MANITOBA Pulse Soybean GROWERS

pulsebeat

Issue 102 • Fall/Winter 2025

ROOTS DOWN, LEGUMES UP

P.16

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Please direct your comments or concerns to Robyn Swark at 204.745.6488 or email robyn@manitobapulse.ca.

In This Issue

Manitoba Pulse & Soybean Growers 2025 Board of Directors and Staff

ELECTED FARMER DIRECTORS

Chair – Melvin Rattai – Beausejour
Vice Chair – Brendan Phillips - Hartney
Alex Burgess – Minnedosa
Ben Martens – Boissevain
Robbie Misko – Roblin
Bryce Pallister – Portage la Prairie
John Preun – St. Andrews
Frank Prince – Waskada
Ernie Sirski – Dauphin

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2026 Pulse & Soybean Trial Options

- Seeding Rate
- Seed Treatment
- Inoculant
- Biological
- IDC
- Fungicide
- Row Spacing
- Variety
- Nitrogen
- Weed Control
- Insecticide
- Rolling
- Strip Till
- Planting Date
- Precision Agriculture

By Farmers, For Farmers

Manitoba Pulse & Soybean Growers 2025 Committees and Representatives

MPSG Committees – *The first named is chair.*
Executive – M. Rattai, B. Phillips, E. Sirski
Governance H/R – F. Prince, B. Phillips
Ag Policy & Market Development – B. Phillips, A. Burgess, B. Pallister, E. Sirski, J. Preun, M. Rattai, R. Misko
Finance/Audit – J. Preun, B. Phillips, M. Rattai
Resolutions – A. Burgess, R. Misko
Nominating – A. Burgess, R. Misko
Research & Communications – B. Pallister, F. Prince, B. Martens, M. Rattai, R. Misko

MPSG Representatives
Canadian Grain Commission Pulse Sub-Committee – A. Burgess
Grain Growers of Canada – J. Preun
Keystone Agricultural Producers:
- **Board** – A. Burgess (Grains, Oilseeds, Pulse Sector)
- **Commodity Group** – J. Preun

Pulse Canada – B. Martens, B. Pallister
Soy Canada – M. Rattai, F. Prince

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Message from Board Chair

Melvin Rattai, Chair, Manitoba Pulse & Soybean Growers

EDITOR'S NOTE:
*YOU'LLL SEE– **DARYL DOMITRUK, MPSG'S EXECUTIVE DIRECTOR** COMMENTS SHARED THROUGHOUT THE MAGAZINE AS DARYL'S THOUGHTS.*

I AM BOTH proud and honoured to serve as chair of Manitoba Pulse & Soybean Growers (MPSG) and as vice chair of Soy Canada. This past year has brought its share of changes. Wekre working to fill key positions following several retirements across both boards.

At MPSG, we will be bidding farewell to our executive director, Daryl Domitruk, who will retire in the spring. Since joining MPSG in January 2018, Domitruk has demonstrated outstanding leadership and dedication to Manitoba's pulse and soybean sector. His expertise in grant writing, engaging communication style and deep knowledge of Manitoba agriculture have greatly benefitted our organization and its members. On behalf of the board, I extend our sincere gratitude for his many contributions and wish him the very best in his retirement.

We are also pleased to announce that Patti Rothenburger will be joining MPSG as executive director. Rothenburger brings over 25 years of experience working across both public and private sectors – most notably as assistant deputy minister of agriculture production, innovation and resilience. She led provincial efforts to strengthen agricultural research, encourage innovation, promote sustainable agriculture production and expand knowledge-sharing to support producers across the province. Please join me in welcoming Rothenburger to MPSG.

Just as MPSG is undergoing change, so too is the Ratti family farm, where we've been conducting our own crop rotation experiment. Our goal is to understand how yield is affected when seeding into non-tilled (zero-till) stubble compared to tilled fields. During the 2025 growing season, we compared three canola crops seeded into different conditions – each on 160-acre plots. I seeded my canola into zero-tilled soybean stubble, my son into tilled soybean stubble and my son-in-law into tilled wheat stubble.

At harvest, we found that the zero-tilled soybean stubble produced the highest yield – about 800 bushels more than the others. Interestingly, the two tilled treatments yielded very similar results. In other words, Dad's choice of zero-till paid off – and might just help with that new combine payment!

For more information on zero-till research and other innovative farm practices visit our website, specifically take a look at the On-Farm Network (OFN) projects. Our team is always happy to connect if you have questions or would like support from the OFN for your own pulse and soybean projects.

Wishing you and your families a wonderful holiday season and a successful year ahead. I look forward to seeing many of you at conferences in 2026 – best of luck as you prepare for the next growing season. ■

— Melvin

Soybean SCOUT

Q.

These two soybean plants were found in different areas of the same field. What caused these leaf symptoms? Is it the same cause for both plants?

Answers can be found on page 39.

Terry Buss, Production Agronomist – East, Manitoba Pulse & Soybean Growers

A.

Photo credit: Terry Buss

B.

Photo credit: Terry Buss

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Events

MPSG Out and About

By: Wendy McDonald, Production Agronomist – West, Manitoba Pulse & Soybean Growers

IT'S WHAT I learned in the field that sticks with me the most. Seeing research plots and demonstration fields firsthand, as they're thriving and surviving throughout the growing season, is helpful to myself and the rest of the Manitoba Pulse & Soybean Growers' (MPSG) agronomy team when it comes to interpreting the data and understanding the study outcomes.

As for our production agronomists, we love being out in the field and interacting with producers, agronomists and researchers. For my colleague Terry Buss andmyself, it's our experiences in the field that we draw on to craft the bi-weekly agronomy-focused *Bean Report* e-newsletter. We enjoy participating and presenting at field days and taking part in farm press interviews, among many other activities.

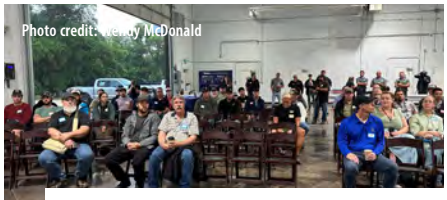
This growing season, we focused on extending knowledge by producing 12 issues of the *Bean Report* and 10 video and radio reports throughout the growing season. We gleaned a lot of content ideas and information by participating in 15 field days across the province and being in-field evaluators for the provincial disease surveys of peas, faba beans and soybeans.

Follow along as we share a few snapshots from events we participated in throughout the 2025 growing season.

While touring at the Manitoba Crop Diversification Centre near Carberry in June, staff from MPSG, Manitoba Agriculture and other crop diversification centres learned more about lupin production, marketing and end uses.

In July, MPSG attended the Westman Agriculture Diversification Organization (WADO) field day in Melita with over 90 participants. Presentations included the pea leaf weevil seed treatment study and a Dry Beans 101 presentation in front of MPSG's dry bean variety trials.

In October, MPSG took part in the soybean field harvest for the 2025 acres for the Hamiota community grow project.



At the 4R Nutrient Management field day, on the EMILI Smart Farm near Grosse Isle, hosted by Fertilizer Canada in August, Wendy McDonald moderated the panel discussion on 4R nutrient management practices and enhanced efficiency fertilizers

At Burr Forest Group's Effective Extension: Communications Training for Farm Groups in June, MPSG staff joined with staff from Manitoba Crop Alliance and Manitoba Canola Growers to learn improved communication skills for effectively providing farmers with valuable production information.

David Rourke held a tour near Minto in July to showcase his research on soybeans and dry beans with spring seeded cover crops – soybeans, green seeded and herbicide black and pinto beans, and non-GMO soybeans, as well as zero till versus tilled soybeans, black beans and pinto beans.

The MPSG Board of Directors and staff enjoyed a tour at the University of Manitoba research farm near Carman in July. The tour showcased MPSG Agronomist in Residence at the University of Manitoba Kristen MacMillan's research.

In June, Grade 8 students from Gilbert Plains Elementary joined MPSG in a Soybean Survivor challenge for fun, hands-on learning about soybeans and scouting.

In September, Laird Lampertz, sales manager at Pitura Seeds, delivered a presentation to delegates of the Japan Tofu Makers Association Trade Mission on conventional soybean quality assurance measures during cleaning and processing at the Pitura Seeds facility located in Domain.

Events

MPSG is leading the movement to bring extension back as a discipline that is valued, taught and utilized to assist farmers with adapting to ever changing circumstances.

DARYL'S THOUGHTS • DARYL'S THOUGHTS • DARYL'S THOUGHTS • DARYL'S THOUGHTS • DARYL'S THOUGHTS • DARYL'S THOUGHTS •

Photo credit: Wendy McDonald

At the New Era Ag field tour near Minitonas in July, MPSG staff presented about the pea leaf weevil and seed treatment studies. Participants were able to see the herbicide tolerant soybean, conventional soybean, faba bean, dry bean narrow row and pea variety trials.

Photo credit: Wendy McDonald

At the On-Farm Network (OFN) tour near MacGregor in July, hosted in collaboration with Manitoba Crop Alliance and Manitoba Canola Growers, MPSG staff featured its OFN experiences and successes with the soybean row spacing trial at Beaver Creek Farms.

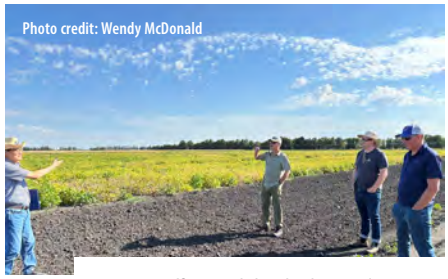


Photo credit: Wendy McDonald

MPSG staff toured the dry bean plots at AAFC Morden with dry bean breeders Anfu Hou and Jamie Larsen in August.

Photo credit: Wendy McDonald

In July, MPSG staff toured the Prairie Fava facility near Glenboro.

Photo credit: Wendy McDonald

In August, Prairie Giants held a crop tour day near Angusville, which included soybean plots and MPSG staff talking about pea, faba bean and soybean diseases and harvest tips.

Photo credit: Nirmal Hari

In September, Terry Buss, production agronomist – east for MPSG and Dennis Lange, provincial pulse and soybean specialist for Manitoba Agriculture, delivered a joint presentation to industry agronomists and growers at the Agassiz Soil and Crop Improvement Association's Soybean Variety Workshop in Beausejour.

Photo credit: Wendy McDonald

At the Parkland Crop Diversification Farm field tour near Roblin in August, MPSG staff chatted to the crowd about pea leaf weevils and lupin production.

Photo credit: Wendy McDonald

In August, MPSG staff joined with Heritage Co-op near Chater to chat with farmers about pea leaf weevils, pea diseases and eight different pea varieties in the Co-op's demonstration trials.

Photo credit: Wendy McDonald

In July, at Crop Diagnostic School in Carman, MPSG staff learned about the effectiveness of different spray applications and chemistries on soybeans and dry beans. Staff also saw the symptoms of spraying the wrong chemistry on herbicide tolerant soybeans.

New Staff Join MPSG

Wendy McDonald

Wendy McDonald joined the Manitoba Pulse & Soybean (MPSG) team as the production agronomist – west at the beginning of April. She provides agronomic support to Western Manitoba pulse and soybean producers, by integrating research results into pulse and soybean agronomy recommendations and participating in crop health surveillance initiatives and agronomic extension events.

McDonald has been working with Western Manitoba farmers, as an agronomist for 25 years, at ag retail locations in Basswood, Glossop, and Gilbert Plains, and as an independent crop consultant in the Parkland area. McDonald grew up on a fifth-generation mixed farm near Gladstone and attended the University of Manitoba. She is a professional agrologist and a certified crop adviser with a nutrient management specialist designation.

McDonald resides in Gilbert Plains with her favourite farmer – her husband, Brian – and has two daughters, KC and Connelly. She loves to volunteer and be a cheerleader for agriculture. She has served on the Agrologists Manitoba and Prairie Certified Crop adviser boards. McDonald was deeply honoured to receive awards as the 2019 Certified Crop Advisor of the Year for the prairie region and the 2020 Agronomist of the Year from the Canadian Association of Agri-Retailers.

Terry Buss

Terry Buss joined the MPSG team as their production agronomist – east in late April. He provides agronomic support to Eastern Manitoba pulse and soybean producers by integrating research results into pulse and soybean agronomy recommendations and participating in crop health surveillance initiatives and agronomic extension events.

Buss's career as an agronomist spans three decades. Although originally from Beausejour, Buss started his career as a pulse and special crops specialist for Alberta Agriculture and Irrigation. For the last 23 years, Buss has worked with Eastern Manitoba farmers as a crop production extension specialist in Beausejour for Manitoba Agriculture, retiring in April 2025.

Buss grew up as part of a mixed family farm just north of Beausejour and attended the University of Manitoba. Buss is a professional agrologist and has spent most of his career focused on soybean and pulse crop agronomy. Over that time, Buss has become a recognized source of expertise and has had the privilege of being an advisor to many growers and industry personnel in Eastern Manitoba.

Buss resides in Beausejour with his wife, Susan, and has two adult daughters, Lauren and Cassidy. Both Buss and his wife are dedicated to rural life and are currently moving back to the family farm. They are members of the Brokenhead Agricultural Society and very involved with the Brokenhead River Agricultural Conference, which hosted its 38th annual event in 2025. In his spare time, Buss enjoys snowmobiling and repairing machinery he picks up at auctions.

Michelle Lewis

Michelle Lewis joined the MPSG team as the communications coordinator at the beginning of July.

Lewis brings with her a wealth of experience in agriculture, having spent the past 16 years working across various areas of the industry. Originally from a farm near Stephenfield, she completed high school in Carman before earning a degree in agribusiness from the University of Manitoba. Lewis lives near Minnedosa with her husband, Brent, and their two sons, Bennett and Mack. Together, they run a grain farm where they grow wheat, canola and soybeans.

New Staff Join MPSG

Dr. Patti Rothenburger

Patti Rothenburger joined MPSG at the start of July. She is currently contributing to research initiatives as she prepares to step into the role of executive director on Jan. 1, 2026.

Rothenburger brings over 25 years of experience working across both public and private sectors. She served as director of research and product development at Canterra Seeds and held several leadership roles within the Manitoba government. Most notably, as *Assistant Deputy Minister of Agriculture Production, Innovation and Resilience*, she led provincial efforts to strengthen agricultural research, encourage innovation, promote sustainable agriculture production and expand knowledge-sharing to support producers across the province.

With a PhD in plant breeding and pathology, Rothenburger has served as an advisor on numerous boards and committees, including the Manitoba Seed Growers' Association and Canadian Seed Growers' Association. In recognition of her contributions to the seed industry, she received the Canadian Seed Growers' Association Honorary Life Award in 2019. Her leadership has shaped research priorities, strengthen seed systems and drive – consistently bridging scientific advancement with practical solutions for growers.

Although raised in Winnipeg, Rothenburger developed a passion for agriculture at a young age that has guided both her career and personal life. She and her husband operate a third-generation seed and mixed grain farm southwest of Morden where they are raising their three sons. Outside of work, Rothenburger enjoys gardening, helping on the farm and supporting her boys' extracurricular activities and community events.

Rothenburger's decision to join MPSG comes from a genuine desire to make a difference in agriculture and support producers. She brings thoughtful leadership, a collaborative spirit and a grower-first perspective to the organization. Her focus is on delivering meaningful value through research and extension, advocacy and leadership that supports the long-term success of Manitoba's pulse and soybean growers.

2026

MANITOBA Pulse Soybean GROWERS

Annual General Meeting

WEDNESDAY FEBRUARY 11, 2025 | 7:30 – 9 A.M.

Victoria Inn Hotel & Convention Centre 1808 Wellington Ave. Winnipeg, MB.

NOTICE IS HEREBY GIVEN that an in-person meeting of the Manitoba Pulse and Soybean Growers (MPSG) will be held during the 2026 CropConnect Conference.

Investing in Innovation to Secure the Future of Canadian Grain

GRAIN GROWERS OF CANADA

Kyle Larkin, Executive Director, Grain Growers of Canada

INNOVATION HAS ALWAYS been the driving force behind Canadian agriculture. From the first prairie research plots to today's precision-guided combines, the success of our farms has been built on science, collaboration and forward thinking. Yet as global competitors increase their investment in agricultural research, Canada is losing ground.

Canada's agricultural research and development spending has declined significantly, falling from $860 million in 2013 to $680 million in 2022, a decline of more than 20 per cent. This drop now places Canada last among the top seven Organisation for Economic Co-operation and Development (OECD) countries in agricultural research expenditures. The consequences are significant. Many key vacancies are being left unfilled, and Canada risks falling behind in the race to develop the next generation of crops that will drive productivity and environmental performance in the years ahead.

INNOVATION FOR RESILIENCY

For grain farmers, innovation is rooted in everyday decisions that help them stay viable and resilient through rising costs, shifting weather patterns, and increasing global demand. Research drives better yield, improves quality and lowers costs per bushel. It helps producers use fewer inputs while maintaining or even increasing productivity. Every advancement, from drought-tolerant wheat varieties to improved nitrogen efficiency in pulses, strengthens farm margins and allows for reinvestment in new technology. Those investments ripple through rural communities, supporting local businesses, equipment dealers and the agri-food value chain that depends on a competitive grain sector.

Research delivers strong returns for both farmers and taxpayers. Public investments in wheat breeding have been shown to generate $33 in benefits for every dollar invested. Beyond the direct financial return, research provides tools to meet Canada's climate objectives such as reducing emissions and improving soil and water management. The economic and environmental case for supporting agricultural research is clear. What is needed now is a renewed commitment to ensuring that Canada's research system is responsive, collaborative and properly funded to meet the demands of a modern agriculture sector.

"Research that begins with producers' needs leads to practical solutions that can be applied on the ground."

PUTTING FARMER NEEDS FRONT AND CENTRE FOR RESEARCH

Here in Ottawa, we continue to make the case that farmers must be at the centre of the research process. Research that begins with producers' needs leads to practical solutions that can be applied on the ground. Too often, bureaucratic hurdles and aging infrastructure limit the ability of researchers to collaborate effectively with farmers and the private sector. This slows the pace of discovery and limits the return on public investment. Stronger collaboration between government, producers and researchers would ensure that new innovations move more efficiently from the lab to the field, where they can have the greatest impact.

Reversing this trend begins with placing farmers at the heart of research design and priority setting. Federal programs must be guided by real production challenges, from managing disease resistance to adapting to drought conditions, so that research produces tangible results. Collaboration between farmers, industry and Agriculture and Agri-Food Canada (AAFC) must also be at the forefront when making investment decisions within research. Administrative barriers make it difficult for scientists at AAFC to work directly with producers or industry partners. Streamlining these processes would unlock valuable expertise and accelerate the development of new varieties and production techniques that benefit farmers across the country.

Funding should be tied to measurable results rather than projects completed or reports filed. When government and industry work toward clear outcomes such as improved yields or reduced input use, every research dollar delivers greater value. Modern, well-equipped research stations are also essential. Many of AAFC's facilities are operating well beyond their intended lifespan. Rebuilding this infrastructure would allow scientists to conduct cutting-edge work that keeps Canada competitive and ensures discoveries are quickly translated into real-world applications.

Renewed public investment in agricultural research is one of the most effective ways to strengthen Canada's economy, increase efficiency and support farmers in feeding a growing world. With the right policy direction, Canada can once again be a global leader in innovation. The return on that investment will not only be measured in dollars, but in resilient farms, secure food systems and new opportunities for future generations of producers.

As global and domestic demand for food continues to rise, Canada's ability to meet that demand depends on research that helps farmers grow more with less. Investing in innovation today is how we ensure that Canadian agriculture continues to thrive tomorrow. ■

Moving Volume through New Opportunities in Feed and Pet Food

PULSE CANADA

Julianne Curran, Vice President, Market Innovation, Pulse Canada

IN AGRICULTURE, PROGRESS rarely happens in isolation. But when we roll up our sleeves, we can, and do, make progress together. Across Canada's pulse sector, collaboration is opening new, high-volume market opportunities for growers, processors and ingredient manufacturers. Nowhere is that more evident than in Pulse Canada's work to expand the role of pulses in animal feed and pet food – two fast-growing markets where nutrition, performance and sustainability are creating new pathways for Canadian crops.

WHY FEED AND PET FOOD MATTER

The packaged food, foodservice and ingredient processing markets in North America and Europe have been a long-standing focus for Pulse Canada diversification efforts due to their importance as high-value markets that prioritize quality over price and offer more stability and price inelasticity compared to our traditional markets. While we have seen significant progress in product launches and pulse ingredient penetration in certain product categories and on menus, this growth in pulse demand and use has taken time. Meanwhile, peas and other pulses have found modest use in livestock feed and premium pet food over the past two decades. But as global demand shifts toward lower-carbon, higher-efficiency protein sources, these once-niche markets are becoming strategic growth areas. Feed offers high-volume demand potential, while pet food offers high-value returns – both perfectly aligned with the natural strengths of Canadian pulses: protein, fibre, starch and sustainability.

Feed and pet food manufacturers around the world are searching for ingredients that improve nutrition, traceability and environmental performance. For Canada's pulse sector, that represents an open door – one that can help move more volume through existing supply chains while diversifying markets beyond traditional export destinations.

FINDING AND UNLOCKING MARKET OPPORTUNITIES

Pulse Canada has undertaken extensive work to identify where the most immediate and impactful opportunities exist for Canadian pulses in feed and pet food applications. This market intelligence has helped pinpoint key regions like Southeast Asia and Latin America and product categories – from aquaculture and swine feed to premium dry dog food – where demand is growing, and Canadian suppliers are well positioned to compete in these geographic markets and end-use categories.

To strengthen this work, Pulse Canada staff have recently been on the ground in Mexico, India and the Philippines, engaging directly with feed and pet food companies, importers and industry associations to understand local needs and position Canadian pulses as reliable, high-performing ingredients. In November, Pulse Canada took this effort further with a mission to China, continuing to build relationships and open doors in one of the world's largest and most dynamic animal nutrition markets.

The goal is simple: connect the dots between what pulse growers produce and what feed and pet food manufacturers need. By focusing on market access, relationship-building and technical support, Pulse Canada is helping ensure Canadian pulses are visible, reliable and ready to meet that demand.

BUILDING INDUSTRY CONFIDENCE AND CONNECTIONS

Through close collaboration with feed formulators, pet food manufacturers and ingredient buyers, Pulse Canada provides technical guidance, product information and connections to Canadian suppliers. These efforts are helping major feed and pet food companies understand how pulses can be incorporated effectively into existing formulations – not just as a sustainable alternative, but as a performance-driven ingredient with proven supply and quality consistency.

To accelerate adoption, Pulse Canada has also expanded its outreach capacity to work directly with companies across North America, Latin America and the Indo-Pacific. This hands-on approach ensures that opportunities identified through market analysis translate into tangible sales and partnerships for the Canadian pulse industry.

WHAT THIS MEANS FOR GROWERS

For growers, the expanding feed and pet food sectors offer more than diversification – they offer resilience. As some export markets face uncertainty from tariffs or shifting trade dynamics, growing domestic and regional demand can help stabilize returns and keep value flowing through the supply chain.

Every new feed mill, processor or pet food brand that incorporates Canadian pulses represents progress toward a more balanced, market-diverse future for the sector. The outcome is clear: reliable demand, stronger relationships and a broader foundation for long-term growth.

TURNING OPPORTUNITY INTO VOLUME

Pulse Canada's work in feed and pet food is about more than innovation – it's about action. By finding, validating and advancing new commercial opportunities, we're turning potential into progress and ensuring that Canadian pulses continue to move where demand is growing fastest.

Through collaboration and persistence, we're transforming these emerging sectors into real-world markets – helping Canada's pulse industry stay competitive, expand its reach and deliver sustainable solutions that feed both people and animals around the world. ■

Manitoba Soybeans Poised for Global Growth after Japanese Trade Visit

SOY CANADA

Jeanine Moyer, Writer, Synthesis Agri Food Network

JAPANESE TOFU MAKERS are turning their eyes – and business prospects – to Manitoba, opening the door to exciting new growth opportunities for the province's soybean industry.

This fall, a delegation of Japan's leading tofu makers, food manufacturers and soybean importers travelled to Canada to broaden their understanding of the country's food-grade and Identity Preserved (IP) soybean supply chain and strengthen existing trade ties. Hosted by Soy Canada and its members from Sept. 8 to 12, 2025 the group travelled to Ontario and Manitoba to experience an in-depth look at every stage of the food-grade soybean journey, from variety development and sustainable farming practices to export logistics and processing systems.

Manitoba was the last day of the delegation tour and was a highlight of the visit, especially since it was the first time visiting the province for the Japan Tofu Association members.

"Showcasing Manitoba's soybean industry in just one day was challenging, but our guests left with a renewed appreciation for the quality of Manitoba-grown soybeans and the strong commitment our industry has to serving global markets," says Demian Gallego, Soy Canada's manager of market development.

The visit highlighted Canada's reputation for producing high-quality, food-grade soybeans for global customers, including Japanese buyers and tofu manufacturers, who prioritize consistency, quality and traceability.

"With tofu being a dietary staple in Japan, the assurance of a dependable supply of premium, high protein soybeans are key to meeting strict product standards and consumer expectations," says Gallego, noting that in 2024, Canada exported $400 million of soybeans to Japan, with approximately 45 per cent of those exports used for tofu production. "Japan is highly reliant on soybean imports to produce soy foods, with imports comprising 70 per cent of the Japanese demand for food-grade soybeans."

BUILDING BUYER CONFIDENCE

Currently, none of the Japanese delegates have sourced food-grade soybeans from Manitoba, buying instead from Ontario where varieties of food-grade soybeans offer a higher protein content desirable for tofu production. However, one of the tour's key take-home messages for delegates was that new varieties of food-grade soybeans with higher protein levels are now being grown in Manitoba, providing a new source for the Japanese buyers.

Gallego explains that the Manitoba tour day also offered a valuable opportunity to showcase what Manitoba brings to the table, including a strong logistics network, new food-grade soybean varieties, increasing processing capacity and rigorous quality assurance standards.

The first stop in Manitoba was a visit to the Canadian Grain Commission (CGC), home of the Soy Quality Program testing and analysis laboratory. The facility tour provided the Japanese delegation with an in-depth understanding of Canada's rigorous soybean grading and variety quality testing protocols.

Ning Wang, research scientist and program manager for pulse research crops and the Soy Quality Program technical lead, toured the group through the world-class Winnipeg facility. The group observed a grain grading demonstration that explained grading procedures and factors outlined in the CGC Grain Grading Guide. Gallego explains this information gave Japanese buyers a deeper understanding and greater confidence in Canada's grading standards and overall system.

A highlight for the delegation was the tour of the CGC tofu testing lab. The purpose of the tofu testing lab tour was to compare analysis methods between the two countries because aligning CGC's Soy Quality Program testing methods with those of the Japan Tofu Association requirements could boost Japanese buyers' confidence in purchasing Canadian food-grade soybeans.

"We want to work with our customers to ensure our processes and systems align with what they are looking for and find ways where we can add more value to Canadian

Photo credit: Soy Canada

Participants visited a non-GMO, food-grade soybean field located about 40 km south of Winnipeg.

Understanding the potential of new varieties was a key goal of the participants.

Photo credit: Soy Canada

soybeans," says Gallego. Explaining that, while Canadian testing standards are already very close to Japanese standards, the process of matching the tofu testing methods will provide Japanese buyers with more confidence in how particular soybean varieties will perform in tofu production and even save them time and money conducting additional quality tests after Canadian soybean exports arrive on their shores.

As a result of the productive discussion, Canada's soybean industry has committed to upgrading testing equipment and standards within the CGC tofu testing lab to meeting Japanese standards. Gallego notes the goal is to complete this value-enhancing opportunity by the end of 2026.

"Through this visit to Canada, the delegation gained a clear understanding that initiatives such as FSA certification, CIPRS-based IP traceability, AI-powered sorting, and automated logistics form an essential foundation supporting the consistent quality and cost competitiveness that define Canadian soybeans," says Kentaro Doi, secretary general, Japan Tofu Makers Association.

GROWING GLOBAL POTENTIAL

Experiencing Manitoba's expansive landscape firsthand, particularly through an on-farm visit, was another highpoint for the Japanese visitors. Delegates travelled approximately 40 km south of Winnipeg to visit a local soybean field and tour an on-farm processing facility that specializes in food-grade IP soybeans.

The on-farm visit was also an opportunity to showcase Winnipeg as a key logistics point for the transportation of soybeans from Manitoba fields to international customers. Participants were impressed to learn how much provincial storage and shipping capacity has expanded in the past 20 years, positioning Manitoba as a reliable and valuable source of quality food-grade soybeans.

Doi specifically noted his optimism for promising new IP varieties offering strong soybean cyst nematode resistance and great potential for tofu production.

"There's tremendous potential in the new food-grade soy varieties Manitoba farmers are growing," says Gallego. "Delegates recognized this, especially during our farm tour where they could see the actual varieties in the field, and I believe this exposure will help Manitoba growers tap into new, long-term export opportunities."

NEXT STEPS

The opportunity to witness Canadian soybean production and key elements of the value chain up close provided the delegation with new insights into how Canada's commitment to quality, innovation and reliability can support the specific needs of the Japanese tofu market.

"The team also observed the natural advantages of Canada – from the vast landscapes of Manitoba to the fertile farmlands of Ontario – as well as the optimization of harvest timing and transportation systems," says Doi.

As the visit concluded, it was clear the Japanese delegation left with more than just a deeper understanding of Canadian soybeans – they left with confidence in Manitoba's potential as a trusted supplier.

Soy Canada and the CGC will continue working closely with the Japan Tofu Association to align Soy Quality Program testing protocols, expand market access and support the development of soybean varieties that meet the specific needs of Japan's discerning tofu industry. ■

Soy Canada Update: What the U.S. Trade Shift Means for Us

Brian Innes, Executive Director, Soy Canada

Standing in the farmyard and looking out over the horizon gives us a reassuring impression of stability. But looking at our phone, listening to the news or following the markets reminds us that we're living in a time of trade upheaval.

For grain farmers, especially those growing soybeans, we're seeing profound shifts in trade stability. More than 90 per cent of Manitoba soybeans are exported, and that means trade rules, and what our international customers expect is profoundly important for how much our soybeans are worth.

While we're all familiar with the Trump administration's new approach to trade, the implications for exporting Canadian soybeans and what we're hearing from customers and their governments may not be as clear from our North American news.

The new approach by the United States has changed the way every country trades with the U.S. and how the U.S. engages with the world, but it hasn't affected how our customers and their governments see the importance of predictable rules-based trade between the rest of the world.

In our work, I've seen the reverberations from the U.S. shift when speaking to Indonesian customers pressured into signing Memorandums of Understanding to increase U.S. soybean purchases. I've seen U.S. pressure also result in favourable treatment for U.S. soybean exports to the European Union.

At the same time, both our Indonesian and European customers are looking to Canada for a trusted and reliable supply of soybeans. Our governments remain interested in rules-based trade between each other, even if how every government relates to the U.S. has changed.

In our role at Soy Canada, connecting our value chain and our customers, we see that the shift we're living through means that Canada has a greater role to play in promoting rules-based trade and a greater need to be active in telling our own story to customers.

With U.S. leadership to promote rules-based trade now absent or tarnished, we now need to double down with our other trading partners to prevent tariffs or non-tariff barriers from creating risk and lowering the value our farmers see for their soybeans.

For our customers, who depend on imported soybeans for their livelihood, it's more important than ever to share what it means to purchase Canadian.

Telling our story to our customers and their governments in this time of trade upheaval, with Manitoba Pulse & Soybean leaders around the table, has never been more important for the value we get from our soybeans.

Elbows Up for the Next Generation: Growing Future Innovators Together

Katharine Cherewyk, Executive Director, AITC-M

A volunteer speaking in a classroom for Canadian Agriculture Literacy Month (CALM).

Photo credit: AITC-M

Photo credit: AITC-M

AITC-M staff speak with kids at a booth at Manitoba Ag Days.

Photo credit: AITC-M

The Sprout Head resource being used in a classroom.

EVERY FARMER KNOWS that progress doesn't happen by accident. It takes collaboration, curiosity and hard work. That same "elbows up" spirit driving Manitoba farmers to test new varieties and try new ideas is what drives Agriculture in the Classroom-Manitoba (AITC-M). Together with Manitoba Pulse & Soybean Growers (MPSG), we're helping the next generation see their place in agriculture's future.

FROM THE FIELD TO THE CLASSROOM

With MPSG's support, AITC-M connects students and teachers to the science and innovation behind modern farming. Through programs like Amazing Agriculture Adventure, Ag Days AgVenture and Canadian Agriculture Literacy Month, students discover how soil, climate, research and technology all come together to feed our province.

This fall, MPSG's partnership is helping us bring even more Manitoba-grown learning to classrooms:

- A new Tariff Resource for high schools helps students understand how global trade affects farmers here at home.
- Our early years SproutHeads resource lets kids grow and taste pea shoots in their classrooms, connecting them to food and nutrition in a hands-on way.
- A new Genetics Kit launching this fall explores herbicide resistance in soybeans in one experiment, giving students a chance to think and problem-solve like researchers.
- And our popular Food Waste resource features Manitoba farmers and processors, including some MPSG members and Roquette showing how local innovation reduces waste and feeds communities.

Each of these resources helps students see agriculture as something real, local and full of opportunity. They're learning about the same crops and challenges Manitoba farmers work with every day and discovering the pride that comes from feeding people.

WHY IT MATTERS

When a student grows their first pea shoot or learns how a soybean gene works, they start to see agriculture differently. They see it as a place they belong and how it connects to their everyday lives. That's how we grow future agronomists, plant breeders and farmers, and it's how we steward people to care about what you do and how to carry Manitoba agriculture forward.

MPSG's investment in AITC-M isn't just about lessons or kits. It's about planting the seeds of understanding and trust. It's about ensuring every child, no matter where they live, has a chance to see the science, skill and care behind our food.

ELBOWS UP FOR THE FUTURE

Farmers have always been innovators. Elbows up, hands in the dirt, eyes on the horizon. With MPSG's support, AITC-M brings that same spirit into classrooms across the province. Together, we're inspiring curiosity, building trust, and growing the next generation of agriculture leaders.

Thank you, MPSG members, for investing in this shared future. The next generation is ready. They only need someone to show them what's possible.

Whether it's sharing your farm story, volunteering at a student event, or supporting our classroom resources through your donations, your involvement keeps agriculture strong for the future

Learn more at **www.aitc.mb.ca**. ■

Preliminary Outlook: Possible Cost Pressures in 2026 Reinforce Drive to Find Efficiencies

EDITOR'S NOTE:
THIS ARTICLE WAS WRITTEN IN SEPTEMBER 2025, AND THE MARKET DYNAMICS MAY HAVE CHANGED.

Leigh Anderson, Senior Economist, Farm Credit Canada

IT'S ALREADY CLEAR that 2026 will bring new challenges for farm profitability. While input costs have decreased from their 2022 peak, they remain high and are trending upward again. Unlike 2022, when strong commodity prices offset rising costs, 2026 is shaping up differently: crop prices are forecast to decline, squeezing margins and impacting productivity. This pressure is intensified by global trade disruptions, notably Chinese tariffs on Canadian canola and peas.

With margins under pressure, managing costs is more important than ever. While trade and geopolitical issues are largely out of your control, focusing on what is within your control can make a difference. Decision aids, agronomic advice and other value-added support from input suppliers can help farmers make better decisions, improve efficiency, and boost revenue.

RISING INPUT COSTS

Canadian farmers are expected to spend $22.5 billion on crop inputs in 2026, potentially rivaling the record set in 2022. The largest expense, fertilizer, is forecasted to approach $10 billion. Inflation is driving up costs for chemicals and seeds, while fuel is the only major input projected to decline in price. Fertilizer prices, especially nitrogen, have remained elevated due to increased American corn acreage and strong global demand, particularly from India and Europe. In Canada, high fertilizer prices have led many farmers to delay purchases, hoping for better deals amid market uncertainty.

MARKET DYNAMICS AND PRICE PRESSURES

American farmers are set to harvest a record corn crop, which, combined with lost Canadian export opportunities to China and ongoing United States–China tariffs, is expected to push commodity prices lower. As prices fall, farmers may become more cautious in planning next year's acres and inputs, focusing on cash flow and profitability.

Crop price ratios, such as soybean-to-corn and canola-to-wheat, help guide planting decisions. Currently, these ratios favour oilseeds due to strong biofuel demand, but future demand and acreage will depend on the resolution of trade disputes with China. If China's tariffs persist, both soybean and canola prices could drop further, potentially shifting the ratio back in favor of cereals like corn and wheat by spring.

Since corn requires more nitrogen fertilizer, any shift toward increased corn planting will drive up nitrogen demand and prices. Monitoring crop price ratios is essential for anticipating fertilizer market trends.

FERTILIZER AFFORDABILITY

The fertilizer-to-crop price ratio measures the cost of fertilizer relative to expected crop revenue. For 2026, this ratio is projected to show slight declines in affordability, with potential for further increases if crop prices fall and fertilizer costs rise. This scenario presents downside risk for crops and upside risk for fertilizer, making input decisions even more complex.

Global trade and geopolitics continue to influence fertilizer supply and pricing. Russia's war in Ukraine remains a key factor, affecting energy and fertilizer costs. A peace deal could ease prices and restart European nitrogen plants, while continued conflict would keep prices high. U.S. tariffs on Russian fertilizer may raise costs, especially in Eastern Canada, which relies on U.S. imports. China has resumed limited exports of urea and phosphate fertilizers, which could help ease global shortages if volumes increase.

STRATEGIES FOR EFFICIENCY

Despite external uncertainties, farmers can focus on what's within their control.

Leigh Anderson, a senior economist with Farm Credit Canada

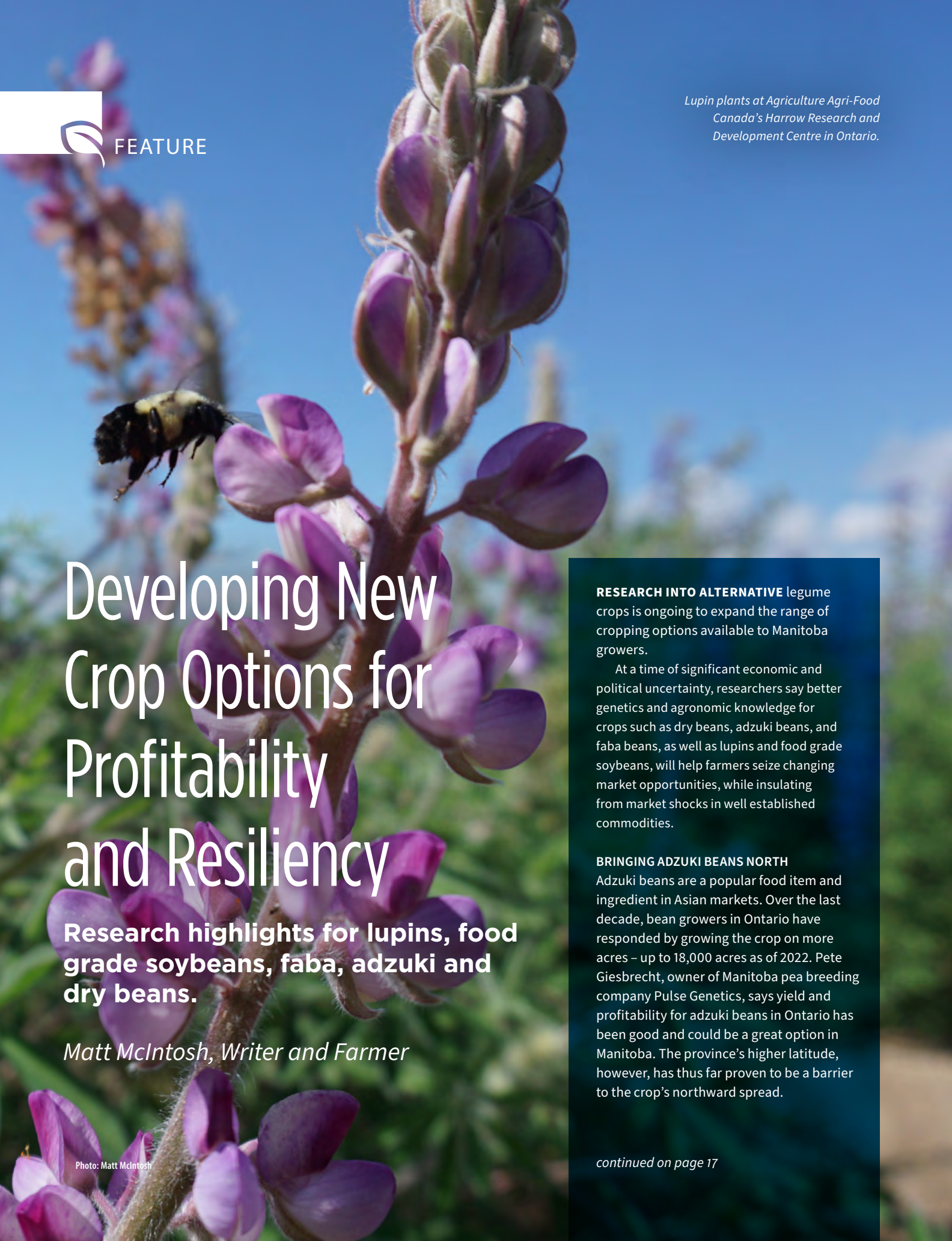
Building strong relationships with input suppliers and agronomists, and using economic decision tools, can help improve efficiency and profitability. Practices like 4R Nutrient Stewardship - applying the right fertilizer source, rate, time, and place - are now used on over 25 million acres in Canada, helping reduce costs.

Economic thresholds guide decisions on pest and fungicide treatments, focusing on profitability rather than field appearance. Tools like fertilizer efficiency calculators and fungicide thresholds help optimize input use and avoid unnecessary spending. Spraying by airplane is gaining popularity for its speed and reduced crop damage, and while it's slightly more expensive per acre, it can be cost-effective when accounting for losses from ground equipment.

BOTTOM LINE

Canadian farmers face a challenging outlook for 2026, with elevated input costs and softening commodity prices squeezing margins. Global trade tensions and geopolitical instability add further uncertainty. In this environment, finding cost efficiencies and focusing on productivity gains are more important than ever. Leveraging agronomic expertise, decision tools, and collaborative supplier relationships will be key to sustaining profitability. ■

FEATURE



Lupin plants at Agriculture Agri-Food Canada's Harrow Research and Development Centre in Ontario.

Developing New Crop Options for Profitability and Resiliency

Research highlights for lupins, food grade soybeans, faba, adzuki and dry beans.

Matt McIntosh, Writer and Farmer

Photo: Matt McIntosh

RESEARCH INTO ALTERNATIVE legume crops is ongoing to expand the range of cropping options available to Manitoba growers.

At a time of significant economic and political uncertainty, researchers say better genetics and agronomic knowledge for crops such as dry beans, adzuki beans, and faba beans, as well as lupins and food grade soybeans, will help farmers seize changing market opportunities, while insulating from market shocks in well established commodities.

BRINGING ADZUKI BEANS NORTH

Adzuki beans are a popular food item and ingredient in Asian markets. Over the last decade, bean growers in Ontario have responded by growing the crop on more acres – up to 18,000 acres as of 2022. Pete Giesbrecht, owner of Manitoba pea breeding company Pulse Genetics, says yield and profitability for adzuki beans in Ontario has been good and could be a great option in Manitoba. The province's higher latitude, however, has thus far proven to be a barrier to the crop's northward spread.

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Photo: Matt McIntosh

Bags of harvested dry beans.

Photo: Matt McIntosh

Pete Giesbrecht, owner of Manitoba pea breeding company Pulse Genetics

"In Manitoba there have been growers who have tried growing adzuki beans but have not continued. We have to breed for adaptation and maintain seed quality through large seed size and dark red colour," says Giesbrecht, highlighting two main qualities adzuki purchasers commonly seek.

"But at the same time, we have to breed for something that's adapted, that's more determinate and vigorous for a colder climate and shorter growing season. I think there's a lot of varieties out there that show a lot of potential. We just have to do some breeding work on them. That's something that has not been done historically."

Like other dry beans, Giesbrecht says, adzuki management can be challenging and "will have to be learned." It's far from an insurmountable problem, though. Disease issues, for example, aren't particularly significant compared to adzuki's more common dry bean cousins, and resistance to problem diseases has been identified in some varieties. Weed management may pose a more significant challenge in the immediate term, given the crop's lack of early season vigour and the comparatively small number of herbicides registered for use with adzuki beans. The crop "has higher sensitivity" to specific post-emergent herbicides as well, making herbicide-induced crop damage a greater concern.

"We've done line screening for adaptability and desirable traits, and are just starting some breeding work and line crossing," Giesbrecht explains. "It's very early stage breeding work."

LUPIN POTENTIAL

Lupins – a flowering pulse that can grow in relatively poor soils – are another crop in the early stages of research for prairie suitability.

At Agriculture and Agri-Food Canada's (AAFC) Harrow Research and Development Centre in Ontario, seed biologist researcher Eric Fedosejevs is engaged in the development of novel lupins, in an effort to provide farmers with a crop option combining high protein levels, fertilizer savings and other benefits.

"They're good nitrogen fixers, even for legumes. They're also specialized for phosphate uptake. A number of species develop these specialized roots called cluster roots that excrete organic acids into the soil to mobilize both organic and inorganic phosphate supplies, which would otherwise be unavailable," says Fedosejevs. Such characteristics mean lupin growers

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Photo: Matt McIntosh

Harvested dry beans.

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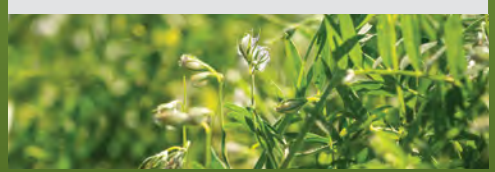

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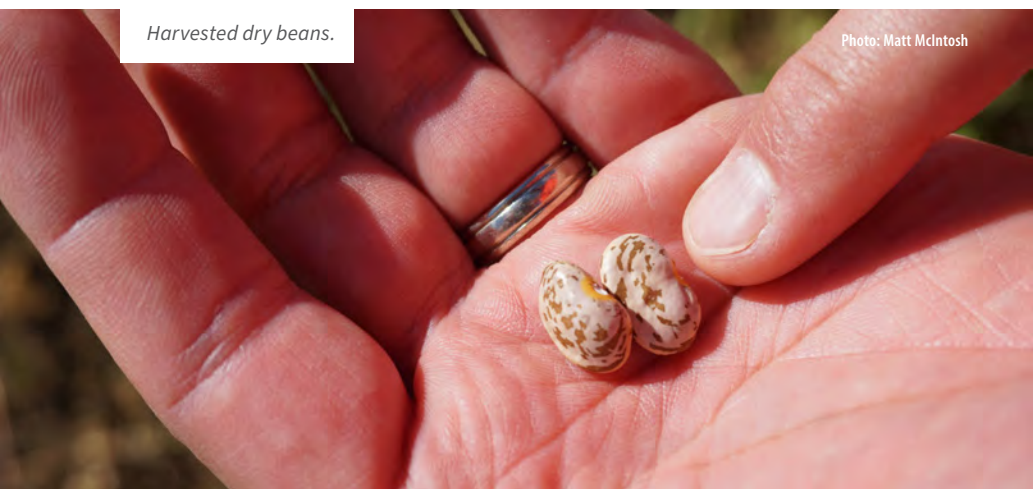
Jamie Larsen, dry bean breeder at Agriculture Agri-Food Canada's Harrow Research and Development Centre in Ontario



Harvested dry beans.

could reduce fertilizer inputs, achieving cost savings.

The problem – the lupin varieties cultivated in places like Europe and Australia have origins in the Mediterranean basin, and are very susceptible to disease in moist conditions. Indeed, both soil moisture and humidity pose significant production risk. Susceptibility to soybean cyst nematode is also common. In Western Canada, trials of varieties proven in other parts of the world have thus far brought very mixed results.

There are, however, some 200 New World species native to the Americas. Fedosejevs explains some do much better in wet environments, while others thrive in very harsh desert conditions. The species themselves are closely related too, which potentially translates to a significant genetic pool from which new varieties can be created for prairie growing conditions, and beyond.

"We are tentatively optimistic many of these species can be crossed," adds Fedosejevs. "We have a wide pool of traits and life strategies across all these different environments that all could be potentially harvested as a source of germplasm for future crop improvement. It's incredible, the potential genetic and phenotypic diversity compared to a lot of existing crop species, like soybean for example."

Manitoba Pulse & Soybean Growers is also working with Lupin Platform Inc. for lupin variety development. There are currently several varieties from Lupin Platform Inc. running in the Regional Variety Testing Program.

BROADER DRY BEAN RESEARCH

AAFC's Harrow Research and Development Centre is also home to a wide range of dry bean research initiatives headed by dry bean breeder Jamie Larsen. His program focuses on disease screening and the development of germplasm with disease resistance suitable for growers in Manitoba, as well as Ontario. One research stream – improved resistance to bacterial blight – has highlighted a trade-off between disease resistance and crop maturity.

"Since we've been working on bacterial blight resistance in kidney and cranberry beans, one of the challenges is we have an expectation of what the maturity should be for those varieties. It's a lot earlier than navy beans are, typically, but as soon as you incorporate some of this bacterial blight resistance, what happens is those lines become longer season. So, we're kind of battling this maturity-resistance interaction," says Larsen. "We are making some progress, but it's been more challenging than I thought it would be."

Other research areas include anthracnose resistance – something Larsen says is particularly relevant to Manitoba growers confronting Races 105 and 109 of the disease – and testing specific dry beans, such as pintos, for suitability in Manitoba working with Anfu Hou at the AAFC Morden Research and Development Centre.

"We've been asked to do more of the dry bean breeding for Manitoba. We put a pretty large effort in. We're working on all the relevant traits important to growers

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VIEW FROM THE FIELD

Wendy McDonald, Production Agronomist – West, Manitoba Pulse & Soybean Growers

WATCHING WHITE MOULD

In mid-August, Manitoba Pulse & Soybean Growers (MPSG) scouted dry bean fields that had pod development and almost no flowers left. Farmers had applied one fungicide pass about two weeks previous. Temperatures had been averaging 15 to 25 C, and many areas experienced one to two inches of rain, with forecasts calling for more.

Some dry bean fields were at a high risk for white mould. There was even greater concern for fields with crop rotations that included susceptible hosts (canola, soybeans, sunflowers) and where the 2024 crop had severe white mould infection. It seems that dry bean, fields with thick canopies, narrow seeded rows and high rates of nitrogen applied were ideal candidates for white mould development.

The phrase "no mould, no gold" was tossed around. Farmers were seeing some white mould in certain areas of their dry bean fields, and they suspected a decent yield was coming but had concerns about white mould impacting yield and quality.

Many were asking if there could be benefits from a second application of fungicide.

According to provincial pulse specialist Dennis Lange, "Fungicide will help if flowers are still present. It would be preventative for further infection. It is very important to only apply if you are within the pre-harvest interval (PHI) timing. At this exact time, we may be 30 to 35 days from harvesting depending on weather and the dry bean type."

One challenge with the late timing is that due to a thicker crop canopy, the fungicide may not penetrate the lower canopy where it would have the most impact. Once the crop starts to visibly ripen, fungicide will likely not make a difference.

The MPSG On-Farm Network (OFN) has studied the effectiveness of a second fungicide application in dry beans targeting white mould in 2016 and 2024.

July rainfall is necessary for white mould development, and both of these OFN trials experienced well below normal July rainfall. The OFN results showed that in dry beans, two foliar fungicide applications did not improve yields compared to one foliar application in dry years.

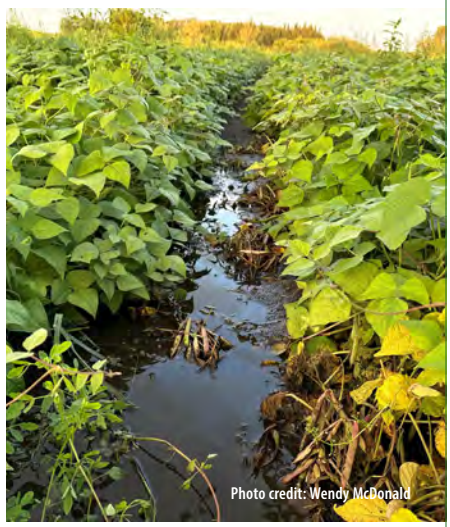
In soybean fields, which had enjoyed the cool and wet conditions in later July and early August, scattered plants with white mould infections were found. Symptoms were first noticed as lodged plants and plants with wilted, dried leaves near the top. Peering deeper into the canopy, white mycelium (mouldy growth) was found on the outside and black sclerotia bodies on the inside of the certain stems.

The thicker the soybean canopy the more likely that white mould infected a few plants in each sampling location.

From 2014 to 2024, the OFN conducted 71 on-farm trials looking at managing white mould where they compared a single application of fungicide at flowering to none in soybeans.

In these trials, a single foliar fungicide application increased soybean yield in 15 per cent of the trials by an average of 1.3 bushels per acre. Overall, only six of 71 trials (eight per cent) resulted in increased profits because the yield increase observed was worth more than the cost of a fungicide application. The research demonstrates that, though rarely occurring at severe enough levels, when conditions are optimal for white mould to develop, soybean yield will be protected with a fungicide application.

If you're curious how things shaped up with white mould throughout the province, be sure to check out MPSG's 2025 regional variety guide. For each location and variety, it lists the average visual rating of the per cent of dry bean plants infected with white mould on 10 plants per plot at full maturity.



From Top: "Wet" dry beans in a field near Grandview on August 11, 2025.

White mould took hold in a field near Boissevain on Sept. 3, 2025.

White mould was found in low percentages during a provincial soybean disease survey near Arden on Sept. 9, 2025.

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DARYL'S THOUGHTS • DARYL'S THOUGHTS • DARYL'S THOUGHTS • DARYL'S THOUGHTS • DARYL'S THOUGHTS • DARYL'S THOUGHTS •

MPSG has renewed its focus on funding the development of new legume crops. As soon as they are shown to mature in Manitoba, crops are entered into MPSG's Regional Variety Testing Program to give farmers a local sense of their potential. In recent years we have expanded to include lupins, faba beans, food grade soybeans and certain classes of dry beans. Adzuki beans are a few years away. See manitobapulse.ca/production/variety-evaluation-guide/

Photo: Matt McIntosh

Harvested dry beans.

Photo: Matt McIntosh

Harvested dry beans.

in Manitoba," explains Larsen, citing the enhancement of slow darkening, regular, and non-darkening pinto varieties for different agronomic and end-use needs as an example.

"We're sending our advanced dry bean lines to Manitoba for yield testing. We're working on scaling some of this up."

MANITOBA'S DIVERSIFICATION CENTRES

Back in Manitoba, pulse research is brought together through Manitoba Diversification Centres – four research centres spread across the province, where local producers and industry direct applied research on crops, technology and best management practices. Craig Linde, director of science, innovation and extension with Manitoba Agriculture, says the location of each centre allows researchers to test and troubleshoot pulse crops across a diverse range of Manitoba environments and soil types.

"For some of these pulses, we're in early stages, just learning more about them and if they might have potential in Manitoba. We're looking at basic things like yield potential, diseases, how they behave in different conditions," says Linde. Adding "time and water" are the two most significant management challenges facing Western Canadian growers more generally.

"You're not going to learn how to grow something by thinking its going to be perfect right off the bat. Some of these smaller crop markets can be quite volatile. We need experience to take advantage of those markets when the price is right. There's also the longer-term advantage, in terms of learning how to grow it on your farm, which can be advantageous if the markets do expand and grow. You're already up to speed and lower that risk and take full advantage of those opportunities."

Linde also highlights the benefits of adding new pulses to existing crop rotations, including both the disruption of pest and disease cycles, and the relatively low pest and disease pressure facing crops that have only been established in an area for a short time.

"You definitely need to do your homework so you have a home for it after harvest," Linde says, reiterating accessing specialty markets can bring transportation and storage complications. "If a new pulse seems to fit into your other major revenue crops, that would be the best-case scenario."

IMPROVING MARKETS

Agronomy aside, broader efforts to improve the viability of pulse crops though market development also continue.

A 2024 investment from Protein Industries Canada, Prairie Fava, DL Seeds and Three Farmers, for example, is expanding the snack food market for Canadian faba beans. Such investments build on historical improvements to faba bean marketability, including the removal of what Manitoba farmer and faba bean agronomist Jeff Kostuik calls "antinutritionals" – specifically, tannins that negatively affect flavour and compounds associated with digestive intolerances. More recently, he says, breeding has revolved around reducing the size of faba beans, and making them more spherical for improved handling in the field and at processing.

"When I started growing faba beans, they were the size of your thumb. Now they're starting to look more like a soybean or a pea," Kostuik says. "Agronomically, it's the highest nitrogen-producing annual legume that we have."

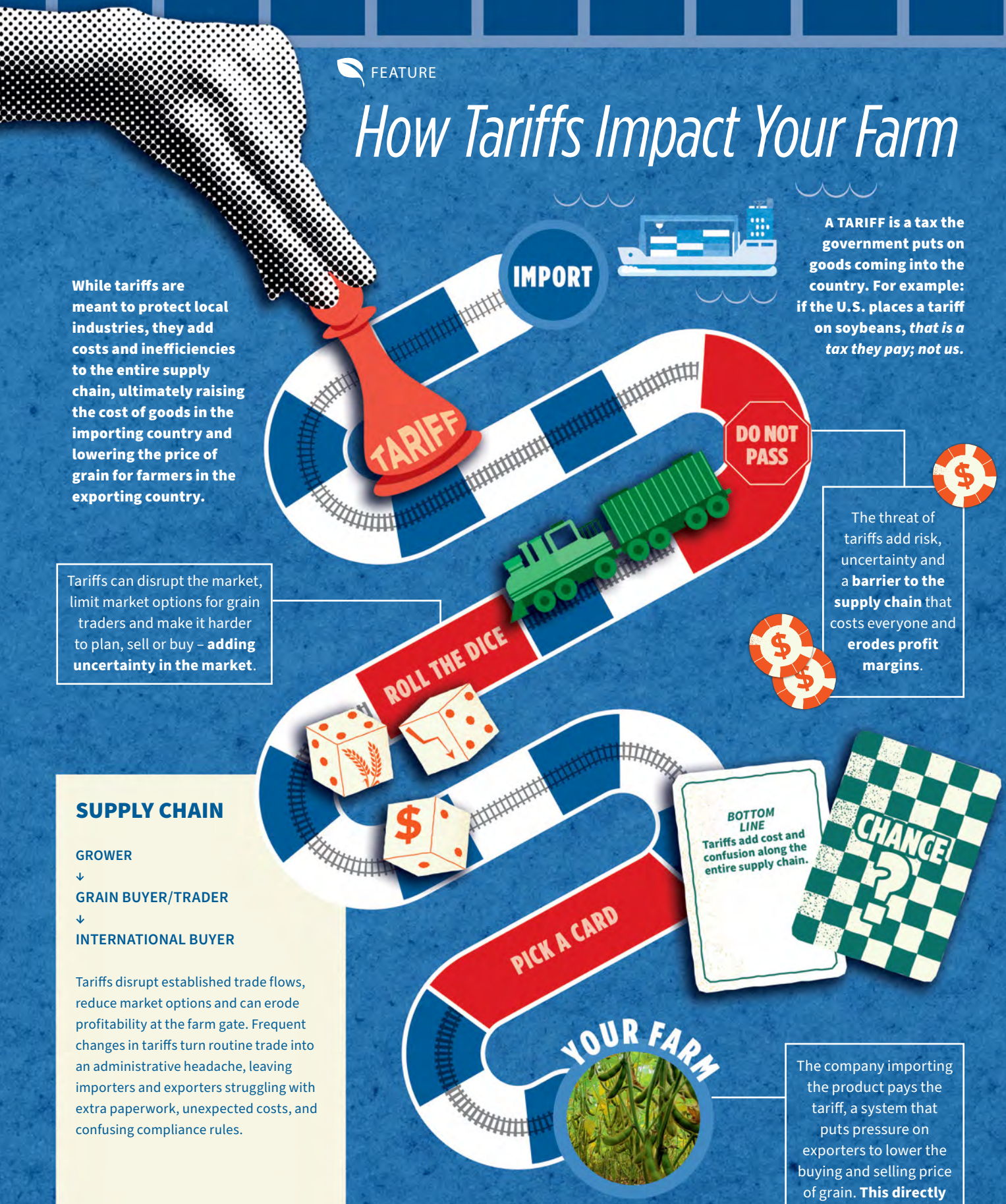
Another investment led by NRGene Canada, Pulse Genetics, Hensall Co-op, and Yumasoy Foods – also with support by Protein Industries Canada – aims to expand Canada's share of the global market for Identity Preserved soybeans by improving varieties for both traditional and non-traditional production areas. ■

FEATURE

How Tariffs Impact Your Farm

A TARIFF is a tax the government puts on goods coming into the country. For example: if the U.S. places a tariff on soybeans, *that is a tax they pay; not us.*

While tariffs are meant to protect local industries, they add costs and inefficiencies to the entire supply chain, ultimately raising the cost of goods in the importing country and lowering the price of grain for farmers in the exporting country.



Tariffs can disrupt the market, limit market options for grain traders and make it harder to plan, sell or buy – **adding uncertainty in the market**.

The threat of tariffs add risk, uncertainty and a **barrier to the supply chain** that costs everyone and **erodes profit margins**.

SUPPLY CHAIN

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INTERNATIONAL BUYER

Tariffs disrupt established trade flows, reduce market options and can erode profitability at the farm gate. Frequent changes in tariffs turn routine trade into an administrative headache, leaving importers and exporters struggling with extra paperwork, unexpected costs, and confusing compliance rules.

The company importing the product pays the tariff, a system that puts pressure on exporters to lower the buying and selling price of grain. **This directly affects farmers.**

IMPACT AT THE FARM LEVEL

Farm Prices

When tariffs add instability to the market, grain buyers face more risk and higher costs, which can lead to lower prices paid to farmers. Tariffs can limit export opportunities for agricultural products. They also drive up the cost of farm equipment, as manufacturers raise prices to cover more expensive imported parts.

Input Prices

Tariffs can increase the cost of goods bought for your farm.

Retaliatory Tarrifs

Retaliatory tariffs, such as the one imposed by China in March 2025 on canola oil and peas, have the most significant impact on Canadian farmers because they make Canadian products more expensive than those from other countries that aren't facing such barriers.

As a Result:

- Importers shift purchasing decisions toward lower-cost suppliers, reducing demand for Canadian products.
- Canadian traders face increased pressure to identify alternative markets or negotiate cost-sharing arrangements with buyers to offset the tariff burden.
- Farm-level pricing is affected. Reduced demand and market uncertainty can lead to downward pressure on the prices received by producers.
- Large importers exert greater influence, with their decisions having a disproportionate effect on global market dynamics. In 2024, India was the largest importer of pulses, followed by China.

Table 1: 2024 Top World Pulse Importers[1]

	Share of Global Pulse Imports	Million Metric Tonnes
India	40%	13.7
China	13%	4.6
Türkiye	8%	2.7
Pakistan	7%	2.4
Other	32%	10.9

Significant Moments in Canadian Trade Agreement History

1935 — The Canada-United States Reciprocal Trade Agreement lowered tariffs and established a rules-based trading relationship between the two countries.

1941 — The Atlantic Charter was signed by the United Kingdom and the U.S., recognizing the link between global economic collaboration and enduring peace and security.

1947 — The General Agreement on Tariffs and Trade (GATT) was signed by 23 countries, aiming to boost economic recovery after the Second World War.

1987 — The Canada–U.S. Free Trade Agreement (CUSFTA) eliminated tariffs on most goods and established mechanisms for resolving trade disputes.

1994 — The North American Free Trade Agreement (NAFTA) expanded CUSFTA to include Mexico.

1995 — The World Trade Organization (WTO) was created, replacing GATT. It included trade in services and intellectual property, as well as new procedures for settling disputes.

2016 — The U.S. begins blocking appointments to the WTO's Appellate Body, hindering the WTO's dispute settlement system.

2020 — Canada–U.S.-Mexico Agreement (CUSMA)–updated NAFTA to include labour provisions, digital trade regulations, and stronger rules of origin for the automotive sector.

2025 — The U.S., citing the International Emergency Economic Powers Act, imposed sweeping tariffs targeting imports from countries like China, India and Brazil.

2026 — U.S., Canada and Mexico plan to review the CUSMA, with the U.S. expected to seek concessions on issues such as drug trafficking, defence and migration.

[1] Table 1, left: UN Comtrade Data. 2025. Volume imported by World. Commodity Code 0713 : Vegetables, leguminous; shelled; whether or not skinned or split, dried.

Sources:

2025. World Trade Organization. About the WTO.

Ruiz Estrada, Mario Arturo and Koutronas, Evangelos and Quali, Hassan, The Tariffs War Between U.S. vs. Canada: Winners and Losers (March 20, 2025). Available at ssrn.com/abstract=5186415 or http://dx.doi.org/10.2139/ssrn.5186415

United Nations Comtrade Database. 2025. comtradeplus.un.org/

The Extension Gap: Developing New Models to Reach Farmers

Toban Dyck, Writer and Farmer

EXTENSION IS THE bridge between research, public policy, and on-farm practice. It helps farmers make sense of agronomy, programs, and innovations without sales pressure or hidden incentives.

It's a uniquely agricultural term that, for many, conjures nostalgia for the Prairie Farm Rehabilitation Administration (PFRA) or Manitoba Agriculture's now-gone extension offices. As a practice, it ensured the agronomic and political complexities of Canada's agricultural industry were available to farmers to understand and/or implement.

Across the Prairies, this bridge has changed shape. Provinces have reorganized their services, private actors have stepped into the space, and producer organizations aware of this disturbance are being challenged to think about what this means for them and how they serve their farmer members. The question isn't whether extension matters. It's how we deliver it in a world where the old model no longer exists.

MANITOBA

Manitoba historically operated a network of regional extension offices that offered local, in-person support. Over time, the province restructured these services. Rather than eliminating large numbers of staff, Manitoba shifted to a train-the-trainer model, where government specialists support private agronomists, commodity groups and other partners who work directly with farmers. The closure of several walk-in offices has reduced the local presence, even as research and advisory work continued.

This evolution created gaps. How knowledge flows has changed.

SASKATCHEWAN

Saskatchewan's long extension tradition has also undergone waves of restructuring. District offices gave way to regional service centres and specialized teams. While this model has increased technical specialization, it has also widened coverage areas and made localized support uneven. Some crops, regions, and issues now receive more consistent attention than others.

ALBERTA

Alberta has experienced the most dramatic restructuring. The Ag-Info Centre lost many specialist positions, and producers have been increasingly directed to online resources or external advisors. Consolidation has reduced the province's ability to deliver independent, staff-led extension, and farmers now have fewer neutral touchpoints than in previous decades. The transition reshaped not only how information moves, but who is trusted to move it.

EXTENSION GAP

These differences in provincial philosophy have created a clear pattern across the Prairies. These shifts have resulted in reduced access to regional, unbiased, unbranded advice previously provided from people walking the fields, hosting community meetings, or responding directly to local issues. This will likely be felt the most in remote regions with fewer private agronomists.

Research and policy issues are, in some cases, only reaching farmers too late for critical engagement or too late for implementation. The visibility of issues that matter has diminished. Critical discussions around soil, carbon, business risk management, or new regulations are harder to navigate without public extension efforts putting these things in front of farmers in ways that facilitate understanding and engagement.

Private companies are filling this public extension vacuum and taking advantage of this fluctuating landscape, offering valuable and responsive agronomic insights. Their agronomists are visible and well-resourced. But the information isn't independent. Sales incentives and commercial priorities shape what gets emphasized, what gets omitted and how success is defined.

Where neutral, comparative information is lacking, the risk is that commercial voices become the dominant or sole source of extension.

OPPORTUNITY FOR PRODUCER GROUPS

Crop commissions like Manitoba Pulse & Soybean Growers (MPSG) aren't replacements for public extension. Nor should they be. But they are uniquely positioned to strengthen the system by:

- Continuing to fund farmer-relevant research
- Translating and distributing research results in ways and channels relevant to their farmer members
- Hosting field tours, webinars, events and other extension-related activities
- Doing agronomist in residence program with post secondary institutions

These activities show how producer groups can play a leadership role in modern extension; not by taking over government responsibilities, but by complementing them. Neutrality remains a cornerstone of MPSG's work, and maintaining a clear separation between education and promotion is a big part of their value proposition to farmers.

MPSG is innovating its extension service offerings further. They're introducing short-form videos, hands-on agronomy demonstrations, an increased and more diverse digital presence, partnerships with other producer groups, and much more to their extension repertoire.

WHERE EXTENSION GOES FROM HERE

The University of Guelph's Capacity Development and Extension (CDE) graduate program remains one of only a few extension-focused programs in Canada, combining communication, leadership and applied rural development projects.

This fall, Guelph hosted a major national event: "Extension 4.0: Disruption and Transformation in Agri-Food & Rural Development." As the School of Environmental Design and Rural Development explains, the conference

Kristen MacMillan, the Manitoba Pulse & Soybean Growers (MPSG) agronomist in residence at the University of Manitoba, speaks at a MPSG tour of the University of Manitoba research farm near Carman in July.

Photo credit: Michelle Lewis

gathered researchers, policymakers, and practitioners to reimagine extension in the digital era.

Farmers aren't getting information like they once did. The risk is that they'll get it instead from those selling them something. Independent research will go unseen and policy shifts will go unheeded.

Extension as a discipline and the entire extension landscape are evolving, and if future delivery models keep learning from farmers and from each other, it can remain one of the most powerful tools in agriculture.

Crop commissions like MPSG are well suited to support, strengthen, and, in some cases, develop new models for how knowledge flows.

What we have now is fragile and fragmented. That's both a warning and an invitation.

Extension isn't gone. It's in flux.

EXTENSION INSIGHTS FROM ACROSS CANADA

In conversations on *The Extensionists* podcast, extension experts and practitioners from across Canada echoed a consistent message: listen deeply, communicate clearly, adapt to new formats, and never lose sight of farmer priorities. In other words, extension begins with listening, it grows through asking the right questions, and it succeeds when insights are delivered in formats that resonate with real people on the ground. Across the first 21 episodes of the podcast, a set of key takeaways emerged:

- **Afua Mante**, soil physicist with the University of Manitoba: teach the physics of soil health; compaction, infiltration, and structure.
- **Jeff Schoenau**, soil scientist with the University of Saskatchewan: practice "forensic agronomy" – help farmers interpret soil tests and nutrient cycles.
- **Tracy Herbert**, Beef Cattle Research Council extension and communications director: take risks with new methods; failure is better than standing still.
- **Daryl Domitruk**, executive director of MPSG: treat extension as a discipline. Listening is as important as presenting; extension must bridge public expectations with farmer realities, acting as a trusted, objective mediator.
- **Justice Acoose**, communications specialist with the National Circle for Indigenous Agriculture and Food: meet audiences where they are; social media, youth platforms and cultural storytelling.
- **David Sauchyn**, director of the Prairie Adaptation Research Collaborative (PARC): use climate history to prepare for the future. Don't rely only on short-term data.
- **Francois Labelle**, former executive director of MPSG: build organizations

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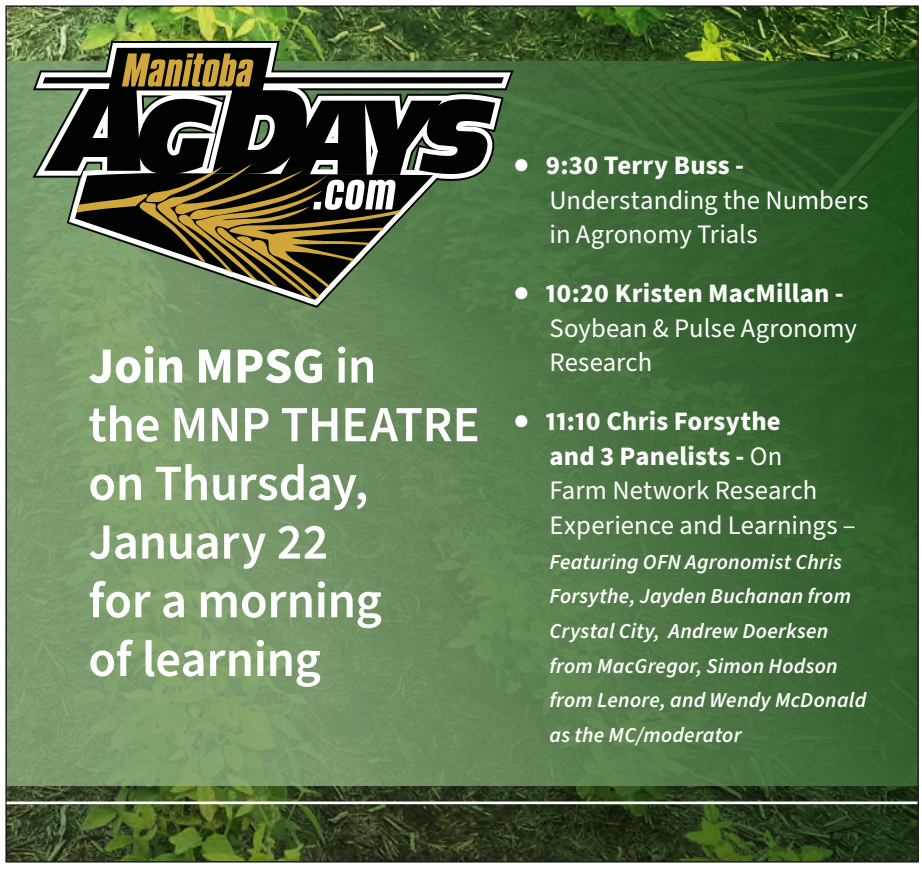
that listen to growers and reflect their priorities.

- **Diljeet Brar**, former ag extension specialist: knowledge transfer depends on community trust and personal connection.
- **Alison Sunstrum**, managing partner of NYA Ventures: help farmers adopt digital agriculture by linking tools to real challenges.
- **Mark Campbell**, manager of AHDB's AgriLeader Program: train farmers in leadership and communication to multiply extension impact.
- **Scott Day**, agronomist and director with Fall Line Capital: bridge agronomy with ag tech; connect soil health to precision tools.
- **Jenelle Hamblin**, director of swine health with Manitoba Pork: extension in livestock means preparing farmers with biosecurity and crisis plans.
- **John Burns**, farmer with Windy Poplars Farms: treat farms as businesses that learn; balance innovation with mental health.
- **Ryan Barrett**, research and agronomy specialist with the Prince Edward Island Potato Board: farmer-driven research, such as on-farm trials, advisory groups, and local adaptation, builds trust.
- **Jolanda Jansen**, communications consultant and co-owner of St. Anna Advies: ask before you tell; curiosity and respect unlock change. ■



Connecting Manitoba through Research

Anand Aneja is excited for the collaboration opportunities his new job at Assiniboine College is providing for MPSG.

Ashley Robinson, Editor

Anand Aneja, Manitoba Pulse & Soybean research agronomist in residence at Assiniboine College

FOR ANAND ANEJA, his new position as the Manitoba Pulse & Soybean (MPSG) research agronomist in residence at Assiniboine College, is a homecoming in some respects. While Aneja never attended Assiniboine College, back before he ever set foot in Canada, he worked as an assistant professor at Punjab Agricultural University in India. In that role, he did research and extension, along with teaching vocational courses such as beekeeping.

He decided to move to Canada for opportunities for his family and as many of his friends were also making the move. Aneja moved to Manitoba in 2013. He started working in retail industry at gas stations and grocery stores before finding his way back to agriculture. For the better part of the last decade, Aneja worked as a research agronomist with Integrated Crop Management Services (ICMS) in Portage la Prairie. While at ICMS, he worked on pesticide efficiency and varietal evaluation for major prairie crops.

"This position is 30 per cent teaching in the College position. I have a friend in the College, and she's my classmate too, and she encouraged me to apply'" Aneja says.

In the end, it was the perfect fit for Aneja, and he started working at Assiniboine College in March 2025. His first six months were spent getting used to his new job and introducing himself to Western Manitoba pulse and soybean growers by attending field days across Westman.

"Assiniboine College has so many projects, so many teachers who are working on the applied research. Collaborating with MPSG, it's a new program for the College, and they are so excited. My dean was saying that we should approach other organizations to start this kind of program in the college so that we can expand more in terms of applied research," explains Aneja.

This new role is meant to conduct relevant research in the Westman area of the province and add to the association's collaborations with Assiniboine College and the Agriculture and Agri-Food (AAFC) Brandon Research and Development Centre. To date, Aneja has worked on the MPSG variety trials, the On-Farm Network, and the final report for the pea leaf weevil research project. He has worked with AAFC on disease surveys for peas, faba beans and dry beans.

Aneja's job is 70 per cent research work and 30 per cent teaching courses at the college. Initially, he wasn't thrilled about the teaching aspect and was nervous for it. However, this fall when he started teaching his first few classes, he found himself enjoying the return to the classroom.

"I would like to stay in the research mode…but once I start teaching the course, I was like no, I can do two or three courses," Aneja adds. "I'm enjoying research more still."

Aneja is looking forward to expanding research into pest control problems pules and soybean farmers in Manitoba are facing. He has limited experience with crops like lupins and faba beans but is looking forward to learning more about them and the opportunities for growing them, especially in Western Manitoba. ■

Photo: Assiniboine College

Anand Aneja (R) speaks at the Westman Agricultural Diversification Organization (WADO) field day in Melita.

Great Tastes of Manitoba Makes Shift to YouTube

Ashley Robinson, Editor

Great Tastes of Manitoba Host Laura Cook, a home cook and food blogger from rural Manitoba, on the set of the show.

Photo credit: Great Tastes of Manitoba

AS TIMES HAVE changed, so has *Great Tastes of Manitoba*. The Manitoba cooking show has now made the switch to a digital-first format. As of Sept. 5, 2025 *Great Tastes* moved from its Saturday spot on CTV to releasing weekly segments on YouTube.

"We were being asked by our commodity partners to reach younger audiences and make sure that our content was appealing to younger audiences. And it became apparent that the broadcast format wasn't going to be the way to reach that audience," says Donalee Jones, senior producer of *Great Tastes*.

According to a May 2024 Comscore CTV Intelligence survey, 88 per cent of Generation Z households and 65 per cent of millennial households are cordless and don't have access to traditional cable television. For *Great Tastes*, stats like this helped push the team to make the digital-first shift.

The show now releases one new video weekly on Fridays at 1 p.m. Content ranges from five to 20 minutes in length and features recipe videos, farm tours and behind-the-scenes content. The segments are repackaged into half-hour shows that air on Rogers, WGCTV, and The Rural Channel.

The digital shift gives the *Great Tastes* team access to more information about their viewers. Traditional broadcast ratings have not been available since 2020, which made it difficult to track viewership information. YouTube and social media platforms provide real-time analytics, including viewer location, watch time and device usage.

The digital format offers greater flexibility for both the producers and viewers. With content now produced year-round, producers can respond to trends more quickly and deliver timely, engaging stories all year long.

"This is much more interactive and engaging for the audience. They get to ask questions. They get to be a part of the discussion, instead of being a passive viewer on broadcast," Jones adds.

The YouTube series is also introducing a new cast of local hosts. The new cast includes Chef Gordon Bailey, a renowned restaurateur and respected culinary instructor; Chef Anna Hymers, a Red Seal chef and research technician at RRC Polytech's Prairie Research Kitchen; Chef George Hudson, sous chef at Oxbow Natural Wine Bar and Restaurant; and Laura Cook, a home cook and food blogger from rural Manitoba.

"In previous years, the commodities would send a guest expert, and they would cook alongside (Dez Daniels) in our kitchen. This is kind of the double-edged sword of it. We all loved Dez, and we are sad not to have her a part of this season," Jones explains.

Because of that kind of one-on-one YouTube platform, we really just needed cooks. We needed chefs and home cooks that could present and so we have hired four professional chefs and food lovers to present the bulk of the content, regardless of which commodity."

Since launching the new format, feedback from sponsors and viewers has been positive, with increased engagement and views.

Great Tastes can be streamed on demand on the @GreatTastesTV YouTube channel. ■

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Great Tastes of Manitoba Host Chef Anna Hymers, a Red Seal chef and research technician at RRC Polytech's Prairie Research Kitchen, on the set of the show.

> ***We were being asked by our commodity partners to reach younger audiences and make sure that our content was appealing to younger audiences. And it became apparent that the broadcast format wasn't going to be the way to reach that audience.***
>
> ***Donalee Jones***

VIEW FROM THE FIELD

Wendy McDonald, Production Agronomist – West, Manitoba Pulse & Soybean Growers

TRIPLETS!

During late May in fields located on either side of Riding Mountain National Park, we found pea and faba bean plants with what we are calling "triplets" coming from a single seed.

These plants emerged late and some of their leaves appeared a bit crispy. To be certain, we had to dig up the suspected plants and look at the seed. This strange anomaly wasn't variety, seed treatment, pre-emergent chemical or even crop specific. These triplets were randomly scattered in the field and did not appear in patches.

The first shoot tip was injured somehow and then so was the second. Our thinking is that it had something to do with the dramatic temperature swings the fields experienced. Grandview weather station reported a May 7 low of minus 3.7 C and a May 8 maximum temperature of 30.9 C, with a May 17 high of only 4 C and a low of 0.3 C. Shoal Lake weather station reported a May 7 low of minus 3.3 C and a May 8 maximum temperature of 29.4 C, with a May 17 high of only 4 C and a low of minus 0.3 C.

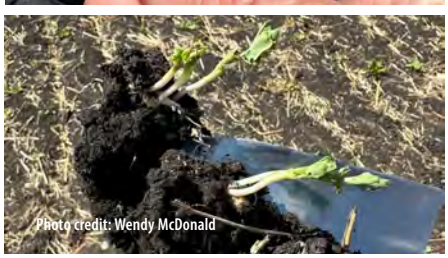
Injury could also be from frost, animal foraging, insect damage and maybe even hot soil temperatures at emergence, and there was that ice cold rain over the May long weekend. The stress caused a disruption to the apical dominance of the plant, which means the control the main shoot had over the other shoots was weakened. The natural balance of auxin (a plant hormone produced in the shoot tip that gets transported down the stem) was disrupted triggering a response from the other growing points to take over and continue growing.

If at first you don't succeed, try, try again, it seems.

Top Right: "Triplets" on May 28, 2025 in a field near Grandview.

Middle Right: Persistent peas on May 28, 2025 in a field near Grandview.

Bottom Right: Faba beans fight back on May 30, 2025 in a field near Newdale.



Seed Treatment Research on Pea Leaf Weevils in Manitoba

The Bean Report

Wendy McDonald, Production Agronomist – West, Manitoba Pulse & Soybean Growers

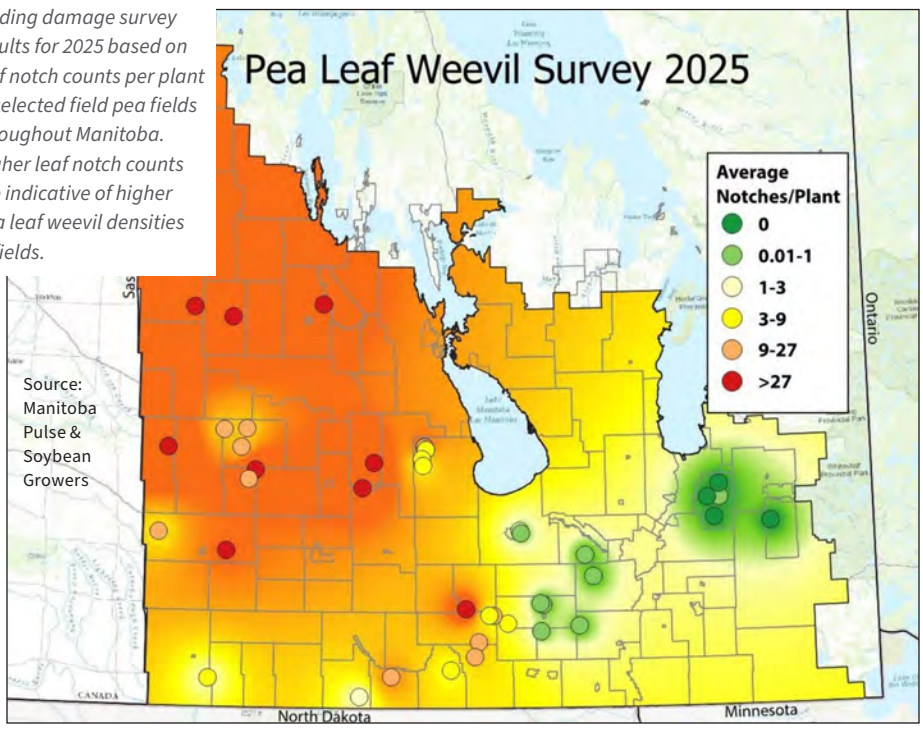
PEA LEAF WEEVILS were first observed in Manitoba over five years ago, arriving from the western prairies into the Swan River Valley. They have moved further south and east every year.

Adult pea leaf weevils are slender, greyish-brown, and approximately five millimetres long. They can be distinguished by three light-coloured stripes on their thorax. They have a short snout (unlike most weevils), and they tend to "play dead" when disturbed.

Adult weevils hide under the snow to survive the winter snuggled in amongst alfalfa and other perennial legume plants in roadside ditches and shelterbelts. The adults emerge in the spring, when temperatures are warmer than 15 C, and fly to field pea or faba bean fields with the aim to reproduce in those locations. Adults seem to migrate in waves from the ditch throughout the spring. Applying foliar insecticide only kills the adults present in the field at the time of application and more pea leaf weevils return in the coming days.

We can tell pea leaf weevils have been in a field after we see what they've eaten. Pea leaf weevils uniquely nibble only on the leaf margins of peas and faba beans, which presents as crescent-shaped notches like the leaf edges were hole punched or have scalloped edges. The number of notches on the plants are counted to estimate the density of the pea leaf weevil population.

Field pea plants can typically withstand 50 per cent defoliation without the damage impacting yields. By the time we see notching, it means the adults have already been there, mated and laid eggs. Females can lay up to 1,500 single eggs on the soil surface or on developing plants as they feed and move throughout the field. Most eggs are laid in May and June and require 18 to 20 days to hatch, depending on temperature and humidity. Eggs are small, smooth and oblong. They are white when laid but turn nearly black at hatching.



Manitoba pea leaf weevil feeding damage survey results for 2025 based on leaf notch counts per plant in selected field pea fields throughout Manitoba. Higher leaf notch counts are indicative of higher pea leaf weevil densities in fields.

In July, eggs hatch and larvae develop under the soil over a period of 30 to 60 days. These larvae grow through five instar stages. They are C shaped and legless with a dark brown head capsule and a milky-white coloured body. First instar larvae bury into the soil after hatching and search out root nodules of field pea and faba bean plants.

Larvae enter the root nodules and consume the microbial contents, basically they get in there and hollow them out. It appears that nitrogen-fixing bacteria are just about the only thing the larvae eat. It's suspected high pea leaf weevil populations could destroy a large percentage of the nitrogen-fixing root nodules. The larvae feeding on nodules are difficult to observe because they occur underground but may cause significant yield losses and weaken plants, making them less drought tolerant.

After pea leaf weevil larvae have grown to reach their fifth instar (3.5 to 5.5 millimetres long), they burrow into the soil to pupate. Pupation requires 15 to 20 days. The new generation of adults emerge in late July to August. There were reports of large numbers of weevils on cutter bars during the 2025 pea harvest.

When adult pea leaf weevils emerge, they are looking for anything green to eat including volunteer peas that emerge post-harvest. When peas and faba beans are not available, adult pea leaf weevils will consume foliage of any available legumes (wild or cultivated), including alfalfa, clover and vetch. Adult weevils fly to migrate to their overwintering sites.

HOW DO WE CONTROL PEA LEAF WEEVILS IN MANITOBA?

To date, western Canadian research found no significant protection of yield by applying foliar insecticides in-crop for pea leaf weevils. No insecticide exists that can target those larvae consuming the bacteria inside root nodules, so it's critical to control adult weevils before they mate and lay eggs.

Pea leaf weevils found in Shortdale on May 12, 2025. The temperature was 27 C.

Photo credit: Wendy McDonald

In theory, a farmer could spray insecticides on a trap crop to control the pests before they emerge or go to over-winter, but that would be very difficult to time appropriately. Insecticide seed treatments can limit adult pea weevil activity and populations early in the growing season, as the insecticide moves systemically through the plant, but it is only effective for approximately two to three weeks following seeding. During this time, when the adult pea leaf weevils feed on new leaves, they ingest the insecticide, which causes them to stop feeding and delay egg laying. This has been shown to reduce the number of larvae feeding on nodules.

Research on management techniques for pea leaf weevils in Manitoba continues to be important. Since no two growing seasons are alike, Manitoba Pulse & Soybean Growers (MPSG) undertook a three-year study on pea leaf weevils examining the effectiveness of seed treatments and how field pea yields were affected.

Insecticide seed treatment is an added cost to growers, and MPSG wants to determine if it is an economical measure for protecting yield in peas. Research was conducted at Manitoba sites in Minitonas, Roblin and Melita. Anand Aneja, agronomist in residence at Assiniboine College, oversaw the 2025 research, and will be presenting the final results of the three-year study in early 2026.

At each research location, all plots received a pre-plant incorporated herbicide treatment (Authority or Edge), a pre-seed burn off with glyphosate and a post emergent herbicide at the first to sixth true node stages (Viper ADV or Odyssey) to eliminate weed competition. Hand weeding was done to ensure the trial was weed free. Insects and diseases were controlled with registered products if they reached threshold levels.

Experiments included the following seed treatments:

1. Untreated check
2. Cruiser 5FS (thiamethoxam)
3. Stress Shield 600 (imidacloprid)
4. Lumivia CPL (chlorantraniliprole)

All plots in each research trial were assessed for plant stand, pea leaf weevil notch counts (at the sixth true node stage) and yield.

While summarizing all locations and results from 2023 and 2024, researchers observed a trend of less pea leaf weevil notching where Cruiser (thiamethoxam) and Stress Shield (imidacloprid) seed treatments were applied. However, this didn't translate to any yield improvements. It is suspected that pea leaf weevil populations may have been so high at the trial locations that any

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Photo credit: Michael Dolinski

Larva of pea leaf weevil.

Pea leaf weevil notches on faba bean plants in Minitonas on June 4, 2025.

Photo credit: Wendy McDonald

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There are no bites on the clam shell leaf, but other leaves were heavily scalloped on a field pea plant in Dauphin on June 9, 2025.

Severe defoliation by pea leaf weevil at Minitonas on June 4, 2025.

seed treatment effects were masked by excessive pest pressure.

Another possible explanation for the results seen in 2023 and 2024 is that pea leaf weevils arrive in fields early if warm conditions (above 20 C) persist for more than a few days in late April or early May, resulting in higher yield loss. In years when cool weather persists, such as in 2023 and 2024, the arrival of pea leaf weevils can be much later, and the yield impact less serious.

It should be noted that dry years made plants more susceptible to the pea leaf weevil, which was amply observed at the 2025 trial sites.

In 2025, the Minitonas (Swan River Valley) site got off to a fantastic start. Plots were seeded on May 6, with 10 inches spacing into soil at 12 C and with ample moisture for germination. Peas emerged on May 16, but experienced an extended period with no rain and daytime temperatures reaching above 25 C during the last week of May, with June 1 reaching 34 C. There was no statistical difference between treatments found for plant counts done after full crop emergence.

In hot, dry growing conditions, the Minitonas site demonstrated the highest numbers of pea leaf weevil notching and defoliation that researchers have seen thus far in Manitoba. Feeding was so intense that notch counting at the bottom three nodes of plants couldn't be completed because all plants were already defoliated in those areas before the counts began.

Data analysis revealed that Cruiser 5FS (thiamethoxam) and Stress Shield 600 (imidacloprid) treated plants had lower notch counts per plant than other treatments. There was no difference in the number of notch counts between untreated plants and Lumivia CPL (chlorantraniliprole) treated plants. There was no difference between any of the treatments for total nodule number per plant, pea leaf weevil larvae number per root, number of pink nodules per root and damaged nodules per root.

In 2025, after a season of intense pea leaf weevil populations, the Minitonas site was harvested on Aug. 21. There was no statistical difference in yield between any of the treatments and individual plot yields ranged from the high 60s to low 70s bushels per acre. It should be kept in mind that this was only the results for one site in 2025. A final summary of the results of the complete three year study will be avialable soon.

CAN YOU TELL HOW MUCH YIELD LOSS TO EXPECT BASED ON THE SPRING NOTCH COUNT?

Research has found a relationship, albeit it between the percentage of plants with damage on the terminal leaves and yield loss, explains Meghan Vankosky, a field crop entomologist at Agriculture and Agri-food Canada's Saskatoon Research and

Nibbles were still found on volunteer peas in Grandview on Oct. 3, 2025.

Conducting a leaf notch survey June 10, 2025 at Strathclair.

Development Centre who completed research on pea leaf weevil.

"A few other authors also observed similar, weak relationships in field pea. I think that factors like soil quality and larval numbers confound our ability to predict yield loss based on feeding damage," Vankosky added.

She explained that in the same study, it was found that, despite the number of adult weevils, there were about 12 larvae per plant. Vankosky argued field peas have a carrying capacity for larvae, and that even one female can lay enough eggs to meet the larval carrying capacity of 32 plants (based on the number of plants in their cages).

"Other studies in labs had similar results, where they added 50 or 100 eggs to individual plants and only about 10 to 15 adults emerged later. So, while feeding damage gives a rough estimate of population density, it unfortunately doesn't really allow us to estimate subsequent larval populations, root nodule damage or yield loss," she said.

WHAT TO EXPECT FOR PEA LEAF WEEVIL NUMBERS IN 2026?

According to Vankosky, unless something drastic happens, like a major change in precipitation, the chances are good that areas with high weevil densities last year will have high densities again the next year.

Research conducted around Swift Current, SK found that populations of pea leaf weevils completely crashed when there was a period of dry weather. Vankosky's research found that between spring of 2017 and spring of 2018, it was really, really dry and the next year (2018), they had basically no weevils.

It's possible the larvae cannot burrow through the soil crust, or they die on the soil surface when the weather is hot and dry. ■

DARYL'S THOUGHTS • DARYL'S THOUGHTS • DARYL'S THOUGHTS • DARYL'S THOUGHTS • DARYL'S THOUGHTS • DARYL'S THOUGHTS •

MPSG staff thrive on this sort of practical challenge. They combine intense field surveillance with targeted research to recommend practices to growers.

Long-Term Plant Biostimulant On-Farm Network Trial Results

Are plant biostimulant products providing a return on investment on-farm?

Christopher Forsythe, On-Farm Network Agronomist, Manitoba Pulse & Soybean Growers

AT THE END of the day, farmers want to know if plant biostimulant products increase yield and provide a return on investment on their farms.

Biostimulants can be defined in many ways, but perhaps biostimulants should be defined by what they are not. They are not nutrients, pesticides or soil improvers.

Without going too deep into how they work, biostimulants claim to enhance crop production, improve crop quality and increase plant tolerance to things such as excess heat, cold events and drought. Biostimulants are usually applied to the crop foliage but can also be applied to the seed or as a soil amendment at seeding.

Biostimulants encompass a diverse group of product technologies with many different types and formulations. Some products are promoted as nitrogen fixers with an active ingredient derived from bacteria. Some products are a combination of active ingredients with of humic acids, seaweed extracts and other compounds.

Generally, farmers are leery about changing production practices by completely removing inputs such as inorganic fertilizer and fungicides and replacing them with biostimulants. As a result, they keep all other inputs the same and add biostimulants as a tank mix with herbicide or fungicide passes, adding a significant cost per acre.

Biostimulants can play an important role in crop production systems – if they can effectively reduce pesticide and fertilizer use while maintaining yields. This climate-smart production technology potential was recognized by Baljeet Singh, faculty researcher for the Russ Edwards School of Agriculture and Environment at Assiniboine College in Brandon. Singh's team is currently conducting small plot field experiments with agricultural biostimulants, and they will examine the impacts of five commercially available biostimulants on growth, yield and seed quality of soybean crops. The project, funded by Manitoba Pulse & Soybean Growers, began in 2025 and will run until 2027. It has sites in Melita, Portage la Prairie and Carberry.

There is also a need to take those small-plot results and other private company published results and verify the same product's effectiveness for yield and economics at field-scale.

SINCE 2019, THE OFN HAS COLLECTED 38 SITE YEARS OF DATA FROM THREE CROP TYPES. YIELD WAS NOT SIGNIFICANTLY INCREASED WITH THE ADDITION OF BIOSTIMULANTS.

Every year since 2019, the On-Farm Network (OFN) has been evaluating biostimulant products for yield and return on investment, with treated and untreated strips or plots the width of a combine header running the length of the field. With seven years of data, the results have encompassed extreme and variable weather conditions.

Generally, the OFN has tested biostimulant products applied to crop foliage after emergence. We look primarily at yield, plant stands and economic impact. To date, the OFN hasn't researched the benefits of these products for impact on soil health and benefits to a cropping system over the long-term.

From 2019 to 2024, there have been 33 soybean trials comparing an application of a biostimulant product to untreated. In 2019 and in 2025, a total of four trials compared plant biostimulant products in peas, and one dry bean site in 2024 compared a biostimulant to untreated. (Note: Four more soybean and two more dry bean trials were harvested in fall 2025 with results published in 2026.)

Totalling up all plant biostimulant on-farm trials across the three crops works out to be 38 site years. Across those 38 site years, biostimulant use has not shown a significant yield increase when compared to untreated plots. With products costing anywhere from $5 per acre to $28 per acre, the loss in profits is equal to cost of the biostimulant product, not including application cost. (Note: Applications are often tank mixed with herbicide passes, thereby reducing application costs.)

Do plant biostimulants necessarily need to be profitable in the first year of application? Many products claim to improve soil quality and crop production for the next cropping cycle. To know if these products will improve soil health and increase yields over time will take a longer research commitment.

Another potential savings benefit from using biostimulant inputs could be reduced fertilizer costs. Perhaps savings are made when certain biostimulant products are applied in conjunction with reduced fertilizer rates and the yields are found to be equivalent.

To date, the OFN has only looked at whether plant biostimulants have statistically improved yields over no biostimulant use enough to be economically beneficial.

The bottom line is, these products haven't provided a return on investment for Manitoba farmers by increasing yields to date, but that doesn't mean the OFN will stop conducting field-scale research with biostimulant products as long as farmers are interested. ■

RESEARCH CORNER

Patti Rothenburger, Incoming Extecutive Director, Manitoba Pulse & Soybean Growers

LEARN A LITTLE ABOUT LUPIN

New research is exploring lupins as a promising crop rotation option for Prairie growers. Lupins are rich in protein, oil, and fibre, while low in starch. They fix more nitrogen than faba beans or peas, leaving behind about one third of the nitrogen they produce to benefit subsequent crops. This makes them an attractive addition to sustainable cropping systems.

Researchers in Canada are testing two main groups of lupins: Old World and New World lupins. Old World lupins (like white and blue lupin) come from the Mediterranean. They grow well in hot, dry soils and are widely used in Australia. On the Prairies, they can struggle in wetter conditions and don't do well on heavy or high-pH soils. Because they have limited genetic diversity, it's harder to improve them through breeding. New World lupins, such as the Andean lupin, are native to the Americas. The Andean lupin has been grown in South America for centuries and are valued for its high protein and oil content. These lupins are known for their adaptability, ability to grow in poor soils and harsh climates where other crops may not perform well. They also show natural resistance to diseases and insects.

By studying both Old World and New World types, researchers hope to find lupin varieties that can thrive in Prairie soils and weather, while offering farmers a new protein-rich crop option. This work is being advanced not only in Manitoba but also through national collaborations. Lupin Platform Inc. is working to build a foundation for lupin development in Canada, while Eric Fedosejevs and his team at Agriculture and Agri-Food Canada (AAFC) in Harrow, ON are leading research into breeding and evaluation. Together, these efforts are helping identify which lupin species and traits hold the most promise for Prairie growers.

Variety Trials

As part of regional variety trials led by Manitoba Pulse & Soybean Growers (MPSG), Manitoba Crop Diversification Centres have been growing lupins for the past four years. Staff have gained valuable insights into three main types:

- **Narrow leaved lupins (formerly blue lupins):** Similar to field peas in seed size and handling, these are best suited to Alberta's climate. They mature earliest but are more sensitive to high soil pH and in crop herbicides.
- **Sweet white lupins:** The preferred food type, potentially well suited to Manitoba. They require more moisture and a longer growing season but typically yield higher with greater oil content. They tolerate higher soil pH and herbicides better than narrow leaved types. Their growth habit resembles small palm trees.
- **Yellow lupins:** Originating from South America, they are bred for drought and cold tolerance as well as anthracnose resistance. They grow low to the ground and become more upright as flowers develop. Yields are lower, but protein content is excellent.

Agronomic Notes

Volunteer canola is a weed concern in lupin fields, and growers must use a lupin specific inoculant to ensure proper nitrogen fixation. Lupins don't thrive in heavy clay or high pH soils above 7.2, where iron deficiency can cause spindly growth. They have thick cotyledons, tolerate spring frost, and prefer cool, moist conditions with eight to 10 inches of rainfall and temperatures below 25 C. Plants have short, woody stems that resist lodging, though herbicide options remain limited. Flower colour indicates seed type: white flowers produce white seed, while blue flowers produce speckled seed. Seeds resemble peas but are slightly smaller. Current yields are lower than field peas, but protein content is higher.

Food and Market Potential

Lupins naturally contain alkaloids that give them a bitter taste, but plant breeders have developed modern "sweet" lupin varieties with much lower levels. These advances make lupins well-suited for food and feed markets. Ongoing research continues to refine alkaloid management, ensuring varieties meet safety standards while expanding opportunities for lupins in human diets and livestock rations.

Lupins are versatile in food processing. They can be canned, made into hard and soft cheese alternatives, or roasted into bar snacks and "meatballs." Unlike many legumes, lupins stay soft during dry roasting. Lupin flour is widely used in France, and roasted lupins can even serve as a coffee alternative. These diverse uses highlight their potential in both domestic and international food markets.

Harvest Management

Harvesting lupins requires careful timing and management. Because the pods are thick and prone to shattering, it's important to wait until the crop reaches about 50 per cent seed colour change. At this stage, the crop is mature but less likely to suffer significant pod loss. Swathing isn't recommended, as the pods will shatter easily. With proper timing and direct combining, growers can preserve seed quality and minimize losses, making harvest a critical step in realizing the full potential of this emerging crop.

Looking Ahead

With Manitoba's need for productive protein crops, lupins offer a unique opportunity. Old World lupins are already being trialed, while New World lupins bring resilience traits that could help overcome Prairie challenges. Continued research from variety trials to national initiatives led by Lupin Platform Inc. and AAFC researcher Fedosejevs will determine how lupins can complement existing rotations, strengthen protein supply chains, and open new doors for food innovation across the Prairies.

White lupin at Manitoba Crop Diversification Centre (MCDC) in Carberry June 24, 2025.

Working Toward Developing a Rhizobial Inoculant for Dry Bean

Ashley Robinson, Editor

CANADIAN SCIENTISTS ARE on a mission to help crops grow stronger and more sustainably – with a little help from microbes.

The project, called Bio-inoculants for the Promotion of Nutrient Use Efficiency and Crop Resiliency in Canadian Agriculture (BENEFIT), is one of nine national initiatives funded by Genome Canada in 2023 under its Climate-Smart Agriculture program.

The research project, led by Ivan Oresnik at the University of Manitoba and George diCenzo at Queen's University, brings together 17 researchers from five universities to explore one big question: How can we use microbes to make crops more efficient, resilient and sustainable?

The BENEFIT project has five main activities:

1. Developing an inoculant for dry beans that could replace or reduce nitrogen fertilizer use.
2. Finding beneficial microbes that improve nutrient use for wheat, canola and barley.
3. Optimizing microbes for large-scale production so farmers can actually use them.
4. Studying plant–microbe communication to help plant breeders select for beneficial interactions.
5. Measuring real-world impact – from environmental gains to economic and social benefits.

A MANITOBA FOCUS: BEANS AND RHIZOBIA

Manitoba is one of Canada's biggest dry bean producers. Although beans can form nodules with Rhizobium bacteria – which naturally capture nitrogen from the air – current recommendations still call for nitrogen fertilizer because no dependable bean inoculant exists.

With support from Manitoba Pulse & Soybean Growers (MPSG), about 40 soil samples were collected across the province. From these, the team isolated 167 Rhizobium strains capable of nodulating dry beans.

Beans that have been inoculated with two Rhizobium isolates from Manitoba.

DARYL'S THOUGHTS

Extensive production of legumes is relatively new in Manitoba. Inspired by this BENEFIT project, MPSG has invested in several projects to uncover the beneficial role legumes play in soil health.

By sequencing the DNA of each strain, scientists found that Manitoba beans can partner with several Rhizobium species – the most common being *Rhizobium croatiense*. Even more exciting, they discovered some bacteria that had never been described before. One new species found in Prairie soils is now officially named *Sinorhizobium prairiense*.

FIELD TESTING THE TOP PERFORMERS

In greenhouse trials, researchers tested all isolates for their nitrogen-fixing ability and competitiveness. The top 10 per cent were selected, and from those, two standout strains proved especially strong.

In summer 2025, those two strains were tested in field research plots in collaboration with Kristen MacMillan, agronomist in residence with MPSG at the University of Manitoba. The early results showed that when the beans reached the R1 growth stage, every plant had nodules – and 88 to 93 per cent of the rhizobia recovered were the same ones used to treat the seed.

These strains are being tested at the University of Saskatchewan in Ana Vargas's lab. Vargas is the Agri-Food Innovation Fund Chair, Lentil and Faba Bean. Researchers are screening a bean diversity panel, a genetically diverse group of bean varieties, to see which varieties pair best with the bacteria.

The goal is to use biological nitrogen fixation as a breeding trait for new bean varieties. ■

TABLE 1. Species and number of Rhizobium that were collectively isolated. *Rhizobium sp.* represent species that aren't currently described and haven't been named.

Species	Number Isolated
R. anhuiense	16
R. croatiense	44
R. hidalgonense	27
R. indicum	2
R. laguerreae	2
R. leguminosarum	37
R. redzepovicii	1
R. sophoriradicis	13
Rhizobium sp.	26
	Total 167

Source: University of Manitoba

Manitoba Pulse and Soybean Buyer List – September 2025

The Canada Grain Act requires some elevators and grain dealers to have a Canadian Grain Commission (CGC) license and post security to cover their liabilities (what they owe) to farmers. Grain dealers and operators of primary, terminal, and process elevators in western Canada are licensed by the CGC. Seed cleaning plants, which do not purchase grain, and feed mills do not have to be licensed.

It is the responsibility of farmers to satisfy themselves that any company they deal with is financially sound. Questions regarding licencing and security should be directed to the CGC at 800-853-6705 or 204-983-2770.

MPSG's pulse crop buyers list contains the names of companies that have registered with MPSG and are actively purchasing pulse crops in Manitoba. The word registered does not imply endorsement. The complete list is available on our website manitobapulse.ca.

COMPANY	EDIBLE BEANS	FABA BEANS	LENTILS	PEAS	SOYBEANS	PHONE	LOCATION	CGC REGULATED
Adroit Overseas Enterprises Ltd.	√	√	√	√	√	604-930-4855	Surrey, BC	√
Agassiz Global Trading	√			√	√	204-745-6655	Homewood, MB	
Alliance Pulse Processors Inc. dba AGT Foods Canada	√	√	√	√	√	306-525-4490	Regina, SK	√
All Commodities (AC) Trading Ltd.			√	√		204-339-8001	Winnipeg, MB	√
Avena Foods Ltd. dba Best Cooking Pulses Inc.			√	√		306-586-7111	Rowatt, SK	√
Belle Pulses Ltd.		√		√		306-423-5202	Bellevue, SK	√
Besco Grain Ltd.		√		√		204-745-3662	Carman, MB	√
Brett-Young Seeds Ltd.				√	√	204-478-2204	Winnipeg, MB	
Broadgrain Commodities Inc.	√	√	√	√	√	416-504-0070	Toronto, ON	√
C.B. Constantini Ltd.	√	√	√	√		604-669-1212	Vancouver, BC	√
Cargill Ltd.					√	204-947-0141	Winnipeg, MB	√
Columbia Grain Inc. (CGI) (Walhalla Bean Co.)	√					701-549-3721	Walhalla, ND	√
Columbia Seed Co. Ltd	√	√		√		306-525-2295	Regina, SK	
Delmar Commodities Ltd.	√		√	√	√	204-331-3696	Winkler, MB	√
ETG Commodities	√	√	√	√	√	416-900-4148	Mississauga, ON	√
G3 Canada Limited				√	√	204-983-0239	Winnipeg, MB	√
Gavilon Grain LLC					√	816-584-2210	Omaha, NE	√
Global Food and Ingredients Inc.	√	√	√	√		416-840-8590	Toronto, ON	√
Grain St Laurent	√	√	√	√	√	514-871-2037	Montreal, QC	√
Hensall District Co-operative Inc.	√			√		204-750-0529	Winnipeg, MB	√
Horizon Agro Inc.					√	204-746-2026	Morris, MB	√
Kalshea Commodities Inc.			√		√	204-488-0251	Winnipeg, MB	√
Knight Seeds			√		√	204-764-2450	Hamiota, MB	
Lighhouse Commodities, LLC					√	701-516-8024	Bismarck, ND	√
Linear Grain Inc.	√	√		√	√	204-745-6747	Carman, MB	√
Lyft Commodity Trading Ltd.	√	√	√	√	√	604-355-4275	Vancouver, BC	√
McDougall Acres Ltd.	√	√	√	√	√	306-693-3649	Moose Jaw, SK	
Natural Proteins Inc.					√	204-355-5040	Blumenort, MB	
Nutri-Pea				√		204-239-5998	Portage la Prairie, MB	
NuVision Commodities Inc.	√			√	√	204-758-3401	St. Jean Baptiste, MB	
Parrish & Heimbecker Ltd.				√	√	204-987-4329	Winnipeg, MB	√
Paterson Grain	√			√	√	204-956-2090	Winnipeg, MB	√
Prairie Fava Ltd.		√				204-721-4715	Glenboro, MB	√
Prairie Premium Products Inc.				√		204-252-2940	Portage la Prairie, MB	
Providence Grain Group			√	√	√	780-997-0211	Fort Saskatchewan, AB	√
PS International, LLC dba Seaboard Special Crops		√	√	√		306-565-3934	Regina, SK	√
Richardson International Ltd.			√	√		204-934-5652	Winnipeg, MB	√
• Richardson Pioneer Limited				√	√	204-934-5627	Winnipeg, MB	√
• Tri Lake Agri Limited				√	√	204-934-5652	Winnipeg, MB	√
Roquette Canada Ltd.				√		204-428-3722	Portage la Prairie, MB	√
Rudy Agro Ltd.	√		√	√		306-867-8667	Outlook, SK	√
Scoular Canada Ltd.	√	√	√	√		403-349-5077	Calgary, AB	√
Seed-Ex Inc.				√	√	204-737-2000	Letellier, MB	√
Semences Prograin Inc.					√	450-469-5744	Saint-Césaire, QC	√
Sevita International					√	613-989-3000	Inkerman, ON	
Shafer Commodities Inc.	√	√	√	√	√	204-822-6275	Morden, MB	√
Simpson Seeds Inc.			√	√		306-693-2132	Moose Jaw, SK	√
Southland Pulse Inc.			√	√		306-634-8008	Estevan, SK	√
Sunnydale Foods Inc		√		√		306-986-6180	Saskatoon, SK	
Sunrise Foods International Inc.					√	306-657-4541	Saskatoon, SK	√
SureSource Commodities, LLC				√		866-697-5960	Petrolia, ON	√
The Andersons Inc.			√	√		419-891-6464	Maumee, OH	√
Vandaele Seeds Ltd.		√		√		204-665-2384	Medora, MB	√
Vanderveen Commodity Services Ltd.				√	√	204-745-6444	Carman, MB	√
Viterra Inc.	√		√	√	√	Contact your local Viterra Sales Rep		√
Western Harvest Bean ULC	√					204-515-7331	Winnipeg, MB	
Wilbur Ellis Company of Canada Ltd.	√	√	√	√		403-328-3311	Lethbridge County, AB	√
XPT Grain Inc.	√			√		306-525-0205	Regina, SK	√

RECIPE **CORNER**

Chicken & Navy Bean Soup

Photo credit: Great Tastes of Manitoba

Courtesy of MPSG AND GREAT TASTES OF MANITOBA

SERVINGS: 8 | PREP TIME: 20 min | COOK TIME: 90 min
TOTAL TIME: 2 Hours

Ingredients

- 6 cups (1.5 L) chicken broth
- 1 tsp (5 mL) dried thyme
- 1 tsp (5 mL) dried rosemary
- ½ tsp (2 mL) smoked paprika
- 1 bay leaf
- 1 medium onion, chopped
- 1 clove garlic, minced
- 2 carrots, chopped
- 2 celery stalks, chopped
- 1 - 28 oz (796 mL) can diced tomatoes, undrained
- 2 - 19 oz (540 mL) cans of navy beans, drained and rinsed
- 1 ½ lbs (675 g) boneless, skinless chicken breasts, cut into 1-inch (2.5 cm) pieces
- ½ cup (125 mL) chopped fresh parsley
- ½ tsp (2 mL) each salt and pepper

Method

1. In large pot, add chicken broth, thyme, rosemary, bay leaf, smoked paprika, onion, garlic, carrots, celery, tomatoes and navy beans.
2. Bring to a boil. Cover, and adjust the heat to cook the soup cooks a gentle simmer for 30 minutes.
3. Add chicken and cook for another hour.
4. Stir in fresh chopped parsley.
5. Add salt and pepper to taste.

View the recipe online:

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Soybean SCOUT

THE TALE OF TWO SOYBEAN PLANTS

Terry Buss, Production Agronomist – East, Manitoba Pulse & Soybean Growers

Q: These two soybean plants were found in different areas of the same field. What caused these leaf symptoms? Is it the same cause for both plants?

A.

B.

Answer:

A. Possible Off-Target Group 4 Herbicide Exposure

Off-target exposure to a Group 4 herbicide, whether by spray drift, volatilization or as a soil residual, is frequently misdiagnosed as RGS and vice versa. This is not surprising since symptoms for both often manifest at similar times during the growing season. In June, it's not common to find both conditions occurring at the same time in the same field. As well, depending on the Group 4 product, symptoms can be similar to Rapid Growth Syndrome (RGS). Off-target 2,4-D exposure symptoms include leaf elongation and strapping but, unlike RGS, usually includes callous tissue formation on stems. Dicamba off-target exposure symptoms include distinctive leaf cupping often accompanied by whitish or yellowish discolouration at leaf margins. Plant stunting and a loss of apical dominance within plants often occurs and can persist for the rest of the growing season unlike RGS. Given the potential misdiagnoses from visual inspections of plant symptoms, it is essential that growers be proactive. Plant samples should be collected as soon as off-target movement onto a susceptible crop is suspected (even before symptoms arise) and sent to an accredited lab for chemical residue analysis. Bear in mind that some herbicides, such as Group 4 products, are rapidly metabolized to undetectable levels by plants. Sampling well after a potential off-target incident can render residue testing a wasted effort.

B. Rapid Growth Syndrome (RGS)

Soybeans are plants with a very flexible architecture. They can dramatically adapt their growth habit, height and overall appearance with changing growing conditions. However, soybeans sometimes get caught unprepared leading to RGS. Typical RGS symptoms include interveinal leaf bubbling along with leaf elongation and strapping (parallel running veins in affected leaves). A temporary loss of apical dominance in the plant sometimes occurs with new stems arising from multiple growing points. Symptoms most often occur when plants experience rapid and dramatic changes in growing conditions, usually from very cold to very warm temperatures in a short time, making June the usual month RGS occurs. Once growing conditions become more consistent, often as spring moves into summer in Manitoba, normal growth resumes although previously affected leaves don't recover, sometimes leading to an obvious band of deformed leaves within a crop canopy.

RECIPE **CORNER**

Vanilla Custard with Red Lentil & Oat Crumble

Photo Credit: Great Tastes of Manitoba

Courtesy of MPSG AND GREAT TASTES OF MANITOBA

SERVINGS: 8 | PREP TIME: 20 min | COOK TIME: 90 min
TOTAL TIME: 2 Hours

Ingredients

View the recipe online:

Vanilla Custard

- ½ cup sugar
- 4 egg yolks
- 4 eggs
- 1 tsp vanilla
- 1 cup milk
- 1 cup 18% cream
- pinch of salt

Red Lentil & Oat Crumble

- 1 cup red lentils
- 1 cup oats
- ⅔ cup honey
- 2 tsp cinnamon
- ½ cup raw almonds
- ⅓ cup shaved coconut
- 2 tbsp canola oil

Method

VANILLA CUSTARD

- Preheat oven to 150 C (325 F).
- Combine yolks and eggs with sugar.
- Whisk in milk and cream.
- Strain mixture.
- Portion custard into ramekins.
- Place ramekins in a high sided baking pan and fill with water half way up the ramekins.
- Cover with foil and bake until the centers (size of a penny) remain a little jiggly. Check the custard after 10 minutes and continuing checking every five minutes. When the custard is set, remove from oven and cool before setting in the fridge.

RED LENTIL & OAT CRUMBLE

- Bring a medium pot of water to a boil, add lentils and simmer for five minutes or until lentils are tender but hold their shape.
- Drain lentils and spread out on a tray. Allow to steam dry and cool. Preheat your oven to 150 C (325 F).
- Combine the lentils, oats, honey, cinnamon and canola oil and mix.
- Spread the coated lentils on a tray lined with baking paper and bake for 15 minutes.
- Remove from oven and combine with coconut and almonds. Place in oven again and keep baking for another 45 minutes, stirring every 15 minutes or so.
- When the crumble is finished allow to cool at room temperature to firm up and get crunchy.
- Top custard with crumble and enjoy!

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