THE WHEAT FIELD

JUNE 2025

Saskatchewan Producer Groups Unite for Ag Summit

By Sask Wheat Staff

ON MAR. 27, 2025, Sask Wheat partnered with APAS and other crop commissions (SaskBarley, SaskOilseeds and Saskatchewan Pulse Growers), as well as Saskatchewan Cattle Association, SaskPork and Saskatchewan Egg Producers to host a Saskatchewan Ag Summit in Saskatoon.

This collaborative event brought together farmers, industry and other stakeholders to focus on critical issues facing the province's agriculture sector.

Navigating trade and geopolitical uncertainty was a major focus of the conference, with speakers addressing key concerns for producers heading into the 2025 growing season, including the potential impacts of tariffs on commodity markets and input prices and supply.

To support farm profitability and strengthen economic stability, the Summit also explored the importance of improving market information and transparency and modernizing grain contracts. Research completed by Mercantile Consulting Venture Inc. and funded by APAS and SaskCrops, illustrated the need for an export sales

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Members of the APAS Board of Directors from left to right: Jeremy Welter, Vice-President; Bill Prybylski, President; Randy Aumack, Division 6 Director (SARM); and Chris Procyk, Vice-President.

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Chair's message

Jake Leguee | CHAIR, SASKWHEAT

OVER THE LAST FEW MONTHS, the ag sector has been focused on several "t" words.

From Trump, trade, and tariffs, to transportation, there has been no end to challenges. Amid the shifting quicksand of tariff messaging that we have been deciphering from the U.S., China has also slapped hefty tariffs on Canadian ag products. Both have left growers with a lot of frustration and concern.

Producers have navigated tariffs all while Canada appointed an interim Prime Minister, called a federal election and elected a new government. We have increasingly had to lean on our fellow ag partnerships and on our municipal, provincial and federal relationships to elevate our concerns on behalf of producers.

Sask Wheat participated and partnered in APAS's Saskatchewan Ag Summit which focused on the ongoing issues facing the industry. Topics included harmful trade and export barriers, economic impacts of tariffs related to grain contracts and input costs, data gaps in the Canadian ag reporting network and more.

Transportation continued to challenge producers, as both national railways struggled to adequately service grain shipper demand in a timely manner through the fall and winter. Service delays compounded into backlogs in-country, at port terminals and into significant vessel lineups at Canada's key ports.

Mark Hemmes, President of Quorum Corporation, addressed these concerns during a Sask Wheat webinar. Quorum monitors Canada's grain handling and transportation system on behalf of Transport Canada and Agriculture and Agri-Food Canada.

The webinar provided great historical insight and data as well as discussion around rail transportation challenges. **Watch the recording on our website.**

The Gate initiative received more funding in April, with an announcement from the Government of Manitoba for $13.8 million toward the capital campaign.

While there is still a lot of ground to cover to reach the over-$100-million-needed for the new facility, commitment from the Manitoba provincial government shows strong support, with hopes of more on the way.

Sask Wheat nominations to the Board of Directors will be open from June 2 to September 5, 2025. Give it careful consideration – it is an opportunity to learn more about this amazing industry called agriculture, with a passionate, collaborative and hard-working board. More information on the nominations process can be found on the **Sask Wheat website**.

I hope your growing season is off to a safe and strong start, and we look forward to engaging with you in the coming months.

Notes from the Executive Director

Blair Goldade | EXECUTIVE DIRECTOR

THE ONLY CONSTANT IN LIFE is change, and there has been a lot of change at Sask Wheat these last few months. We welcomed new and returning staff to the organization in the following roles:

- **Shelagh Steckler** – Research Project Manager
- **Gazali Issah** – Agronomy Extension Specialist
- **Ashley Randall** – Administrative Assistant
- **Cheryl Smith** – Welcome back to the administrative team

The office has been a hub of activity over the last few months, making huge inroads in wheat research investments. In January, the Canadian Wheat Research Coalition (CWRC) announced a commitment of $11.8 million over the next five years to a core breeding agreement with the Crop Development Centre at the University of Saskatchewan.

We also funded 17 Agriculture Development Fund (ADF) research applications, six Agriculture Demonstration of Practices and Technology (ADOPT) and three Agriculture Funding Consortium (AFC) research applications. The combined new research investment for this year is nearly $2.3 million!

We also completed year two of our commitment to the Canadian National Wheat Cluster under the Sustainable Canadian Agricultural Partnership. Sask Wheat, Manitoba Crop Alliance and Alberta Grains shared updates from the funded research so far, through webinars, project profiles and producer emails.

We're proud of the research we are co-funding, and the benefits for wheat producers. More information on the Wheat Cluster can be found at the **CWRC website**.

In March, Sask Wheat headed to Regina for a provincial engagement day, meeting with Ministers and opposition critics. This was a great opportunity to discuss pressing advocacy topics including trade, transportation and research funding. Strengthening outreach efforts with elected officials is a key strategy to ensure the concerns and priorities of producers are heard.

The Wheat Wise On-Farm Trials are underway, and we're excited to see strong producer participation again in 2025. This years' protocols focus on wheat varieties, fungicides, seeding rates, split/top-up nitrogen and enhanced efficiency nitrogen fertilizer use. The Saskatchewan crop commissions will be holding a joint crop tour on June 25 in Davidson to showcase the on-farm trials in action, so if you are interested in attending, RSVP on the Sask Wheat website under Events.

Visit us at Ag in Motion this year where we will be showcasing winter cereals from July 15-17. Come test your wheat knowledge, tour our plots and chat with directors and staff.

We wish you a great start to the 2025 growing season and we look forward to hosting you at our upcoming summer events.

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reporting program in Canada and how timely sales data can help farmers capture greater returns, especially in years with higher volatility. Additionally, the importance of balanced and transparent contracts was discussed related to research undertaken by Agri-Food Economic Systems and funded by APAS and SaskCrops.

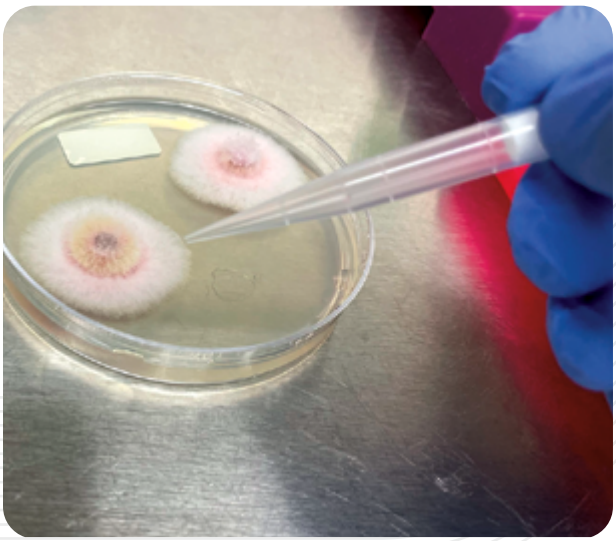
The current uncertain trade environment has further heightened the need to address long-standing producer concerns with grain contracts and look for opportunities for modernization.

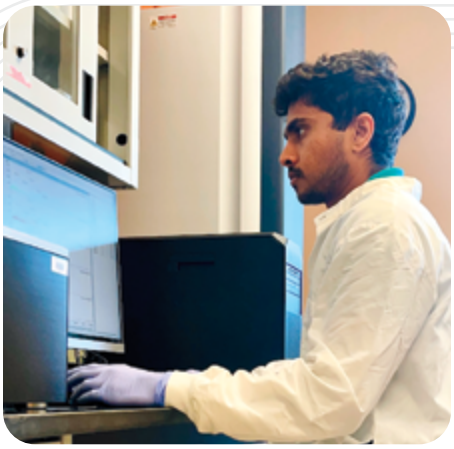
Many presentations at the summit discussed the need to diversify our export markets to secure long-term growth and stability for the sector.

However, to achieve this, Canada needs to focus on our global competitiveness which has faltered in recent years. Focusing on export infrastructure, research funding, innovation, commercialization and our regulatory environment will be critical to increase Canada's share of global agri-food markets.

Summit attendees heard advice on how the agricultural sector can better engage with government to advance our priorities. Collaboration amongst producer groups has been critical to advancing policy priorities and will continue to be an important focus in these uncertain times. As a trade dependent sector and nation, stable and predictable trade flows and demand are crucial to the economic wellbeing of producers. The cross-commodity support for the Ag Summit highlights the commitment from Saskatchewan groups to continue to work together on issues that impact all producers.

Presentations from the Saskatchewan Ag Summit are available to watch online. See them at **apas.ca/news/ag-summit-2025**.





Dr. Walkowiak and team assess fungal pathogens using a variety of tools including DNA testing and mass spectrometry.

RESEARCH

A new tool in the crop disease management toolbox

By Delaney Seiferling
FREELANCE WRITER

WHEN IT COMES TO tracking fungal pathogens that pose major threats to Saskatchewan wheat crops, it's good to have trusted and innovative tools.

Dr. Sean Walkowiak recently led a research project, funded in part by Sask Wheat, to assess the efficacy of current tools and possible benefits of a new one.

"Pathogen surveillance is an important part of disease management and protecting the future of grain crops," said Walkowiak, a research scientist with the Canadian Grain Commission (CGC).

"Microbes are always changing and making sure that we have the best tools to monitor them is really important, ...(to) give farmers a heads up as to what's happening in their fields and give breeders a heads up so they can develop material that's resistant to the latest strains."

Walkowiak's research confirmed there are specific benefits to each tool currently used to monitor microbes on plants and grains, which includes traditional and modern methods.

"These methods are important because they can tell what the different species are, what the different races are," said Walkowiak. Notably when it comes to fungal diseases such as Fusarium head blight (FHB), which can be caused by different species, some of which make toxins that are harmful to humans and animals like deoxynivalenol (DON).

The research team assessed the benefits of using a new mass spectrometry tool called MALDI-TOF, for monitoring fungal pathogens.

This technology is commonly used in medicine and clinical studies for efficiently and accurately identifying bacteria, reducing costs. Walkowiak believed it could discriminate Fusarium and rust species, fungicide resistance and virulence patterns within grain crops.

To do so, the team built a database of representative Fusarium material from across Canada including all fungal species. Then they assessed the tool's capacity to identify fungi, first doing assessments and then validating findings through DNA testing.

They discovered the tool's findings were fairly accurate.

"Many of the species it could tell apart with high accuracy," said Walkowiak.

Since project completion, the new method was adopted into pathogen monitoring systems at the CGC and was used to survey samples received from farmers last fall.

This new tool can help the agriculture industry stay ahead of new and evolving diseases. "The method we developed here enhances our capacity for doing surveillance by providing new tools that are able to identify the species in different ways," said Walkowiak.

RESEARCH

There's flexibility in fungicide timing to prevent FHB

By Delaney Seiferling
FREELANCE WRITER

> "You have to wait until you see the first flowers open, because that's where the spores are going.
>
> **Randy Kutcher** | UNIVERSITY OF SASKATCHEWAN PLANT PATHOLOGIST

ONE TOOL AVAILABLE to Saskatchewan producers for Fusarium head blight (FHB) management is fungicide.

Determining the best time to apply this product is often a challenge, as weather conditions can prevent spraying during recommended windows. Additionally, there has been limited research on how flexible fungicide timing really is for controlling FHB in wheat — until now.

University of Saskatchewan Plant Pathologist Randy Kutcher recently wrapped up a research project funded in part by Sask Wheat. The purpose was to determine if the current recommendations for fungicide application timing for FHB management are still accurate.

The research team tested different fungicide application timings on bread wheat, durum wheat, winter wheat and barley at sites in Melfort, Saskatoon and Outlook over three years, wrapping up last year. From the data gathered, they learned applying fungicide a bit later than traditionally recommended — up to the end of flowering — was just as effective at reducing FHB as spraying at the usual early flowering stage.

"We're probably spraying a little on the early side," said Kutcher.

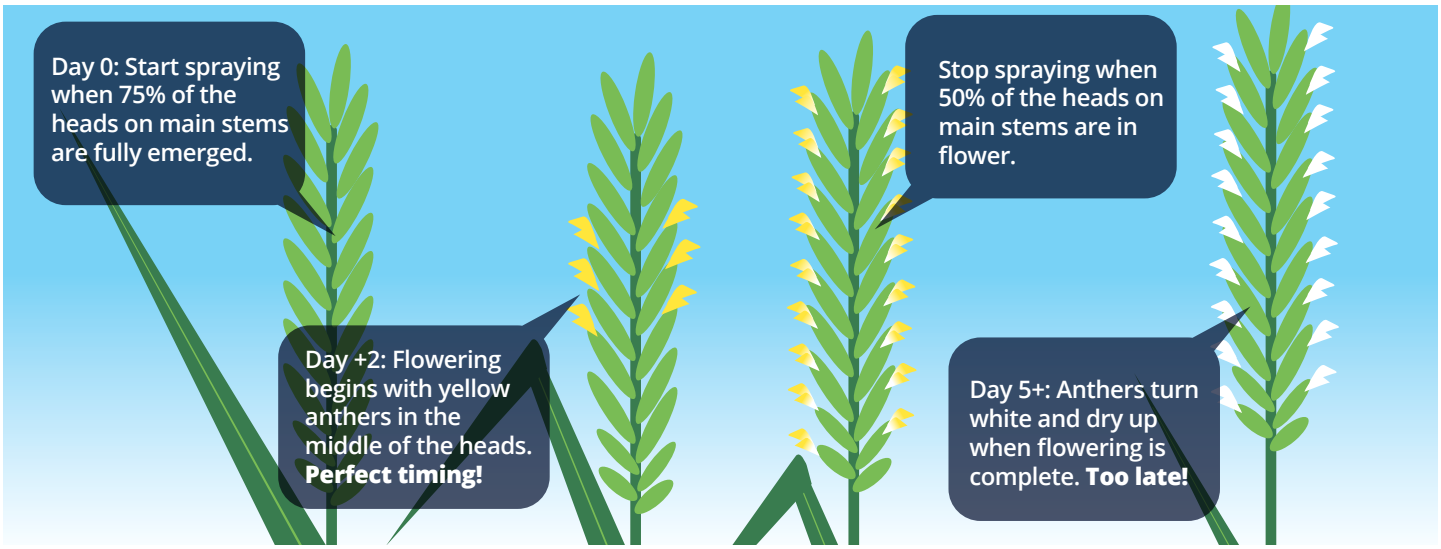
Dr. Gursahib Singh and graduate student Anya Illingworth also found spraying too early, before the crop starts flowering, was less effective and sometimes no better than not spraying at all.

"You have to wait until you see the first flowers open, because that's where the spores are going," said Kutcher. "If the flowers aren't opening, they could land on the outside of the flower and maybe germinate and work their way through, but the majority have to get into the flower."

The research showed doing two applications — one early and one late — did not provide enough justifiable benefit to the cost compared to one well-timed application. It provides Saskatchewan farmers with some reassurance — if weather conditions delay fungicide applications past the flowering stage, there's still opportunities to protect the crop.

Kutcher cautioned that farmers are still legally required to follow fungicide label instructions. He also noted farmers need to be mindful that fungicide timing best practices are always evolving.

SPRAY GUIDELINES



SOURCE: GOVERNMENT OF SASKATCHEWAN

Breeding the ultimate CWRS wheat: A tough nut to crack

By Noelle Chorney
FREELANCE WRITER

THE ULTIMATE Canadian Western Red Spring wheat (CWRS) would be early maturing, disease and pest resistant, sturdy, high yielding and contain high levels of high-quality protein that would make beautiful bread. Sound like an impossible dream?

"You can always dream. You can always aim high, but in research it may not always work out that way," said Dr. Pierre Hucl, professor of plant sciences at the University of Saskatchewan.

Traditionally, higher yielding wheat loses protein quantity. "Usually when you increase yield, the protein drops, changing the functionality of dough. There has typically been a negative correlation between yield and quantity," said Hucl. High levels of protein can also have a negative impact on dough strength, so Hucl's team aimed to create a high yielding wheat that maintained high levels of protein and maintained dough strength.

The team used results of genetic research from the last 40 years in their crosses. They started with hard white wheat lines containing a high protein gene sourced from wild emmer wheat (GPC-B1) in combination with a gene for a high molecular weight glutenin that creates strong dough, then crossed them with CDC Landmark, a relatively high yielding semi-solid stem wheat with midge and disease resistance.

"We backcrossed these two different protein genes into CDC Landmark and used genetic markers to trace the offspring that contained the genes," said Hucl.

"We did confirm we could increase protein content, and not only maintain but increase dough strength to upper levels. The only downfall was that we have a persistent three to five per cent yield reduction associated with the high protein gene."

For the wheat to develop higher quality protein, it moves nitrogen and minerals into the kernels the plant would otherwise use to continue to mature. This creates a prematurity in the plant, reducing kernel and test weight, in turn affecting the yield.

While the research project won't result in the release of a new variety for possibly a few more years, the high protein and high quality dough package is now in the CWRS breeding pipeline.

"Having this tandem trait of high protein and over-expression of glutenin as a package will help wheat breeders make wider crosses with high yielding material that can meet CWRS specifications," said Hucl.

Dr. Pierre Hucl is working with a research team to breed wheat varieties with high levels of protein and maintained dough strength. | CHRIS HENDRICKSON PHOTO

RESEARCH

Testing potassium for yield and disease reduction

By Delaney Seiferling
FREELANCE WRITER

IT'S GENERALLY KNOWN that potassium (K) can have a beneficial effect on water regulation, drought resistance and disease reduction in crops.

Researcher and Soil Scientist with the University of Saskatchewan, Dr. Jeff Schoenau, wanted to know if the same could be true for durum wheat in the brown soil zone, which is generally high in potassium. Schoenau tested whether applying potash to these crops on these soils would impact both yield and disease reduction.

"The chloride component of potash is often linked to a reduction in disease, particularly root diseases of cereals, when it's present in low amounts."

To test this, he led a research study, funded in part by Sask Wheat. Although there was a small yield increase in durum wheat in a low slope position site in one year, and a minor reduction in root disease in chickpea in another, results in terms of yield and disease effects overall were not large or consistent.

In controlled environment studies with similar soils from southern Saskatchewan, there were some positive effects when combining potash with copper and phosphorus fertilizers but no significant response to potash alone.

"In different conditions, different soils, we may have seen some different results," said Schoenau. "There are instances in the brown soil zone where you may find some soils that are responsive to potash fertilization, but with the soils that we worked with in this study, under the dry conditions experienced, we didn't see a lot of response."

Durum wheat plots in the brown soil zone being evaluated for the impact of potassium on overall yield and disease reduction. | DR. JEFF SCHOENAU

However, there were some key takeaways. First, soil testing remains reliable. The lack of response aligned with soil available potassium assessments. Second, straw management matters. Since most potassium and chloride accumulate in straw, farmers who harvest both grain and straw should account for this additional nutrient removal in their planning.

Farmers are advised to be aware of site-specific considerations when it comes to soil nutrition, as typical loamy soils in the brown soil zone may not respond to potash but sandy, eroded soils or fields with a history of straw removal could.

Consider balancing nutritional components of soils, as research shows that combining potash with copper and phosphorus is sometimes more effective in eliciting a response.

This research will help farmers make more informed decisions about potassium fertilization, saving costs by avoiding unnecessary applications while maintaining long-term soil fertility.

AGRONOMY

Spraying tips to control stripe rust

By Delaney Seiferling
FREELANCE WRITER

WHEN IT COMES TO managing disease in wheat crops, a looming question is when to apply fungicides for maximum benefit.

Wheat diseases such as stripe rust change, evolve and spread leveraging importance on up-to-date knowledge and recommendations.

Recently Sask Wheat invested in research, led by University of Saskatchewan Plant Pathologist Dr. Randy Kutcher, deciphering whether applying fungicide in the fall, spring or both seasons, could help control stripe rust and improve yields in Western Canada.

The research team tested four winter wheat varieties at sites across Alberta and Saskatchewan, over four growing seasons.

The biggest takeaway? Applying fungicide in the spring — at the flag leaf stage — was the most effective and reliable way to control stripe rust and protect yield in susceptible winter wheat varieties.

Applying fungicide in the fall did not provide any meaningful stripe rust control, even in years when stripe rust showed up in the fall. Doing a fall and spring fungicide application did not produce better results than applying in spring alone.

Stripe rust in wheat, left unchecked, can significantly impact crop yield and quality.

Another takeaway was that variety matters when it comes to managing stripe rust, since modern varieties offer good genetic resistance.

"It became a requirement for the breeders to have at least an intermediate level of resistance to stripe rust by 2017 and they all achieved that," said Kutcher.

Research found there was no benefit to applying fungicides on highly resistant varieties like Moats. For susceptible varieties like AC Bellatrix and CDC Osprey, applying fungicide in spring could increase yields, sometimes by as much as 200 per cent, compared to unsprayed crops when stripe rust levels were high. (Fungicide also helped maintain grain quality when disease pressure was high).

Evidently, producers don't need to alter their fungicide timing when spraying for stripe rust versus FHB.

Stripe rust has been a recurring concern for wheat farmers over the past decade, but in recent years the disease hasn't been as prevalent and spray timing recommendations could explain why.

"That's partly why we're not seeing as much stripe rust, there's so much spraying for FHB going on, not to mention in many parts of the province we have had some very dry years since 2016, so neither disease may have been a concern to growers."

Updated recommendations around fungicide use will allow producers to continue to successfully grow winter wheat.

It's a fact

For susceptible winter wheat varieties, applying fungicide in spring could increase yields by as much as **200 per cent** when stripe rust levels are high.

Treated seed guidelines should be top of mind this season

By Delaney Seiferling
FREELANCE WRITER

THERE HAS BEEN AN INCREASE OF treated seed found in producer grain deliveries in Canada in recent years.

"This is an issue the entire industry, including producers, needs to take seriously heading into another planting season," said Derek Bunkowsky, chief grain inspector at the Canadian Grain Commission (CGC).

Although the CGC's stringent inspection protocols at the time of export ensures treated seed is detected before grain is moved, these findings can cause major delays in shipments and require additional resources that inevitably costs producers.

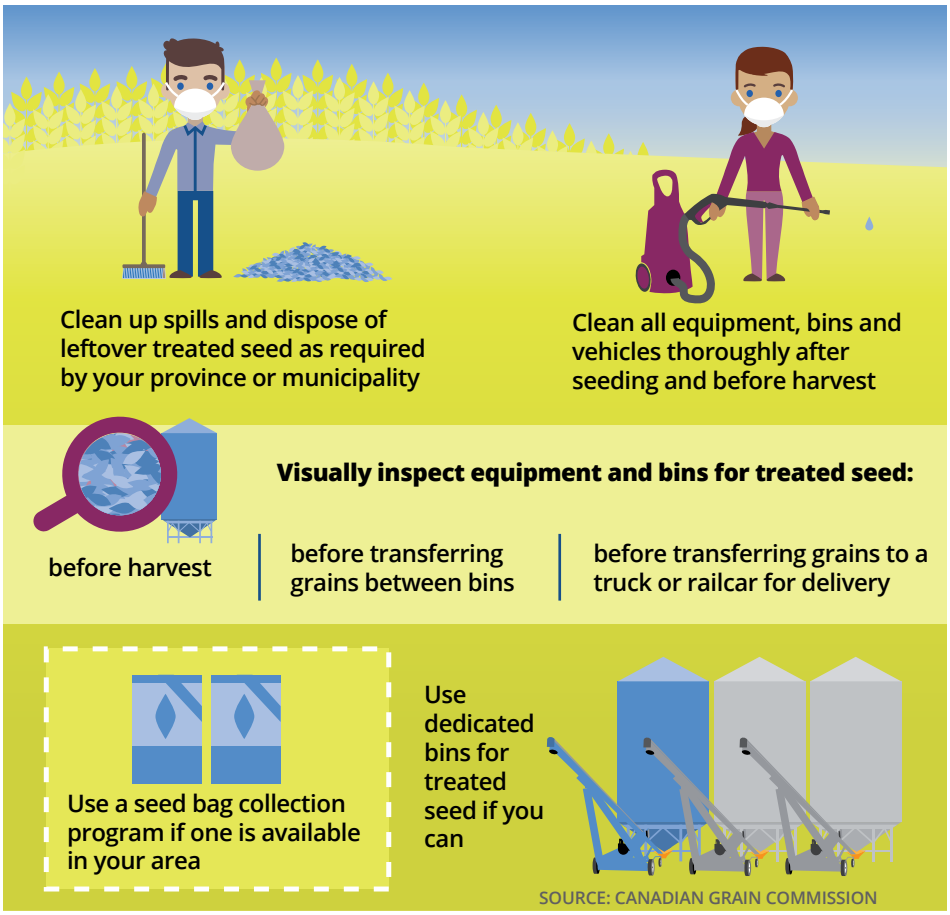
"It's important producers understand the potential impacts of delivering treated seed and understand it can be traced back to their delivery, even if it wasn't found at time of delivery," said Bunkowsky. "Some may think small amounts of treated seed go away in the bulk handling system, but they don't."

Treated seed residues can be harmful to humans and animals at certain levels, which is why Health Canada sets maximum residue limits. Grain elevators and CGC enforce those limits.

"We do the testing when any suspect treated seed is found in producer deliveries into primary elevators and on vessel exports to make sure no lot of grain exceeds those maximum residue limits."

Bunkowsky noted that grain elevators try to maintain a zero-tolerance policy for grain deliveries with treated seed.

TREATED SEED AND YOUR FARM



There are several ways treated seed can make its way into producer shipments by accident. This reinforces why farmers should ensure they're not putting themselves, their farms – and Canada's reputation for delivering safe, high-quality grain to countries around the world – at risk.

"It's important for all farm owners and their employees to be aware of these risks and the potential negative impacts of treated seed making its way into elevator deliveries."

As farms get larger and busier, Bunkowsky noted it's important for farm owners to ensure all employees — especially new hires — know these processes ahead of busier seasons.

This is what wheat seed that has been treated looks like — note the colour. | CANADIAN GRAIN COMMISSION

Digital agriculture projects focus on machine learning

By Noelle Chorney
FREELANCE WRITER

DR. STEVE SHIRTLIFFE, professor of Plant Sciences and director of the Nutrien Centre for Sustainable and Digital Agriculture at the University of Saskatchewan, is overseeing several machine learning projects that will change what we know about our fields and help producers make more targeted decisions.

Shirtliffe and his team are testing the predictive ability of machines to translate satellite imagery, weather data and soil parameters to predict crop yields.

"The key thing about all the machine learning is data to train on. If you know what the crop outcome was given the other data, you can test the accuracy of their predictions," said Shirtliffe.

They are training machines to identify plant phenotypes.

"If you are looking for specific traits in a crop, and you have drone images of fields over time, you can train a machine learning model to identify phenotypes using the data you have," said Shirtliffe.

The research teams test the accuracy, as machine learning models can associate something that is not quite what you're looking for. Validating the learning through ground reference data has been important to the research.

"We're working with the random forest technique, which creates multiple decision trees to make its decisions," said Shirtliffe. "You need good ingredients — you need data dispersed in space and time, and that runs the gamut of the variables. If you've never had a drought year in your data set, it isn't going to be useful."

> "We're predicting yield at a 10-metre range, depending on the year and crop, with a high level of accuracy."
>
> **Dr. Steve Shirtliffe** | UNIVERSITY OF SASKATCHEWAN

Shirtliffe noted researchers spent their entire careers creating models, but now they have the framework. "We're predicting yield at a 10-metre range, depending on the year and crop, with a high level of accuracy."

Shirtliffe and his team are working on the ambitious goal of mapping the yield for every farm field in Western Canada using farmer-shared yield maps, climate data, topographic soil maps, soil type and satellite maps.

The map will be able to help farmers make decisions about the value of adopting variable rate technology, or how to treat marginal areas. It will also be able to predict fields with a higher probability of nitrous oxide emissions.

The potential for these research tools appears to be boundless, but Shirtliffe continues to emphasize the importance of data collection to ensure accurate results.

AgriARM Field Day Events

JULY 9 Scott Field Day, Scott Research Farm
JULY 10 CSIDC Field Day, Outlook Research Farm
JULY 10 SERF Field Day
JULY 15 Indian Head Crop Management Field Day, Bell Barn / IHARF
JULY 17 Wheatland Conservation Area Field Day, WCA Research Farm Swift Current
JULY 23 NARF and AAFC Joint Field Day, Melfort Research Farm
JULY 24 East Central Research Foundation (ECRF) Field Day
JULY 29 Conservation Learning Centre Field Day, CLC Prince Albert

For more information visit agriarm.ca/events

COMMUNICATIONS & EVENTS

Warm Up to Winter Cereals

By Sask Wheat Staff

Ag in Motion (AIM) is not just an event, it's a dynamic showcase that ignites excitement and innovation in the agriculture industry.

As the largest outdoor farm expo in Western Canada, AIM promises an experience that goes beyond the ordinary.

Sask Wheat is excited to welcome producers, researchers, industry members and all attendees of AIM to our booth this summer.

As our fourth year approaches, we wanted to create a theme that could potentially supply producers with a new learning opportunity.

Following our amalgamation with the Saskatchewan Winter Cereals Development Commission, we decided to put winter cereals on display with our new theme, **Warm Up to Winter Cereals.**

Agronomic information will be included throughout the plot, showcasing multiple varieties. In addition, learning opportunities continue with the return of Wheat Jeopardy. Attendees are encouraged to test their knowledge at this fun and educational game to win prizes once a day.

Staff and board members will be at the booth all three days for anyone looking for more information on winter cereals, research projects, hot topics in agriculture or about Sask Wheat in general.

Be sure to stop by booth 105 when you visit Ag in Motion and grab a producer "thank you" gift from July 15-17. We hope to see you there!

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