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THE VERDANT ELEMENT

Lakeland Agricultural Research Association

End of Year Reflections: Closing the Season, Sowing the Future

As the days grow shorter and the chill settles into the air, December marks a time of transition for many in agriculture. The fields, once alive with activity, now rest beneath a fading sky, awaiting the embrace of winter. It's a time to pause, reflect on the season behind us, and prepare for the challenges and opportunities ahead.

For farmers and ranchers, December is a season of duality. It's a month where we honor the fruits of the year's labor while turning our thoughts toward the future. As the final harvests are brought in, winter preparations take center stage—whether it's bedding livestock, winterizing equipment, or ensuring feed supplies are ready for the months to come. For many, it's also time to evaluate the year's successes and setbacks and make strategic plans for the next growing cycle.

This period of reflection is crucial not only for operational decisions but also for mental well-being. The pressures of the growing season often leave little room to pause, and this quieter season offers an opportunity to rest and recharge.

In this issue of The Verdant Element, we explore topics that align with the season's themes of preparation and renewal. Learn about fascinating research from the University of Alberta on hover flies—tiny yet powerful pollinators—and how tree borders can play a critical role in supporting their populations and support mass-flowering crop blooms (canola). We'll also highlight innovative ways to repurpose resources, such as transforming bison by-products into sustainable goods. For those who missed recent workshops on environmental farm planning, we provide actionable advice to help you start or refine your plan, ensuring your operation remains resilient and sustainable. These stories aim to inspire and equip you for the months ahead.

December reminds us that the agricultural cycle is as much about renewal as it is about hard work. By embracing the stillness of the season, we can foster resilience in our operations, communities, and ourselves.

Whether you're closing the books on a successful season, troubleshooting challenges, or laying the groundwork for a new project, this time of year is an opportunity to nurture and be inspired by both your land and your vision.

Stay warm, stay hopeful, and stay connected.

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THE VERDANT ELEMENT

Hover Flies - What are they? What Role do They Play in Crops?

Hover flies are flies that resemble bees or wasps and like bees, visit flowers, aiding in pollination. They are particularly effective pollinators in central Alberta, where they are the most common wild visitor to canola. Unlike bees, some hover fly larvae are predatory and feed on soft-bodied crop pests, such as aphids. This dual role allows hover flies to provide two essential ecosystems services: pollination and natural pest control.

U of A Study - Treed Borders, Hover Fly Populations, & Canola Crops

Authors: Rachel Pizante, John H. Acorn, I. Pilar Jiménez, & Carol M. Frost

This study examined how different border types (herbaceous vs. tree borders) and vegetation characteristics influence hover fly movement in central Alberta.

Using bi-directional traps along canola fields from May to August 2021, researchers found that tree borders exported over 33 times more hover flies into crops than herbaceous borders (over the growing season). However, during and after canola bloom, hover fly activity was higher in herbaceous borders, while activity was equal before bloom. Tree borders had greater vegetation diversity and supported a more diverse hover fly community, which eventually became dominated by *Toxomerus marginatus* (photo top right).

The study concludes that tree borders are critical for exporting hover flies into crops, making them valuable for enhancing pollination and pest control in agricultural systems.

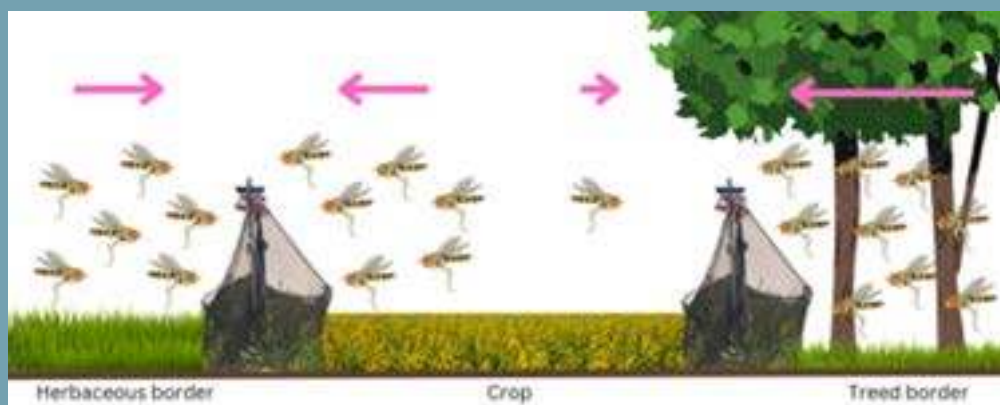


Photo credit: John Acorn



Toxomerus marginatus, the most common hover fly visiting canola!



An excellent bumblebee mimic, but still a hover fly!



A non-black and yellow hover fly



Eristalis tenax, a common & proven effective pollinator of canola



This is not a wasp, it's a hover fly!

Ecosystem
services of
Hover Flies:
**pollination &
natural pest
control**



[Read the full article here](#)



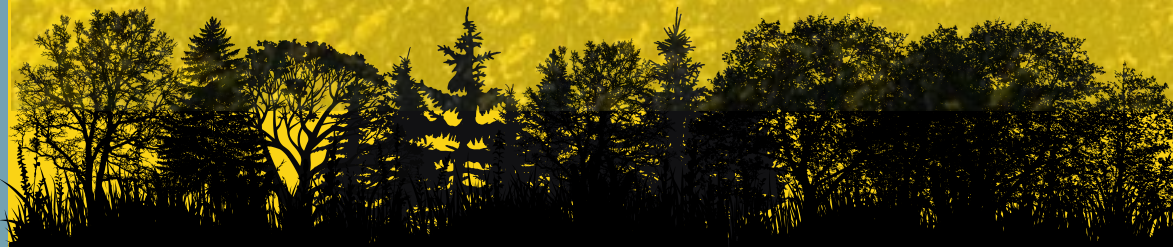
Planning for Pollinators: The Role of Tree Borders in Supporting Hover Flies

While winter might seem like an unusual time to discuss the importance of hover flies, it is also the season for tree removal and burning—a critical factor affecting their habitats. Shelterbelt removal, which increased in isolated pockets throughout the Lakeland region last winter, directly impacts the availability of tree borders that support hover fly populations. These borders are essential exporters of hover flies into crops, offering dual ecosystem services: pollination and natural pest control.

In Alberta, 40% of surveyed producers reported removing shelterbelts, often citing labor requirements, interference with large equipment, and land competition as reasons. Additionally, recent winter droughts and a lack of snow insulation have caused increased tree stress and mortality in some areas, contributing to the removal of damaged or dying shelterbelts. Without sufficient snowpack, roots are more vulnerable to freezing, while fluctuating winter temperatures can lead to tree desiccation and bark damage .

This study highlights the ecological benefits of tree borders, showing they export 33 times more hover flies into canola crops than herbaceous borders. By carefully assessing the purpose and function of shelterbelts, farmers can make informed decisions that balance operational efficiency with long-term sustainability. As plans for tree management are made this winter, the role of shelterbelts in supporting pollinators like hover flies should not be overlooked.

Including hover fly-friendly practices in your winter planning can enhance farm productivity and resilience in the new year.



Local Innovators

A Family-Operated Bison Farm Turning Waste into High-Quality Products in Bonnyville, Alberta

O'Canada Bison is a family-owned and operated bison ranch based in Bonnyville, Alberta. As dedicated bison ranchers, the family behind O'Canada Bison Wool Corp has taken an innovative approach to bison farming, focusing on sustainable practices that reduce waste while producing high-quality products. The company utilizes not just the meat, but the whole animal, including the hides and tallow, to create a range of products that highlight the unique qualities of bison materials.

In the Agricultural Bison Industry, bison hides and tallow were often discarded as waste products. However, O'Canada Bison Wool Corp views these materials as valuable resources that can be repurposed into useful value-added products. By utilizing materials that would otherwise end up in landfills, the company is setting a new standard in agricultural sustainability.

O'Canada Bison Wool Corp's commitment to sustainability is evident in their approach to bison fiber, which is often referred to as "North American Kashmir" due to its softness and warmth. While bison fiber is slightly shorter than traditional Kashmir, it offers exceptional warmth and softness, making it ideal for clothing and textiles. The company has invested in a specialized dehairing line from Corematex, designed to separate the fine inner fibers from the coarser outer coat of the bison. This process yields a superior, exceptionally soft fiber that is spun into yarn right in Alberta, then crafted into a variety of products. O'Canada Bison Wool Corp's socks, for instance, are a blend of bison fiber and alpaca—sourced from Alberta farms—creating a durable, warm, and locally-made product that stands up to the Canadian winters. Other products, like pillows and scarves, also showcase the warmth and comfort of this North American Kashmir.

Another unique offering from O'Canada Bison Wool Corp is their line of skincare products. The company uses bison tallow, an underutilized byproduct, as the base for a range of soaps, lotions, and creams. Bison tallow is rich in nutrients and offers deep hydration, making it beneficial for the skin. Moreover, the soaps and lotions are preservative-free, reflecting O'Canada Bison Wool Corp's commitment to natural, high-quality ingredients.



Raw Bison Fiber



Specialized dehairing line from Corematex



Processed Fiber

Bison a Keystone Spices

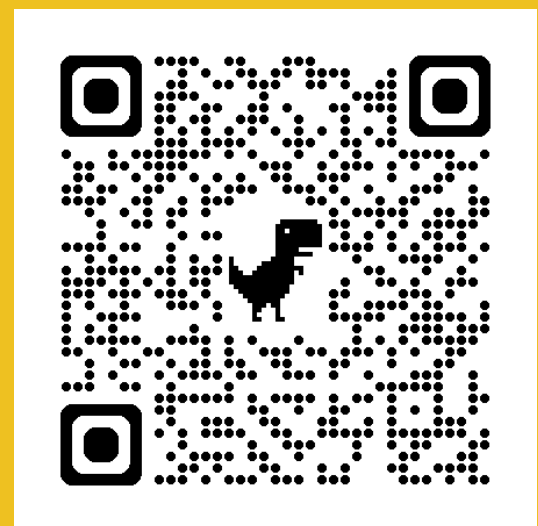
Bison are a keystone species, meaning their presence has a disproportionately positive impact on their ecosystem. Their grazing patterns promote plant diversity, while their movement can disturb the soil surface, helping to break crusts, press seeds into the ground, and distribute organic matter, fostering healthy grasslands. In agricultural settings, raising bison preserves this iconic North American species while allowing them to fulfill their ecological role. When managed carefully through rotational or regenerative grazing practices, bison contribute to soil regeneration, biodiversity, and ecosystem resilience, demonstrating that even in a farming context, keystone species can drive positive environmental outcomes.

A Proudly Canadian Business

Every step of the production process, from sourcing materials to manufacturing, is kept within Canada, with a strong focus on Alberta. This commitment to local production strengthens regional economies and reduces the environmental footprint associated with importing goods. O'Canada Bison Wool Corp is proud to represent Canadian craftsmanship and sustainability, creating products that are as ethical as they are luxurious. In an era where sustainable practices are more important than ever, O'Canada Bisson stands out as a leader in waste reduction and resourcefulness in the bison industry. Through their thoughtful use of bison hides, fiber, and tallow, they create a range of high-quality products that benefit both people and the environment, showcasing the remarkable potential of this iconic North American animal.



Championing Sustainability in Bison Farming



Check out:
www.ocanadabison.ca



Did You Miss Our Alberta Environmental Farm Plan (EFP) Workshops This Fall?

Here's What You Need to Know!

The Alberta Environmental Farm Plan (EFP) is a voluntary, free, and confidential program designed to help producers identify potential environmental risks on their operations and create actionable plans to address them. Whether you attended one of our workshops or are starting fresh, the EFP is a valuable tool for building sustainable practices and future-proofing your farm.



Why Create an Alberta Environmental Farm Plan?

An EFP helps Alberta producers manage environmental risks, protect natural resources, and enhance the sustainability of their operations. Key benefits include:

- **Enhanced Sustainability:** It supports better stewardship of soil, water, and air quality, ensuring your farm thrives for future generations.
- **Cost Savings & Efficiency:** Addressing environmental risks often leads to operational efficiencies, which can reduce costs and boost profits.
- **Access to Funding:** An EFP completion certificate can make you eligible for funding through the Sustainable Canadian Agricultural Partnership.
- **Market Access:** Many global buyers and food companies now require proof of sustainable sourcing. Completing an EFP demonstrates your commitment to these values.
- **Future Planning Tool:** It provides a roadmap for continuous improvement and helps you stay compliant with environmental regulations .





Getting Started with Your EFP

- 1. Register: Sign up on the [Alberta EFP website](#).
- 2. Work With a Technician: You'll be paired with a technician who can guide you through completing the workbook, provide advice, and offer technical support.
- 3. Develop Your Plan: Use the workbook to assess your operation, identify risks, and create an action plan tailored to your farm.
- 4. Implementation: Start improving your farm at your own pace, with ongoing support from your technician.
- 5. Certification: Once reviewed, you'll receive a completion certificate and gate signs for your farm, signaling your commitment to environmental sustainability .

Next Steps for Your EFP

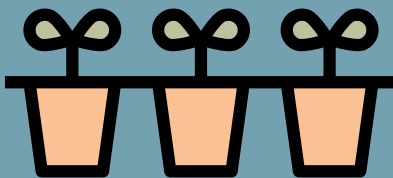
Even if you missed the workshops, it's never too late to start your EFP journey. With tools like online workbooks, one-on-one technician support, and access to valuable resources, creating your plan is straightforward and impactful.



Visit [Alberta EFP](#) or scan the QR code to begin today!



More Homesteading Workshops to come in the new year!



Join our mailing list to get notifications of upcoming workshops (QR code for our website on page 8)

Farming Mental Health in Canada

1 in 8 jobs in Canada is in the agriculture and agri-food industry¹

In a survey of more than 1100 farmers:²

- 35% met the criteria for depression
- 58% met the criteria for anxiety
- 45% were highly stressed
- 40% were uneasy seeking professional help

¹Agriculture and Agri-Food Canada, Economic impacts of Canadian agriculture and agri-food infographic
²Andree Jones Wilson et al, University of Guelph

Stressors many are out of farmers' control

- Weather
- Government regulations
- Debt and finances
- Commodity prices
- Isolation
- Livestock well-being
- Culture of the resilient, strong farmer
- Family conflicts
- Long hours
- Machinery breakdowns
- Public perception and stigmatization of farming

What can be done

- Show appreciation for farmers through public awareness campaigns and strategies
- Check in with farming community members
- Tell and share personal stories to reduce stigma
- Build capacity in mental health awareness and prevention
- Promote available telephone help lines and e-mental health services for farmers

Practicing self-care

Health Effects

- Mental health disorders
- Heart disease and high blood pressure
- Back pain
- Cancer
- Substance use
- Impaired learning and memory
- Infections
- Increased passivity

- Ask for help and offer to help. Reach out to your community.
- Set aside time to disconnect from technology. Use that time to exercise or just relax.
- Make the most of the sleep you're getting. Think about your nightly routine and your surroundings.
- Talk to someone. Opening up is not a sign of weakness but takes strength. Where you can go

<https://www.dcmre.ag/resources>

Created in partnership with the Canadian Agricultural Safety Association



CASA | ACSA
Canadian Agricultural Safety Association

CCOHS.ca
Canadian Centre for Occupational Health and Safety



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<http://laraonline.ca>

Sustainable farming encompasses a wide range of practices and principles; combining environmental stewardship with profitability and ensuring that the family farm will be there for generations to come.