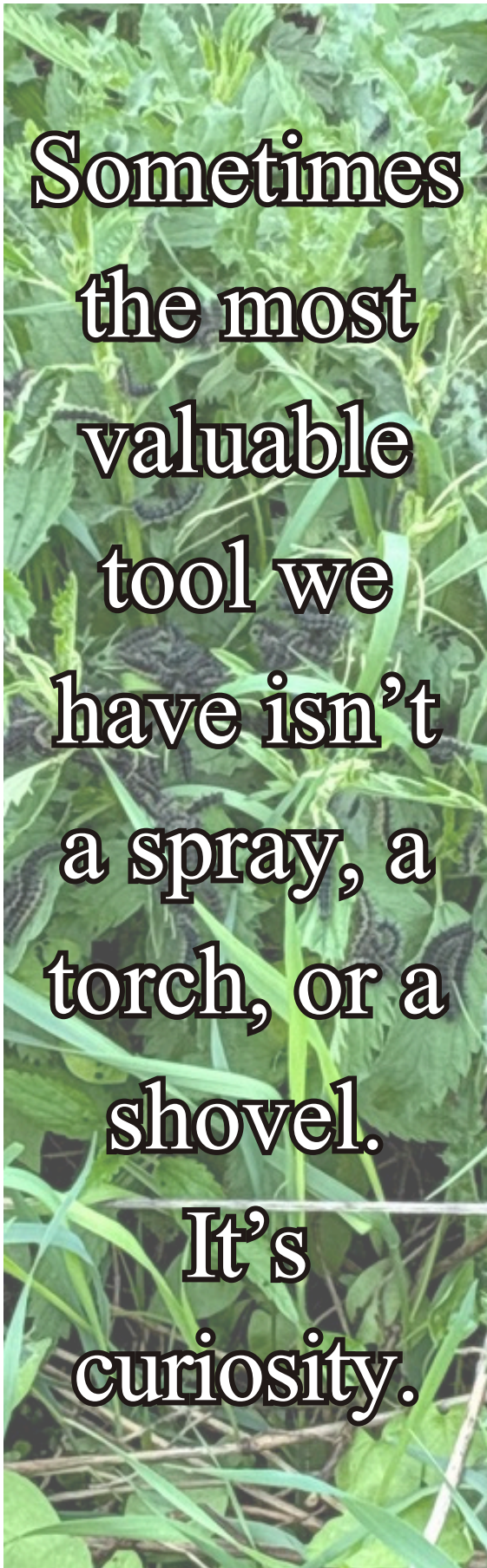
In agriculture and gardening, we often classify insects as either beneficial or pests. While those categories can be useful, nature is usually more complicated than that.

Tent caterpillars play a role in forest ecosystems, even when their population numbers occasionally become problematic. Birds, predatory insects, parasites, and other wildlife rely on them as food sources. Likewise, nettles themselves provide habitat and food for a surprising diversity of insects.

The lesson isn't that every insect should be left unchecked or that management isn't sometimes necessary. Rather, it is that careful observation matters.

Sometimes a closer look reveals that what appears to be a pest is actually part of a much larger story.

On our acreage, a frustrating day dealing with excess water ended with a reminder that even a patch of nettles beside a septic field can support something remarkable.



Sometimes
the most
valuable
tool we
have isn't
a spray, a
torch, or a
shovel.
It's
curiosity.

Quick Identification: Red Admiral vs. Tent Caterpillar



Photo Source: Kristy Tetreau



Photo Source: <https://www.brodybrotherspestcontrol.com/blog/eastern-tent-caterpillar/>



Photo Source: Curtis Tetreau



Photo Source: <https://md.bonnyville.ab.ca/CivicAlerts.asp?AID=144&ARC=169>



Photo Source: https://www.insectsofalberta.com/redadmiral_caterpillar.htm



Photo Source: www.butterfliesandmoths.org

Red Admiral Caterpillar

- Butterfly larva
- Found on stinging nettles and related plants
- Creates small folded-leaf shelters
- Develops into a striking Red Admiral butterfly
- Part of local pollinator communities

Tent Caterpillar

- Moth larva
- Found on trees and shrubs
- Builds large communal silk tents
- Can cause significant defoliation during outbreaks
- Important food source for birds and other wildlife

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